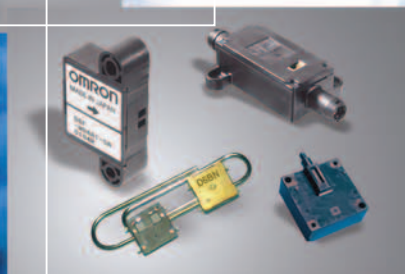
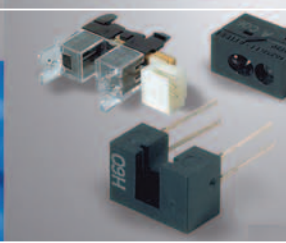


# Electronic Components

## Master Selection Guide



Relays  
Switches  
Photomicrosensors  
Micro Sensors  
Connectors

# Omron Electronic Components LLC

## Stability and Experience

With over 70 years experience, Omron continues to apply the latest technologies providing you with innovative efficient control component solutions. Our wide range of relays, switches, sensors, and connectors allows our customers to streamline vendor lists and reduce the cost of procurement.

## Quality First

### Our commitment, your benefit

Omron makes a conscious choice to relentlessly pursue quality. Our quality engineers are part of the design and manufacturing from the start. We design and evaluate at the component level, test and adjust during manufacturing, and examine every physical, mechanical, and electrical aspect of each final product before it leaves the factory.

## Customer Support

Omron's sales engineers, inside sales representatives, and customer service staff have experience with all types of electronic applications. No matter what the application or volume, we will find just the right component for your project.

## RoHS Compliant Products

Most of Omron's electronic components are already compliant, and we are striving for 100% compliance by mid 2006.

## Broad Product Offering

### Relays, The #1 Supplier In The World:

- MOS FET
- Low Signal
- RF/HF
- Power PCB
- Automotive
- General-Purpose
- Solid State

### Switches:

- Snap Action
- Tactile
- DIP
- Dome Array
- Thumbwheel
- Rocker

### Photomicrosensors:

- Slotted
- Reflective

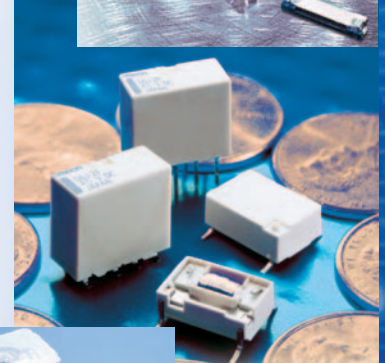
### Micro Sensors:

- Pressure
- Tilt
- Flow
- Shock/Vibration
- Clog Filter

### Connectors

- FPC
- FFC

Additional information can be found at [www.components.omron.com](http://www.components.omron.com), or by calling us at: 847.882.2288 Monday through Friday 7:30 AM until 6:00 PM CST. Our inside sales staff will be ready to provide you with detailed product information, technical design support, or the location of your local Omron sales office or authorized distributor.



**Call: 847-882-2288**  
**Email: [components@omron.com](mailto:components@omron.com)**  
**Or visit: [www.components.omron.com](http://www.components.omron.com)**

**OMRON**  
ELECTRONIC COMPONENTS

# World-Wide Headquarter Locations

## The Americas

### U.S.A. / Canada / Brazil - HQ

OMRON ELECTRONIC COMPONENTS LLC  
(OCB-AM)

55 East Commerce Drive, Suit B, Illinois, 60173  
U.S.A.

TEL : 1-847-882-2288 FAX : 1-847-882-2192

## Japan – World Headquarters

### Japan

OMRON ELECTRONIC COMPONENTS  
Kyoto Head Office

Shiokoji Horikawa, Shimogyo-ku, Kyoto, 600-8530  
Japan

Tel : 81-75-344-7000 Fax : 81-75-344-7001

## Europe

OMRON ELECTRONIC COMPONENTS  
EUROPE B.V.

(OCB-EU-Benelux)

Wegalaan 57, 2132 JD Hoofddorp  
The Netherlands

TEL : 31-23-568-1200 FAX : 31-23-568-1212

## Asia-Pacific

### SINGAPORE

OMRON ELECTRONIC COMPONENTS PTE LTD.  
(OCB-SG)

750B Chai Chee Road #01-02 Technopark@Chai Chee  
Singapore 469002

TEL : 65-7446-7400 FAX : 65-6446-7411

## China

### HONG KONG

OMRON ELECTRONIC COMPONENTS  
(HONG KONG) LTD.  
(OCB-HK)

Unit 601-9, Tower 2, Th Gateway No.25, Canton Road,  
Tsimshatsui, Kowloon

Hong Kong

TEL : 852-2375-3827 FAX : 852-2375-1475

### CHINA

OMRON ELECTRONIC COMPONENTS  
TRADING (SHANGHAI) LTD. SHANGHAI OFFICE  
(OCB-CN(SH))

Rm2503, Raffles City Shanghai (Office Tower), No.268  
Xi Zang Middle Road, Huang Pu District, Shanghai,  
200001

China

TEL : 86-21-6340-3737 FAX : 86-21-6340-3757



Visit: [www.components.omron.com](http://www.components.omron.com)

Email: [components@omron.com](mailto:components@omron.com)

Phone: 847-882-2288 Monday through Friday 7:30 AM till 6:00 PM CST.

**OMRON**  
ELECTRONIC COMPONENTS

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\* Sealed Snap Action switches are available on pages 26 & 27.

# Omron History & Profile

## History:

Omron was founded May 10, 1933 in Kyoto, Japan, by founder Kazuma Tateisi. The first product developed and released by Omron was a timer for X-ray equipment. Since then, Omron has expanded globally and produced a steady stream of breakthroughs in electronic components that have contributed to the improvement of productivity in many different industries. Omron's consistent striving to accurately anticipate the potential needs of society and develop businesses to satisfy those needs has made the Omron Group what it is today. Dr. Tateisi's passion and progressive attitude are instilled to this day in all Omron employees, and the challenge-oriented spirit remains the main source of Omron's identity. By consistently preserving the spirit and philosophy of Omron's founder, we are determined to continue meeting the challenges of creating a better tomorrow.

## Achievements:

- December 1943 – Development of Japan's first precision switch; established Omron (then Tateisi Electric) as a 'technological pioneer' in Japan.
- 1948 – Establishment of Omron Tateisi Electronics Co. coincided with the successful development and production of a new current limiter integrating Omron's precision switch and protective relay technologies.
- 1955-1965 – Launched the full-scale production of control components and the introduction of a steady stream of new products including advanced precision switches & compact protective relays.
- 1960 – Development of the innovative solid-state proximity switch and solid-state relay.
- 1963 – Introduction of the world's first automatic meal-ticket vending machine.
- 1969 and 1971 – Development of the first off-line and on-line automatic cash dispensers which established Omron as one of the pioneers of the banking revolution in Japan.
- 1967 – Completion of the world's first automated train station system achieved by drawing on the company's advanced card system technology.
- January 1990 – the company was renamed to Omron Corporation and marked a commitment to continue expansion of business lines and global-scale production.
- April 1999 – Omron establishes a strategic system of five specialized, independent business units.
- 2002 – Establishment of Omron China to accelerate market expansion in to China and Asia-Pacific.

## Profile:

Omron Corporation is a \$5.5 billion global leading supplier of electronics and control system components and services.

## Omron Business Fields:



**Electronic  
Components  
Business**



**Industrial  
Automation  
Business**



**Automotive  
Electronics  
Business**



**Social  
System  
Business**



**Healthcare  
Business**

# Omron's Core Competencies, Technologies & Markets Served



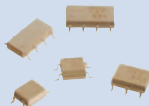
## Design Synthesis:

Our products' designs are based on a combination of our core competencies and core technologies to effectively meet customer and market needs. By efficiently and creatively manipulating these competencies, we are able to develop and manufacture a broad offering of cost effective, high quality, and environmentally friendly products. As the global market's demand for new and innovative products continues to grow, Omron pledges to expand its research and development of new core technologies.

## Commitment to the Environment:

Omron is committed to creating products that are designed with consideration for the environment throughout their entire lifespan (what we call "Eco-Products"). These considerations address energy and resource conservation, extended product life, reuse and recycling, as well as avoidance of hazardous chemical substances. Our goal is to make a proactive contribution to reducing the harm caused by our societal system to the environment through the development of more environmentally sound products.

# Relays - MOS FET

|                                                                       |                                                                                                                                         |                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                         |                                                                                                                                                    |
|-----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                       | G3VM-200                                                                                                                                                                                                                 | G3VM-350                                                                                                                                                                                                                                                                                                                                               | G3VM-400                                                                                                                                                                                                                                                                                                                                                  | G3VM High Voltage & Dielectric                                                                                                                                                                                                                                                                             | G3VM Current Limiting                                                                                                                                                                                                                 |
| <b>General Attributes</b>                                             |                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                       |
| <b>Dimensions mm (in)</b>                                             | Please refer to specific data sheets for all dimensional information                                                                                                                                                     | Please refer to specific data sheets for all dimensional information                                                                                                                                                                                                                                                                                   | Please refer to specific data sheets for all dimensional information                                                                                                                                                                                                                                                                                      | Please refer to specific data sheets for all dimensional information                                                                                                                                                                                                                                       | Please refer to specific data sheets for all dimensional information                                                                                                                                                                  |
| <b>Features</b>                                                       | <ul style="list-style-type: none"> <li>• 1 &amp; 2 channel configurations</li> <li>• Ideal for Instrumentation, Broadband Systems, Measurement Devices, Data Loggers, Consumer Electronics, Medical Equipment</li> </ul> | <ul style="list-style-type: none"> <li>• Broad product offering</li> <li>• Form A &amp; Form B configurations</li> <li>• Ideal for Instrumentation, Broadband Systems, Measurement Devices, Data loggers, Consumer Electronics, Security Systems, Electronic Automatic Exchange Systems, Industrial Automation Equipment, Medical Equipment</li> </ul> | <ul style="list-style-type: none"> <li>• Broad product offering</li> <li>• 10kV surge withstand models available</li> <li>• Ideal for Instrumentation, Broadband Systems, Measurement Devices, Data Loggers, Consumer Electronics, Security Systems, Electronic Automatic Exchange Systems, Industrial Automation Equipment, Medical Equipment</li> </ul> | <ul style="list-style-type: none"> <li>• Capable of switching loads up to 600V (AC and DC)</li> <li>• 10kV surge withstand</li> <li>• Ideal for Instrumentation, Electronic Automatic Exchange Systems, Industrial Automation Systems, Measurement Devices, Security Systems, Medical Equipment</li> </ul> | <ul style="list-style-type: none"> <li>• Current limiting of 150 to 300mA</li> <li>• Ideal for Electronic Automatic Exchange Systems, Multi-function Telephones, Cordless Telephones, Measurement Devices, Instrumentation</li> </ul> |
| <b>Load voltage</b>                                                   | 0-200V (AC or DC)                                                                                                                                                                                                        | 0-350V (AC or DC)                                                                                                                                                                                                                                                                                                                                      | 0-400V (AC or DC)                                                                                                                                                                                                                                                                                                                                         | 0-600V (AC or DC)                                                                                                                                                                                                                                                                                          | 0-350V (AC or DC)                                                                                                                                                                                                                     |
| <b>Maximum Ratings and Electrical Characteristics</b>                 |                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                       |
| <b>Continuous load current</b>                                        | 0-50mA & 0-200mA                                                                                                                                                                                                         | 0-90mA, 0-100mA, 0-110mA, 0-120mA, 0-150mA                                                                                                                                                                                                                                                                                                             | 0-120mA                                                                                                                                                                                                                                                                                                                                                   | 0-100mA                                                                                                                                                                                                                                                                                                    | 0-120mA                                                                                                                                                                                                                               |
| <b>ON resistance (typical)</b>                                        | 5Ω & 30Ω                                                                                                                                                                                                                 | 15Ω, 27Ω, 30Ω, 25Ω, 40Ω                                                                                                                                                                                                                                                                                                                                | 17Ω & 18Ω                                                                                                                                                                                                                                                                                                                                                 | 25Ω                                                                                                                                                                                                                                                                                                        | 22Ω                                                                                                                                                                                                                                   |
| <b>Output capacitance</b>                                             | —                                                                                                                                                                                                                        | —                                                                                                                                                                                                                                                                                                                                                      | —                                                                                                                                                                                                                                                                                                                                                         | —                                                                                                                                                                                                                                                                                                          | —                                                                                                                                                                                                                                     |
| <b>Available switching configurations</b>                             | 1 Form A, 2 Form A                                                                                                                                                                                                       | 1 Form A, 1 Form B, 1 Form A + 1 Form B, 2 Form A, 2 Form B                                                                                                                                                                                                                                                                                            | 1 Form A, 2 Form A                                                                                                                                                                                                                                                                                                                                        | 1 Form A                                                                                                                                                                                                                                                                                                   | 1 Form A, 2 Form A                                                                                                                                                                                                                    |
| <b>Leakage current</b>                                                | 10nA (max.) & 1.0μA (max.)                                                                                                                                                                                               | 1.0μA (max.)                                                                                                                                                                                                                                                                                                                                           | 1.0μA (max.)                                                                                                                                                                                                                                                                                                                                              | 1.0μA (max.)                                                                                                                                                                                                                                                                                               | 1.0μA (max.)                                                                                                                                                                                                                          |
| <b>turn-ON time (typical)</b>                                         | 40ms & 600ms                                                                                                                                                                                                             | 0.1ms, 0.25ms, 0.3ms, 0.5ms, 1.0ms                                                                                                                                                                                                                                                                                                                     | 0.3ms & 0.5ms                                                                                                                                                                                                                                                                                                                                             | 0.2ms                                                                                                                                                                                                                                                                                                      | 0.3ms & 0.5ms                                                                                                                                                                                                                         |
| <b>turn-OFF time (typical)</b>                                        | 100ms                                                                                                                                                                                                                    | 0.1ms, 0.15ms, 0.5ms, 1.0ms, 3.0ms                                                                                                                                                                                                                                                                                                                     | 0.1ms & 0.5ms                                                                                                                                                                                                                                                                                                                                             | 0.2ms                                                                                                                                                                                                                                                                                                      | 0.3ms & 0.5ms                                                                                                                                                                                                                         |
| <b>Dielectric strength (AC for 1 minute between input and output)</b> | 1,500Vrms (min.)                                                                                                                                                                                                         | 1,500Vrms (min.)<br>2,500Vrms (min.)                                                                                                                                                                                                                                                                                                                   | 1,500Vrms (min.)<br>2,500Vrms (min.)<br>5,000Vrms (min.)                                                                                                                                                                                                                                                                                                  | 5,000Vrms (min.)                                                                                                                                                                                                                                                                                           | 1,500Vrms (min.)<br>2,500Vrms (min.)                                                                                                                                                                                                  |
| <b>Available packaging &amp; terminal choices</b>                     | SOP<br>4 PIN, 6 PIN, 8 PIN                                                                                                                                                                                               | PCB, SMT, SOP<br>4 PIN, 6 PIN, 8 PIN                                                                                                                                                                                                                                                                                                                   | PCB, SMT, SOP<br>4 PIN, 6 PIN, 8 PIN                                                                                                                                                                                                                                                                                                                      | PCB & SMT<br>6 PIN                                                                                                                                                                                                                                                                                         | PCB, SMT & SOP<br>4 PIN, 6 PIN, 8 PIN                                                                                                                                                                                                 |
| <b>Accessories</b>                                                    | Tape & reel                                                                                                                                                                                                              | Tape & reel                                                                                                                                                                                                                                                                                                                                            | Tape & reel                                                                                                                                                                                                                                                                                                                                               | Tape & reel                                                                                                                                                                                                                                                                                                | Tape & reel                                                                                                                                                                                                                           |
| <b>Approved standards</b>                                             | UL 1577                                                                                                                                                                                                                  | UL 1577                                                                                                                                                                                                                                                                                                                                                | UL 1577                                                                                                                                                                                                                                                                                                                                                   | UL 1577                                                                                                                                                                                                                                                                                                    | UL 1577                                                                                                                                                                                                                               |

# Relays - MOS FET

|                                                                       |                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                          |                                                                                                                                                                       |                                                                                                                                                                            |
|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>General Attributes</i>                                             | <b>G3VM GR</b>                                                                                                                                                                                                                                                                                                                           | <b>G3VM LR</b>                                                                                                                                                                                                                                                                                                                                                                           | <b>G3VM-60</b>                                                                                                                                                                                                                                                                                                             | <b>G3VM-80</b>                                                                                                                                                                                                                                           | <b>G3VM-22</b>                                                                                                                                                                                                                                                |
| <b>Dimensions mm (in)</b>                                             | Please refer to specific data sheets for all dimensional information                                                                                                                                                                                                                                                                     | Please refer to specific data sheets for all dimensional information                                                                                                                                                                                                                                                                                                                     | Please refer to specific data sheets for all dimensional information                                                                                                                                                                                                                                                       | Please refer to specific data sheets for all dimensional information                                                                                                                                                                                     | Please refer to specific data sheets for all dimensional information                                                                                                                                                                                          |
| <b>Features</b>                                                       | <ul style="list-style-type: none"> <li>• C x R characteristics as low as 5pF*Ω</li> <li>• Low leakage current</li> <li>• Very high operating speed</li> <li>• Ideal for IC and Memory Test Equipment, SoC Testers, Measurement Devices, Instrumentation, Medical Equipment, Broadband Systems, Data Loggers, Security Systems</li> </ul> | <ul style="list-style-type: none"> <li>• Smallest MOS FET relay on the market</li> <li>• C x R characteristics as low as 5pF*Ω</li> <li>• Low leakage current</li> <li>• Very high operating speed</li> <li>• Ideal for IC and Memory Test Equipment, SoC Testers, Measurement Devices, Instrumentation, Medical Equipment, Broadband Systems, Data Loggers, Security Systems</li> </ul> | <ul style="list-style-type: none"> <li>• High current switching capability</li> <li>• Low ON-resistance</li> <li>• Low leakage current</li> <li>• Cost effective solutions</li> <li>• Ideal for Measurement Devices, Instrumentation, Security Systems, Medical Equipment, Alarm Controls, Consumer Electronics</li> </ul> | <ul style="list-style-type: none"> <li>• High current switching capability</li> <li>• Low leakage current</li> <li>• Ideal for Broadband Systems, Measurement Devices, Instrumentation, Medical Equipment, Data Loggers, Consumer Electronics</li> </ul> | <ul style="list-style-type: none"> <li>• Single input channel with dual output channels</li> <li>• Low ON-resistance</li> <li>• Ideal for Inline Interface Applications, Data Loggers, ADSL Modems and Routers, Edge Routers, Data Storage Devices</li> </ul> |
| <b>Load voltage</b>                                                   | 0-20V (AC or DC)<br>0-40V (AC or DC)                                                                                                                                                                                                                                                                                                     | 0-20V (AC or DC)<br>0-40V (AC or DC)                                                                                                                                                                                                                                                                                                                                                     | 0-60V (AC or DC)                                                                                                                                                                                                                                                                                                           | 0-80V (AC or DC)                                                                                                                                                                                                                                         | 0-20V (AC or DC)                                                                                                                                                                                                                                              |
| <b>Maximum Ratings and Electrical Characteristics</b>                 |                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                               |
| <b>Continuous load current</b>                                        | 0-120mA<br>0-160mA<br>0-300mA                                                                                                                                                                                                                                                                                                            | 0-120mA<br>0-160mA<br>0-300mA<br>0-450mA                                                                                                                                                                                                                                                                                                                                                 | 0-400mA<br>0-500mA<br>0-1,000mA<br>0-2,000mA<br>0-2,500mA                                                                                                                                                                                                                                                                  | 0-350mA<br>0-1,250mA                                                                                                                                                                                                                                     | 0-150mA                                                                                                                                                                                                                                                       |
| <b>ON resistance (typical)</b>                                        | 1Ω, 5Ω, 10Ω                                                                                                                                                                                                                                                                                                                              | 0.8Ω, 1Ω, 5Ω, 10Ω                                                                                                                                                                                                                                                                                                                                                                        | 0.12Ω (max.)<br>7Ω (max.)<br>1Ω (typ.)                                                                                                                                                                                                                                                                                     | 0.11Ω & 1.0Ω                                                                                                                                                                                                                                             | 2Ω                                                                                                                                                                                                                                                            |
| <b>Output capacitance</b>                                             | 1.0pF (typ.)<br>5.0pF (typ.)<br>10pF (typ.)                                                                                                                                                                                                                                                                                              | 0.8pF (typ.)<br>1.0pF (typ.)<br>5.0pF (typ.)<br>10pF (typ.)                                                                                                                                                                                                                                                                                                                              | —                                                                                                                                                                                                                                                                                                                          | —                                                                                                                                                                                                                                                        | —                                                                                                                                                                                                                                                             |
| <b>Available switching configurations</b>                             | 1 Form A                                                                                                                                                                                                                                                                                                                                 | 1 Form A                                                                                                                                                                                                                                                                                                                                                                                 | 1 Form A                                                                                                                                                                                                                                                                                                                   | 1 Form A                                                                                                                                                                                                                                                 | Dual 1 Form A                                                                                                                                                                                                                                                 |
| <b>Leakage current</b>                                                | 1.0nA (max.)                                                                                                                                                                                                                                                                                                                             | 1.0nA (max.)                                                                                                                                                                                                                                                                                                                                                                             | 1.0nA (max.) & 1.0μA (max.)                                                                                                                                                                                                                                                                                                | 0.2nA (typ.) & 1.2nA (typ.)                                                                                                                                                                                                                              | 1.0μA (max.)                                                                                                                                                                                                                                                  |
| <b>turn-ON time (typical)</b>                                         | 0.3ms                                                                                                                                                                                                                                                                                                                                    | 0.3ms                                                                                                                                                                                                                                                                                                                                                                                    | 0.8ms<br>1.0ms<br>1.4ms                                                                                                                                                                                                                                                                                                    | 0.3ms<br>2.0ms                                                                                                                                                                                                                                           | 0.5ms                                                                                                                                                                                                                                                         |
| <b>turn-OFF time (typical)</b>                                        | 0.3ms                                                                                                                                                                                                                                                                                                                                    | 0.3ms                                                                                                                                                                                                                                                                                                                                                                                    | 0.1ms<br>0.2ms<br>0.6ms                                                                                                                                                                                                                                                                                                    | 0.3ms<br>0.7ms                                                                                                                                                                                                                                           | 0.5ms                                                                                                                                                                                                                                                         |
| <b>Dielectric strength (AC for 1 minute between input and output)</b> | 1,500Vrms (min.)                                                                                                                                                                                                                                                                                                                         | 1,500Vrms (min.)                                                                                                                                                                                                                                                                                                                                                                         | 1,500Vrms (min.)<br>2,500Vrms (min.)                                                                                                                                                                                                                                                                                       | 1,500Vrms (min.)                                                                                                                                                                                                                                         | 2,500Vrms (min.)                                                                                                                                                                                                                                              |
| <b>Available packaging &amp; terminal choices</b>                     | SOP<br>4 PIN                                                                                                                                                                                                                                                                                                                             | SOP<br>4 PIN                                                                                                                                                                                                                                                                                                                                                                             | SOP, PCB, SMT<br>4 PIN, 6 PIN                                                                                                                                                                                                                                                                                              | SOP<br>4 PIN, 6 PIN                                                                                                                                                                                                                                      | PCB & SMT<br>8 PIN                                                                                                                                                                                                                                            |
| <b>Accessories</b>                                                    | Tape & reel                                                                                                                                                                                                                                                                                                                              | Tape & reel                                                                                                                                                                                                                                                                                                                                                                              | Tape & reel                                                                                                                                                                                                                                                                                                                | Tape & reel                                                                                                                                                                                                                                              | Tape & reel                                                                                                                                                                                                                                                   |
| <b>Approved standards</b>                                             | UL 1577                                                                                                                                                                                                                                                                                                                                  | UL 1577                                                                                                                                                                                                                                                                                                                                                                                  | UL 1577                                                                                                                                                                                                                                                                                                                    | UL 1577                                                                                                                                                                                                                                                  | UL 1577                                                                                                                                                                                                                                                       |

# Relays - Low Signal

|                                                                           |                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                  |
|---------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General Attributes                                                        | G6J-Y                                                                                                                                                                                                                                                                                                                                                        | G6K                                                                                                                                                                                                                                                                                                                                                              | G6H                                                                                                                                                                                                                                                                                                                    | G6S                                                                                                                                                                                                                                                                                                                                                                                                                                      | G6A                                                                                                                                                                                                                                                                                                                 |
| Dimensions mm (in)                                                        | 10.0 H x 10.6 L x 5.7 W<br>(0.39 x 0.42 x 0.22)                                                                                                                                                                                                                                                                                                              | 5.30 H x 10.20 L x 6.70 W<br>(0.21 x 0.40 x 0.26)                                                                                                                                                                                                                                                                                                                | 5.08 H x 13.97 L x 8.89 W<br>(0.20 x 0.55 x 0.35)                                                                                                                                                                                                                                                                      | 9.40 H x 15 L x 7.50 W<br>(0.37 x 0.59 x 0.30)                                                                                                                                                                                                                                                                                                                                                                                           | 8.40 H x 20.20 L x 10.10 W<br>(0.33 x 0.80 x 0.40)                                                                                                                                                                                                                                                                  |
| Switching                                                                 | 1A max.                                                                                                                                                                                                                                                                                                                                                      | 1A max.                                                                                                                                                                                                                                                                                                                                                          | 1A max.                                                                                                                                                                                                                                                                                                                | 2A max.                                                                                                                                                                                                                                                                                                                                                                                                                                  | 2A max.                                                                                                                                                                                                                                                                                                             |
| Features                                                                  | <ul style="list-style-type: none"> <li>• Slimline, 2 Form C, 1 Amp relay</li> <li>• SMT &amp; PCB versions</li> <li>• 2.5kV surge withstand</li> <li>• Available in SMT &amp; PCB</li> <li>• Latching &amp; non-latching versions</li> <li>• Ideal for Telecom, Test &amp; Measurement, Medical, Security, Computer Peripheral, Office Automation</li> </ul> | <ul style="list-style-type: none"> <li>• Small real estate, 2 Form C, 1 Amp relay</li> <li>• 100mW power consumption</li> <li>• 2.5kV surge withstand</li> <li>• SMT &amp; PCB versions</li> <li>• Latching &amp; non-latching models</li> <li>• Ideal for Telecom, Test &amp; Measurement, Medical, Security, Office Automation, Computer Peripheral</li> </ul> | <ul style="list-style-type: none"> <li>• Low profile (5mm), 2 Form C, 1 Amp relay</li> <li>• Available in SMT &amp; PCB</li> <li>• 1.5kV surge withstand</li> <li>• 140mW power consumption</li> <li>• Ideal for Telecom, Test &amp; Measurement, Medical, Security, Office Automation, Computer Peripheral</li> </ul> | <ul style="list-style-type: none"> <li>• Industry standard, 2 Form C, 2 Amp relay</li> <li>• 2.5 kV surge withstand</li> <li>• SMT gullwing, SMT inside-L, PCB models</li> <li>• Latching &amp; non-latching versions</li> <li>• European version available (supplementary insulation at 250V at pollution degree 2 per EN60950/EN41003)</li> <li>• Ideal for Telecom, Thermostats, Medical, Test &amp; Measurement, Security</li> </ul> | <ul style="list-style-type: none"> <li>• Industry standard, 2 Form C, 2 Amp relay</li> <li>• 200mW, 400mW versions</li> <li>• 2 Pole &amp; 4 Pole models</li> <li>• Latching &amp; non-latching versions</li> <li>• 1.5kV surge withstand</li> <li>• Ideal for Telecom, Test &amp; Measurement, Security</li> </ul> |
| Contact Information                                                       |                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                     |
| Contact form                                                              | 2 Form C                                                                                                                                                                                                                                                                                                                                                     | 2 Form C                                                                                                                                                                                                                                                                                                                                                         | 2 Form C                                                                                                                                                                                                                                                                                                               | 2 Form C                                                                                                                                                                                                                                                                                                                                                                                                                                 | 2 Form C, 4 Form C                                                                                                                                                                                                                                                                                                  |
| Contact type                                                              | Bifurcated crossbar                                                                                                                                                                                                                                                                                                                                          | Bifurcated crossbar                                                                                                                                                                                                                                                                                                                                              | Bifurcated crossbar                                                                                                                                                                                                                                                                                                    | Bifurcated crossbar                                                                                                                                                                                                                                                                                                                                                                                                                      | Bifurcated crossbar                                                                                                                                                                                                                                                                                                 |
| Contact material                                                          | Ag with Au alloy clad                                                                                                                                                                                                                                                                                                                                        | Ag with Au clad                                                                                                                                                                                                                                                                                                                                                  | Ag with Au clad                                                                                                                                                                                                                                                                                                        | Ag with Au clad;<br>AgPd with Au clad                                                                                                                                                                                                                                                                                                                                                                                                    | Ag with Au clad;<br>AgPd with Au clad                                                                                                                                                                                                                                                                               |
| Rated load<br>(under resistive load)                                      | 0.3A @ 125VAC,<br>1A @ 30VDC                                                                                                                                                                                                                                                                                                                                 | 0.3A @ 125VAC,<br>1A @ 30VDC                                                                                                                                                                                                                                                                                                                                     | 0.5A @ 125VAC,<br>1A @ 30VDC                                                                                                                                                                                                                                                                                           | 0.5 @ 125VAC,<br>2A @ 30VDC                                                                                                                                                                                                                                                                                                                                                                                                              | 0.3A to 0.5A @ 125VAC,<br>1A to 2A @ 30VDC                                                                                                                                                                                                                                                                          |
| Max. operating voltage                                                    | 125VAC, 110VDC                                                                                                                                                                                                                                                                                                                                               | 125VAC, 60VDC                                                                                                                                                                                                                                                                                                                                                    | 125VAC, 110VDC                                                                                                                                                                                                                                                                                                         | 250VAC, 220VDC                                                                                                                                                                                                                                                                                                                                                                                                                           | 250VAC, 220VDC                                                                                                                                                                                                                                                                                                      |
| Max. switching capacity<br>under resistive load                           | 37.5VA, 30W (NO)                                                                                                                                                                                                                                                                                                                                             | 37.5VA, 30W                                                                                                                                                                                                                                                                                                                                                      | 62.5VA, 33W                                                                                                                                                                                                                                                                                                            | 62.5VA, 60W                                                                                                                                                                                                                                                                                                                                                                                                                              | 125VA, 60W                                                                                                                                                                                                                                                                                                          |
| Min. electrical service life<br>(operations at rated load)                | 100,000                                                                                                                                                                                                                                                                                                                                                      | 100,000                                                                                                                                                                                                                                                                                                                                                          | 100,000                                                                                                                                                                                                                                                                                                                | 100,000                                                                                                                                                                                                                                                                                                                                                                                                                                  | 500,000                                                                                                                                                                                                                                                                                                             |
| Min. permissible load<br>(for reference only)                             | 10µA @ 10mVDC                                                                                                                                                                                                                                                                                                                                                | 10µA @ 10mVDC                                                                                                                                                                                                                                                                                                                                                    | 10µA @ 10mVDC                                                                                                                                                                                                                                                                                                          | 10µA @ 10mVDC                                                                                                                                                                                                                                                                                                                                                                                                                            | 10µA @ 10mVDC                                                                                                                                                                                                                                                                                                       |
| Coil Information                                                          |                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                     |
| Coil voltage                                                              | 3, 4.5, 5, 12, 24VDC                                                                                                                                                                                                                                                                                                                                         | 3, 4.5, 5, 6, 9, 12, 24VDC                                                                                                                                                                                                                                                                                                                                       | 3, 5, 6, 9, 12, 24, 48VDC                                                                                                                                                                                                                                                                                              | 3, 4.5, 5, 6, 9, 12, 24VDC                                                                                                                                                                                                                                                                                                                                                                                                               | 3, 5, 6, 9, 12, 24, 48VDC                                                                                                                                                                                                                                                                                           |
| Power consumption                                                         | 140mW<br>(230mW for DC24)                                                                                                                                                                                                                                                                                                                                    | 100mW<br>(standard and latching)                                                                                                                                                                                                                                                                                                                                 | 140mW (standard)                                                                                                                                                                                                                                                                                                       | 140mW (standard)<br>140mW, 200mW (latching)                                                                                                                                                                                                                                                                                                                                                                                              | 200mW (DPDT standard)<br>180mW (DPDT latching)<br>360mW (4PDT standard)                                                                                                                                                                                                                                             |
| Characteristics                                                           |                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                     |
| Dielectric strength<br>between coil & contacts<br>(50/60 Hz for 1 minute) | 1,500VAC                                                                                                                                                                                                                                                                                                                                                     | 1,500VAC                                                                                                                                                                                                                                                                                                                                                         | 1,000VAC                                                                                                                                                                                                                                                                                                               | 2,000VAC                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1,000VAC                                                                                                                                                                                                                                                                                                            |
| Surge withstand                                                           | 2.5kV (2 x 10µs)                                                                                                                                                                                                                                                                                                                                             | 2.5kV (2 x 10µs)                                                                                                                                                                                                                                                                                                                                                 | 1.5kV (10 x 160µs)                                                                                                                                                                                                                                                                                                     | 2.5kV (2 x 10µs)                                                                                                                                                                                                                                                                                                                                                                                                                         | 1.5kV (10 x 160µs)                                                                                                                                                                                                                                                                                                  |
| Terminal choices                                                          | SMT Gullwing, PCB                                                                                                                                                                                                                                                                                                                                            | SMT Gullwing,<br>SMT Inside-L, PCB                                                                                                                                                                                                                                                                                                                               | PCB (G6H),<br>SMT Gullwing (G6H-2F)                                                                                                                                                                                                                                                                                    | SMT Gullwing,<br>SMT Inside-L, PCB                                                                                                                                                                                                                                                                                                                                                                                                       | PCB                                                                                                                                                                                                                                                                                                                 |
| Packaging                                                                 | Tape & reel available                                                                                                                                                                                                                                                                                                                                        | Tape & reel available                                                                                                                                                                                                                                                                                                                                            | Tape & reel available                                                                                                                                                                                                                                                                                                  | Tape & reel available                                                                                                                                                                                                                                                                                                                                                                                                                    | —                                                                                                                                                                                                                                                                                                                   |
| Approved standards                                                        | Bellcore 2.5kV / Telcordia<br>GR-1089-CORE 2.5kV<br>between coil and contacts                                                                                                                                                                                                                                                                                | Bellcore 2.5kV / Telcordia<br>GR-1089-CORE 2.5kV<br>between coil and contacts                                                                                                                                                                                                                                                                                    | UL, CSA, (FCC Part 68)                                                                                                                                                                                                                                                                                                 | Bellcore 2.5 kV / Telcordia<br>GR-1089-CORE 2.5 kV<br>(between coil and contacts)                                                                                                                                                                                                                                                                                                                                                        | UL, CSA, (FCC Part 68)                                                                                                                                                                                                                                                                                              |

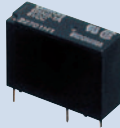
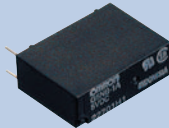
# Relays - Low Signal

|                                                                     |                                                                                                                                    |                                                                                                                               |                                                                                                                       |                                                                                                                                                  |                                                                                                            |
|---------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General Attributes                                                  | G5A                                                                                                                                                                                                                 | G5V-1                                                                                                                                                                                                          | G6L                                                                                                                                                                                                    | G5V-2                                                                                                                                                                                                                               | G6E                                                                                                                                                                                           |
| Dimensions mm (in)                                                  | 8.38 H x 16 L x 9.9 W<br>(0.33 x 0.63 x 0.39)                                                                                                                                                                       | 10.0 H x 12.50 L x 7.50 W<br>(0.39 x 0.49 x 0.30)                                                                                                                                                              | 4.5 H x 10.6 L x 7.0 W<br>(0.18 x 0.42 x 0.28)                                                                                                                                                         | 11.43 H x 20.32 L x 9.91 W<br>(0.45 x 0.80 x 0.39)                                                                                                                                                                                  | 8.38 H x 16 L x 9.9 W<br>(0.33 x 0.63 x 0.39)                                                                                                                                                 |
| Switching                                                           | 1A max.                                                                                                                                                                                                             | 1A max.                                                                                                                                                                                                        | 1A max.                                                                                                                                                                                                | 2A max.                                                                                                                                                                                                                             | 3A max.                                                                                                                                                                                       |
| Features                                                            | <ul style="list-style-type: none"> <li>General use, 2 Form C, 1 Amp relay</li> <li>Semi-sealed or fully-sealed construction</li> <li>Ideal for Telecom, Security, Computer Peripheral, Office Automation</li> </ul> | <ul style="list-style-type: none"> <li>General use, 1 Form C, 1 Amp relay</li> <li>150mW power consumption</li> <li>1.5kV surge withstand</li> <li>Ideal for Telecom, Security, Computer Peripheral</li> </ul> | <ul style="list-style-type: none"> <li>Very low profile, 1 Form A, 1 Amp relay</li> <li>1.5kV surge withstand</li> <li>SMT &amp; PCB versions</li> <li>Ideal for Security &amp; General Use</li> </ul> | <ul style="list-style-type: none"> <li>2 Form C, 1-2 Amp relay</li> <li>Ideal for general use</li> <li>Industry standard footprint</li> <li>150mW, 360mW &amp; 500mW coil power versions</li> <li>1.5 kV surge withstand</li> </ul> | <ul style="list-style-type: none"> <li>General use, 1 Form C, 3 Amp relay</li> <li>2.5 kV surge withstand</li> <li>200mW, 400mW models</li> <li>Latching and non-latching versions</li> </ul> |
| Contact Information                                                 |                                                                                                                                                                                                                     |                                                                                                                                                                                                                |                                                                                                                                                                                                        |                                                                                                                                                                                                                                     |                                                                                                                                                                                               |
| Contact form                                                        | 2 Form C                                                                                                                                                                                                            | 1 Form C                                                                                                                                                                                                       | 1 Form A                                                                                                                                                                                               | 2 Form C                                                                                                                                                                                                                            | 1 Form C                                                                                                                                                                                      |
| Contact type                                                        | Bifurcated crossbar                                                                                                                                                                                                 | Single crossbar                                                                                                                                                                                                | Single crossbar                                                                                                                                                                                        | Bifurcated crossbar                                                                                                                                                                                                                 | Bifurcated crossbar                                                                                                                                                                           |
| Contact material                                                    | Ag with Au clad                                                                                                                                                                                                     | Ag with Au clad                                                                                                                                                                                                | Ag with Au clad                                                                                                                                                                                        | Ag with Au clad                                                                                                                                                                                                                     | Ag with Au clad                                                                                                                                                                               |
| Rated load (under resistive load)                                   | 0.5A @ 24VAC, 1A @ 24VDC                                                                                                                                                                                            | 0.5A @ 125VAC, 1A @ 24VDC                                                                                                                                                                                      | 0.3A @ 125VAC, 1A @ 24VDC                                                                                                                                                                              | 0.5A @ 125VAC, 2A @ 30VDC                                                                                                                                                                                                           | 0.4A @ 125VAC, 2A @ 30VDC                                                                                                                                                                     |
| Max. operating voltage                                              | 125VAC, 125VDC                                                                                                                                                                                                      | 125VAC, 60VDC                                                                                                                                                                                                  | 125VAC, 60VDC                                                                                                                                                                                          | 125VAC, 125VDC                                                                                                                                                                                                                      | 250VAC, 220VDC                                                                                                                                                                                |
| Max. switching capacity under resistive load                        | 37.5VA, 33W                                                                                                                                                                                                         | 62.5VA, 30W                                                                                                                                                                                                    | 37.5VA, 24W                                                                                                                                                                                            | 62.5VA, 60W                                                                                                                                                                                                                         | 50VA, 60W                                                                                                                                                                                     |
| Min. electrical service life (operations at rated load)             | 100,000                                                                                                                                                                                                             | 100,000                                                                                                                                                                                                        | 100,000                                                                                                                                                                                                | 300,000                                                                                                                                                                                                                             | 100,000                                                                                                                                                                                       |
| Min. permissible load (for reference only)                          | 1mA @ 5VDC                                                                                                                                                                                                          | 1mA @ 5VDC                                                                                                                                                                                                     | 1mA @ 5VDC                                                                                                                                                                                             | 10µA @ 10mVDC                                                                                                                                                                                                                       | 10µA @ 10mVDC                                                                                                                                                                                 |
| Coil Information                                                    |                                                                                                                                                                                                                     |                                                                                                                                                                                                                |                                                                                                                                                                                                        |                                                                                                                                                                                                                                     |                                                                                                                                                                                               |
| Coil voltage                                                        | 5, 6, 9, 12, 24, 48VDC                                                                                                                                                                                              | 5, 6, 9, 12, 24VDC                                                                                                                                                                                             | 3, 4.5, 5, 12, 24VDC                                                                                                                                                                                   | 3, 5, 6, 9, 12, 24, 48VDC                                                                                                                                                                                                           | 3, 5, 6, 9, 12, 24, 48VDC                                                                                                                                                                     |
| Power consumption                                                   | 200mW (standard & latching)                                                                                                                                                                                         | 150mW                                                                                                                                                                                                          | 180mW (standard)                                                                                                                                                                                       | 500mW (standard)<br>360mW (high-sensitivity)<br>150mW (ultra-sensitive)                                                                                                                                                             | 200mW (standard)<br>400mW (standard)                                                                                                                                                          |
| Characteristics                                                     |                                                                                                                                                                                                                     |                                                                                                                                                                                                                |                                                                                                                                                                                                        |                                                                                                                                                                                                                                     |                                                                                                                                                                                               |
| Dielectric strength between coil & contacts (50/60 Hz for 1 minute) | 1,000VAC                                                                                                                                                                                                            | 1,000VAC                                                                                                                                                                                                       | 1,000VAC                                                                                                                                                                                               | 1,000VAC                                                                                                                                                                                                                            | 1,500VAC                                                                                                                                                                                      |
| Surge withstand                                                     | —                                                                                                                                                                                                                   | 1.5kV (10 x 160µs)                                                                                                                                                                                             | —                                                                                                                                                                                                      | 1.5kV (10 x 160µs)                                                                                                                                                                                                                  | 2.5kV (2 x 10µs)                                                                                                                                                                              |
| Terminal choices                                                    | PCB                                                                                                                                                                                                                 | PCB                                                                                                                                                                                                            | PCB, SMT Gullwing                                                                                                                                                                                      | PCB                                                                                                                                                                                                                                 | PCB                                                                                                                                                                                           |
| Packaging                                                           | —                                                                                                                                                                                                                   | —                                                                                                                                                                                                              | Tape & reel available                                                                                                                                                                                  | —                                                                                                                                                                                                                                   | —                                                                                                                                                                                             |
| Approved standards                                                  | UL, CSA                                                                                                                                                                                                             | UL, CSA                                                                                                                                                                                                        | UL/CSA (FCC Part 68)                                                                                                                                                                                   | UL, CSA                                                                                                                                                                                                                             | UL/CSA (FCC Part 68)<br>Bellcore 2.5kV / Telcordia GR-1089-CORE 2.5kV between coil and contacts                                                                                               |

# Relays - Low Signal RF/HF

|                                                                     |                                                                                                                                                                                                                                        |                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General Attributes                                                  | G6W                                                                                                                                                                                                                                                                                                                     | G6Y                                                                                                                                                                                                  | G6Z                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | G6K-RF                                                                                                                                                                                                                             | G9YA                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Dimensions mm (in)                                                  | 8.9 H x 20 L x 9.4 W<br>(0.35 x 0.79 x 0.37)                                                                                                                                                                                                                                                                            | 9.20 H x 20.70 L x 11.70 W<br>(0.36 x 0.81 x 0.46)                                                                                                                                                   | 8.9 H x 20 L x 8.6 W<br>(0.35 x 0.79 x 0.34)                                                                                                                                                                                                                                                                                                                                                                                                                                 | 5.4 H x 10.3 L x 6.9 W<br>(0.21 x 0.41 x 0.27)                                                                                                                                                                                     | 39.0 H x 34.0 L x 13.2 W<br>(1.54 x 1.34 x 0.52)                                                                                                                                                                                                                                                                                                                                                                                                                |
| Switching                                                           | 0.5A max.                                                                                                                                                                                                                                                                                                               | 1A max.                                                                                                                                                                                              | 0.5A max.                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1A max.                                                                                                                                                                                                                            | 100mA max.                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Features                                                            | <ul style="list-style-type: none"> <li>• 5GHz+ HF relay</li> <li>• 1 Form C</li> <li>• Tri-plate micro strip line technology</li> <li>• Latching &amp; non-latching models</li> <li>• SMT and PCB versions</li> <li>• Ideal for Base Station LNA &amp; TMA switching, Test &amp; Measurement, Broadcast, FWA</li> </ul> | <ul style="list-style-type: none"> <li>• 900MHz+ HF relay</li> <li>• 1 Form C</li> <li>• Micro strip line technology</li> <li>• Ideal for CATV, Digital TV tuners, Test &amp; Measurement</li> </ul> | <ul style="list-style-type: none"> <li>• 2.6GHz+ HF relay</li> <li>• 1 Form C</li> <li>• Micro strip line technology</li> <li>• 75 Ω &amp; 50 Ω impedance models</li> <li>• Latching &amp; non-latching models</li> <li>• Reverse terminal configurations</li> <li>• Y &amp; E terminal configurations</li> <li>• SMT and PCB versions</li> <li>• Ideal for Base Station LNA &amp; TMA switching, CATV, Digital TV tuners, Test &amp; Measurement, Broadcast, FWA</li> </ul> | <ul style="list-style-type: none"> <li>• 1GHz+ HF relay</li> <li>• 2 Form C</li> <li>• 100mW coil power</li> <li>• Smallest 2 Form C on the market</li> <li>• Ideal for Test &amp; Measurement, CATV, Digital TV tuners</li> </ul> | <ul style="list-style-type: none"> <li>• 26.5GHz bandwidth</li> <li>• Coaxial HF relay</li> <li>• 60dB isolation (26.5GHz)</li> <li>• Contact carry power of 120W at 3GHz</li> <li>• Available in failsafe &amp; TTL-driven models</li> <li>• Also available in non-latching and dual latching configurations</li> <li>• Ideal for Mobile Communications Infrastructure Equipment, Broadcast Equipment, Test and Measurement Equipment, Wireless LAN</li> </ul> |
| HF Characteristics                                                  |                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Isolation                                                           | 65dB (2GHz)<br>60dB (2.5GHz)<br>40dB (5.0GHz)                                                                                                                                                                                                                                                                           | 65dB (900MHz)                                                                                                                                                                                        | 60 - 65dB (900MHz)<br>30 - 45dB (2.6GHz)                                                                                                                                                                                                                                                                                                                                                                                                                                     | 20 - 30dB (1GHz)                                                                                                                                                                                                                   | 60dB (26.5GHz)<br>65dB (12.4GHz)                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Insertion loss                                                      | 0.2dB (2GHz)<br>0.2dB (2.5GHz)<br>0.4dB (5.0GHz)                                                                                                                                                                                                                                                                        | 0.5dB (900MHz)                                                                                                                                                                                       | 0.1 - 0.2dB (900MHz)<br>0.3 - 0.5dB (2.6GHz)                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0.2dB (1GHz)                                                                                                                                                                                                                       | 0.8dB (26.5GHz)<br>0.4dB (12.4GHz)<br>0.3dB (8GHz)                                                                                                                                                                                                                                                                                                                                                                                                              |
| VSWR                                                                | 1.2 (2GHz)<br>1.2 (2.5GHz)<br>1.5 (5.0GHz)                                                                                                                                                                                                                                                                              | 1.5 (900MHz)                                                                                                                                                                                         | 1.1 - 1.2 (900MHz)<br>1.3 - 1.5 (2.6GHz)                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0.2dB (1GHz)                                                                                                                                                                                                                       | 1.7 (26.5GHz)<br>1.35 (12.4GHz)<br>1.25 (8GHz)                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Contact Information                                                 |                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Contact form                                                        | 1 Form C                                                                                                                                                                                                                                                                                                                | 1 Form C                                                                                                                                                                                             | 1 Form C                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2 Form C                                                                                                                                                                                                                           | 1 Form C                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Contact type(s)                                                     | Twin crossbar                                                                                                                                                                                                                                                                                                           | Twin crossbar                                                                                                                                                                                        | Twin crossbar                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Bifurcated crossbar                                                                                                                                                                                                                | Twin crossbar                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Contact material                                                    | Au clad Cu alloy                                                                                                                                                                                                                                                                                                        | Au clad Cu alloy                                                                                                                                                                                     | Au clad Cu alloy                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Au alloy on Ag base                                                                                                                                                                                                                | Au clad Cu alloy                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Rated load (under resistive load)                                   | 10mA @ 30VAC<br>10mA @ 30VDC<br>2.5GHz, 10W                                                                                                                                                                                                                                                                             | 10mA @ 30VAC;<br>10mA @ 30VAC;<br>900 MHz, 1W                                                                                                                                                        | 10mA @ 30VAC;<br>10mA @ 30VDC;<br>900MHz, 10W                                                                                                                                                                                                                                                                                                                                                                                                                                | 0.3A @ 125VAC;<br>1A @ 30VDC                                                                                                                                                                                                       | 100mA @ 30VDC                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Max. operating voltage                                              | 30VDC, 30VAC                                                                                                                                                                                                                                                                                                            | 30VDC, 30VAC                                                                                                                                                                                         | 30VDC, 30VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 60VDC, 125VAC                                                                                                                                                                                                                      | 30VDC                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Max. switching capacity under resistive load                        | 10VA, 10W                                                                                                                                                                                                                                                                                                               | 10VA, 10W                                                                                                                                                                                            | 10VA, 10W                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 37.5VA, 30W                                                                                                                                                                                                                        | 120W (3GHz)                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Min. electrical service life (operations at rated load)             | 300,000                                                                                                                                                                                                                                                                                                                 | 300,000                                                                                                                                                                                              | 300,000                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 300,000                                                                                                                                                                                                                            | 5,000,000                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Coil Information                                                    |                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Coil voltage                                                        | 3, 4.5, 9, 12, 24VDC                                                                                                                                                                                                                                                                                                    | 3, 4.5, 5, 6, 9, 12, 24VDC                                                                                                                                                                           | 3, 4.5, 5, 9, 12, 24VDC                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 3, 4.5, 5, 6, 9, 12, 24VDC                                                                                                                                                                                                         | 4.5, 5, 12, 15, 24, 28VDC                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Power consumption                                                   | 200mW (standard)<br>200mW (single latching)<br>360mW (dual latching)                                                                                                                                                                                                                                                    | 200mW                                                                                                                                                                                                | 200mW (standard)<br>200mW (single latching)<br>360mW (dual latching)                                                                                                                                                                                                                                                                                                                                                                                                         | 100mW                                                                                                                                                                                                                              | 500mW (dual latching)<br>700mW (failsafe)                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Characteristics                                                     |                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Dielectric strength between coil & contacts (50/60 Hz for 1 minute) | 1,000VAC                                                                                                                                                                                                                                                                                                                | 1,000VAC                                                                                                                                                                                             | 1,000VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 750VAC                                                                                                                                                                                                                             | 500VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Terminal choices                                                    | PCB, SMT Gullwing                                                                                                                                                                                                                                                                                                       | PCB                                                                                                                                                                                                  | PCB, SMT Gullwing                                                                                                                                                                                                                                                                                                                                                                                                                                                            | SMT Gullwing                                                                                                                                                                                                                       | SMA Terminals, Solder Terminals, Pin Terminals                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Packaging / Options                                                 | —                                                                                                                                                                                                                                                                                                                       | —                                                                                                                                                                                                    | Tape & reel available                                                                                                                                                                                                                                                                                                                                                                                                                                                        | —                                                                                                                                                                                                                                  | Connector Cables                                                                                                                                                                                                                                                                                                                                                                                                                                                |

# Relays - Power PCB

|                                                                |                                                                                                                                                                                     |                                                                                                                                                                         |                                                                                                                                                                                                                |                                                                                                                                                    |
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|                                                                | <b>NEW!</b>                                                                                                                                                                         | <b>NEW!</b>                                                                                                                                                             | <b>NEW!</b>                                                                                                                                                                                                    |                                                                                                                                                    |
|                                                                |                                                                                                    |                                                                                        |                                                                                                                             |                                                                 |
| <b>General Attributes</b>                                      | <b>G5NB</b>                                                                                                                                                                         | <b>G5NB-E</b>                                                                                                                                                           | <b>G5SB</b>                                                                                                                                                                                                    | <b>G6D-ASI</b>                                                                                                                                     |
| <b>Dimensions mm (in)</b>                                      | 15.3 H x 20.5 L x 7.2 W<br>(0.60 x 0.81 x 0.28)                                                                                                                                     | 15.3 H x 20.5 L x 7.2 W<br>(0.60 x 0.81 x 0.28) max.                                                                                                                    | 15.8 H x 20.3 L x 10.3 W<br>(0.62 x 0.80 x 0.41)                                                                                                                                                               | 12.5 H x 17.5 L x 6.5 W<br>(0.49 x 0.69 x 0.26)                                                                                                    |
| <b>Switching</b>                                               | 3A/5A                                                                                                                                                                               | 3A/5A                                                                                                                                                                   | 5A(NO)/3A(NC)                                                                                                                                                                                                  | 5A                                                                                                                                                 |
| <b>Features</b>                                                | <ul style="list-style-type: none"> <li>• High capacity 5A version available</li> <li>• Meets EN tracking resistance CTI&gt;250</li> <li>• HA version for home appliances</li> </ul> | <ul style="list-style-type: none"> <li>• Small compact form for 10 kV impulse and 5A switching capability</li> <li>• Meets EN tracking resistance CTI&gt;250</li> </ul> | <ul style="list-style-type: none"> <li>• High insulation between coil &amp; contact</li> <li>• Impulse withstand of 8kV</li> <li>• Fully Sealed</li> <li>• Incorporates 5A NO contact</li> </ul>               | <ul style="list-style-type: none"> <li>• Subminiature, slim lightweight design</li> <li>• Low power consumption</li> <li>• Fully Sealed</li> </ul> |
| <b>Contact Information</b>                                     |                                                                                                                                                                                     |                                                                                                                                                                         |                                                                                                                                                                                                                |                                                                                                                                                    |
| <b>Contact form</b>                                            | 1 Form A                                                                                                                                                                            | 1 Form A                                                                                                                                                                | 1 Form A                                                                                                                                                                                                       | 1 Form A                                                                                                                                           |
| <b>Contact type(s)</b>                                         | Single button                                                                                                                                                                       | Single button                                                                                                                                                           | Single button                                                                                                                                                                                                  | Single button                                                                                                                                      |
| <b>Contact material(s)</b>                                     | AgNi                                                                                                                                                                                | AgSnIn                                                                                                                                                                  | AgNi/AgSnIn                                                                                                                                                                                                    | AgNi/AgSnIn                                                                                                                                        |
| <b>Electrical service life (@ 1800 ops./hr.)</b>               | (resistive load)<br>200,000 (resistive):<br>3A @ 125VAC/30VDC                                                                                                                       | 200,000 (resistive):<br>3A @ 30VDC<br>100,000:<br>5A @ 250VAC                                                                                                           | For resistive loads:<br>200,000: 3 A (NO)/3 A (NC) at 125 VAC;<br>50,000: 5 A (NO)/3 A (NC) at 125 VAC;<br>50,000: 5 A (NO) at 250 VAC;<br>10,000: 3 A (NC) at 250 VAC;<br>10,000: 5 A (NO)/3 A (NC) at 30 VDC | 300,000: 2A @ 30VDC/250VAC<br>70,000: 5A @ 30VDC/250VAC                                                                                            |
| <b>Max. switching capacity (and resistive load)</b>            | 375VA, 90W                                                                                                                                                                          | 1,250VA, 90W                                                                                                                                                            | 1,250VA, 150W(NO)<br>750VA, 30W(NC)                                                                                                                                                                            | 1,250VA, 150W                                                                                                                                      |
| <b>Minimum permissible load (for reference only)</b>           | 10mA @ 5VDC                                                                                                                                                                         | 10mA @ 5VDC                                                                                                                                                             | 10mA @ 5VDC                                                                                                                                                                                                    | 10mA @ 5VDC                                                                                                                                        |
| <b>Coil Information</b>                                        |                                                                                                                                                                                     |                                                                                                                                                                         |                                                                                                                                                                                                                |                                                                                                                                                    |
| <b>Coil voltage</b>                                            | 5, 12, 18, 24VDC                                                                                                                                                                    | 5, 12, 18, 24VDC                                                                                                                                                        | 5, 9, 12, 24VDC                                                                                                                                                                                                | 5, 12, 24, 48, 110/120VDC                                                                                                                          |
| <b>Power consumption</b>                                       | 200mW                                                                                                                                                                               | 200mW                                                                                                                                                                   | 400mW                                                                                                                                                                                                          | 200mW                                                                                                                                              |
| <b>Insulation class</b>                                        | Class A                                                                                                                                                                             | Class B                                                                                                                                                                 | Class B                                                                                                                                                                                                        | Class B                                                                                                                                            |
| <b>Characteristics</b>                                         |                                                                                                                                                                                     |                                                                                                                                                                         |                                                                                                                                                                                                                |                                                                                                                                                    |
| <b>Operating temperature</b>                                   | -40 to +70°C                                                                                                                                                                        | -40 to +85°C                                                                                                                                                            | -40 to +70°C                                                                                                                                                                                                   | -25 to +70°C                                                                                                                                       |
| <b>Impulse withstand voltage (1.2 x 50µ sec. unless noted)</b> | 10kV                                                                                                                                                                                | 10kV                                                                                                                                                                    | 8kV                                                                                                                                                                                                            | 6kV                                                                                                                                                |
| <b>Dielectric strength (50/60 Hz for 1 minute)</b>             | 4,000VAC (coil-contact)<br>750VAC (open contacts)                                                                                                                                   | 4,000VAC (coil-contact)<br>750VAC (open contacts)                                                                                                                       | 4,000VAC (coil-contact)<br>1,000VAC (open contacts)                                                                                                                                                            | 3,000VAC (coil-contact)<br>750VAC (open contacts)                                                                                                  |
| <b>Terminal choices</b>                                        | PCB                                                                                                                                                                                 | PCB                                                                                                                                                                     | PCB                                                                                                                                                                                                            | PCB                                                                                                                                                |
| <b>Protection level</b>                                        | Semi-sealed                                                                                                                                                                         | Semi-sealed                                                                                                                                                             | Semi-sealed                                                                                                                                                                                                    | Semi-sealed                                                                                                                                        |
| <b>Accessories</b>                                             | N/A                                                                                                                                                                                 | N/A                                                                                                                                                                     | N/A                                                                                                                                                                                                            | Socket for back connecting, sockets with PCB terminals                                                                                             |
| <b>Approved standards</b>                                      | UL, CSA, VDE                                                                                                                                                                        | UL, CSA, VDE                                                                                                                                                            | UL, CSA, VDE                                                                                                                                                                                                   | UL, CSA, TUV, SEV                                                                                                                                  |

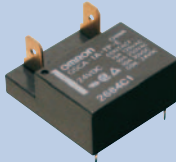
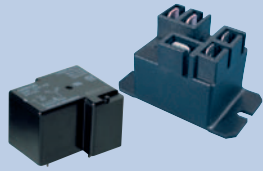
# Relays - Power PCB

|                                                                           |                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                             |
|---------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                           | <b>NEW!</b><br>                                                                                                                                                                                                    | <b>NEW!</b><br>                                                                                                                                                                                     |                                                                                                                                                                                                                                  |                                                                                          |
| <b>General Attributes</b>                                                 | <b>G6DS</b>                                                                                                                                                                                                                                                                                         | <b>G6M</b>                                                                                                                                                                                                                                                                           | <b>G2RG</b>                                                                                                                                                                                                                                                                                                         | <b>G6B</b>                                                                                                                                                                  |
| <b>Dimensions mm (in)</b>                                                 | 12.4 H x 20 L x 5.0 W<br>(0.60 x 0.81 x 0.28)                                                                                                                                                                                                                                                       | 17.7 H x 20.3 L x 5.08 W<br>(0.70 x 0.80 x 0.20)                                                                                                                                                                                                                                     | 25.5 H x 29 L x 13 W<br>(1.00 x 1.14 x 0.51)                                                                                                                                                                                                                                                                        | 9.91 H x 20.07 L x 9.91 W<br>(0.39 x 0.79 x 0.39)                                                                                                                           |
| <b>Switching</b>                                                          | 5A                                                                                                                                                                                                                                                                                                  | 5A                                                                                                                                                                                                                                                                                   | 8A                                                                                                                                                                                                                                                                                                                  | 8A/5A                                                                                                                                                                       |
| <b>Features</b>                                                           | <ul style="list-style-type: none"> <li>• Slim 5mm for max. density mounting</li> <li>• High sensitive coil option reduces power consumption</li> <li>• Meets EN reinforced insulation requirement for control equipment</li> <li>• Fully sealed</li> <li>• Resistant to mechanical shock</li> </ul> | <ul style="list-style-type: none"> <li>• Slim 5mm width, &amp; reduced PCB area (103mm<sup>2</sup>) ideal for high-density mounting</li> <li>• Highly efficient magnetic circuit for high sensitivity</li> <li>• UL Class I, Division II approved for hazardous locations</li> </ul> | <ul style="list-style-type: none"> <li>• 1.5mm contact gap x 2 poles=3mm total gap meeting UPS standards</li> <li>• Dimensions &amp; mounting holes are same as G2R relay series</li> <li>• Sealed construction, standard</li> <li>• Meets EN tracking resistance CTI &gt; 250</li> <li>• UL508/CSA 22.2</li> </ul> | <ul style="list-style-type: none"> <li>• Subminiature and low power</li> <li>• Sealed construction standard</li> <li>• Single &amp; dual coil latching available</li> </ul> |
| <b>Contact Information</b>                                                |                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                             |
| <b>Contact form</b>                                                       | 1 Form A                                                                                                                                                                                                                                                                                            | 1 Form A                                                                                                                                                                                                                                                                             | 2 Form A                                                                                                                                                                                                                                                                                                            | 1 Form A, 2 Form A, 2 Form B<br>1 Form A + 1 Form B                                                                                                                         |
| <b>Contact type(s)</b>                                                    | Single button                                                                                                                                                                                                                                                                                       | Single button                                                                                                                                                                                                                                                                        | Single button                                                                                                                                                                                                                                                                                                       | Single button                                                                                                                                                               |
| <b>Contact material(s)</b>                                                | AgNi                                                                                                                                                                                                                                                                                                | Ag-Alloy                                                                                                                                                                                                                                                                             | AgSnO <sub>2</sub>                                                                                                                                                                                                                                                                                                  | AgSnO <sub>2</sub>                                                                                                                                                          |
| <b>Electrical service life<br/>(@ 1800 ops./hr.)<br/>(resistive load)</b> | 100,000: 5A @ 30VDC/250VAC<br>80,000 (high sensitivity):<br>5A @ 30VDC/250VAC                                                                                                                                                                                                                       | 100,000: 3A @ 30VDC/250VAC<br>6,000: 5A @ 250VAC/24VDC                                                                                                                                                                                                                               | 10,000: 8A @ 250VAC                                                                                                                                                                                                                                                                                                 | 100,000: 5A @ 30 VDC/250VAC<br>8A @ 30 VDC/250VAC (high-capacity)                                                                                                           |
| <b>Max. switching capacity<br/>(resistive load)</b>                       | 1,250VA, 150W                                                                                                                                                                                                                                                                                       | 750VA, 90W                                                                                                                                                                                                                                                                           | 2,000 VA                                                                                                                                                                                                                                                                                                            | 1,250VA, 150W<br>2,000VA, 240W (high-capacity type)                                                                                                                         |
| <b>Minimum permissible load<br/>(for reference only)</b>                  | 5mA @ 24VDC                                                                                                                                                                                                                                                                                         | 10mA @ 5VDC                                                                                                                                                                                                                                                                          | 10mA @ 5VDC                                                                                                                                                                                                                                                                                                         | 10mA @ 5VDC                                                                                                                                                                 |
| <b>Coil Information</b>                                                   |                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                             |
| <b>Coil voltage</b>                                                       | 5, 12, 24VDC                                                                                                                                                                                                                                                                                        | 5, 12, 24VDC                                                                                                                                                                                                                                                                         | 12, 24VDC                                                                                                                                                                                                                                                                                                           | 5, 6, 12, 24VDC                                                                                                                                                             |
| <b>Power consumption</b>                                                  | 180mW<br>120mW (high-sensitivity)                                                                                                                                                                                                                                                                   | 120mW                                                                                                                                                                                                                                                                                | 800mW                                                                                                                                                                                                                                                                                                               | 200mW (1 pole)<br>300mW (2 pole)                                                                                                                                            |
| <b>Insulation class</b>                                                   | Class B                                                                                                                                                                                                                                                                                             | Class B                                                                                                                                                                                                                                                                              | Class B                                                                                                                                                                                                                                                                                                             | Class A                                                                                                                                                                     |
| <b>Characteristics</b>                                                    |                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                             |
| <b>Operating temperature</b>                                              | -40 to +85°C                                                                                                                                                                                                                                                                                        | -40 to +85°C                                                                                                                                                                                                                                                                         | -40 to +70°C                                                                                                                                                                                                                                                                                                        | -25 to +70°C                                                                                                                                                                |
| <b>Impulse withstand voltage<br/>(1.2 x 50μ sec. unless noted)</b>        | 6kV                                                                                                                                                                                                                                                                                                 | 5.08kV                                                                                                                                                                                                                                                                               | 10kV                                                                                                                                                                                                                                                                                                                | —                                                                                                                                                                           |
| <b>Dielectric strength<br/>(50/60 Hz for 1 minute)</b>                    | 3,000VAC (coil-contacts)<br>750VAC (open contacts)                                                                                                                                                                                                                                                  | 3,000VAC (coil-contact)<br>750VAC (open contacts)                                                                                                                                                                                                                                    | 5,000VAC (coil-contact)<br>3,000VAC (contacts pole-pole)<br>1,000VAC (open contacts)                                                                                                                                                                                                                                | 4,000VAC (coil-contact)<br>2,000VAC (contacts pole-pole)<br>1,000VAC (open contacts)                                                                                        |
| <b>Terminal choices</b>                                                   | PCB                                                                                                                                                                                                                                                                                                 | PCB                                                                                                                                                                                                                                                                                  | PCB                                                                                                                                                                                                                                                                                                                 | PCB                                                                                                                                                                         |
| <b>Protection level</b>                                                   | Fully Sealed                                                                                                                                                                                                                                                                                        | Fully sealed                                                                                                                                                                                                                                                                         | Fully sealed                                                                                                                                                                                                                                                                                                        | Fully sealed                                                                                                                                                                |
| <b>Accessories</b>                                                        | Socket for back connecting, sockets with PCB terminals                                                                                                                                                                                                                                              | N/A                                                                                                                                                                                                                                                                                  | N/A                                                                                                                                                                                                                                                                                                                 | Sockets & clips for back connecting sockets with PCB terminals                                                                                                              |
| <b>Approved standards</b>                                                 | UL, CSA, VDE                                                                                                                                                                                                                                                                                        | UL, CSA, VDE, EN, IEC 61131-2, IEC 61010                                                                                                                                                                                                                                             | UL, CSA, VDE (0700/0110)                                                                                                                                                                                                                                                                                            | UL, CSA, (FCC Part 68)<br>SEV, TUV, IEC                                                                                                                                     |

# Relays - Power PCB

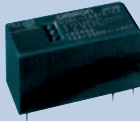
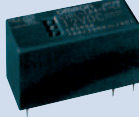
|                                                                  |                                                                                                                                | <b>NEW!</b><br>                                                                                                                                                                                | <b>NEW!</b><br>                                                                                                                                                                                                                                             |                                                                                                                                                                                              |
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| General Attributes                                               | G6RN                                                                                                                                                                                                            | G5LE/-E                                                                                                                                                                                                                                                                         | G5LB/-25                                                                                                                                                                                                                                                                                                                                       | G5Q                                                                                                                                                                                                                                                                             |
| Dimensions mm (in)                                               | 15 H x 28.5 L x 10 W<br>(0.59 x 1.12 x 0.39)                                                                                                                                                                    | 19 H x 22.5 L x 16.5 W<br>(0.75 x 0.89 x 0.65)                                                                                                                                                                                                                                  | 15.2 H x 19.6 L x 15.6 W<br>(0.60 x 0.77 x 0.61)                                                                                                                                                                                                                                                                                               | 15.8 H x 20.3 L x 10.3 W<br>(0.62 x 0.80 x 0.41)                                                                                                                                                                                                                                |
| Switching                                                        | 8A                                                                                                                                                                                                              | 10A (16A for Semi-sealed "E" type)                                                                                                                                                                                                                                              | 10A                                                                                                                                                                                                                                                                                                                                            | 10A (NO contacts)                                                                                                                                                                                                                                                               |
| Features                                                         | <ul style="list-style-type: none"> <li>• 8 mm coil/contact creepage</li> <li>• Low profile</li> <li>• Sealed construction standard</li> <li>• Ideal for switching contactors, solenoids &amp; motors</li> </ul> | <ul style="list-style-type: none"> <li>• Small "sugar cube" size used as common platform</li> <li>• Sealed construction optional</li> <li>• High capacity contacts: -E</li> <li>• Increased (0.8) contact gap: -G8</li> <li>• Special application versions available</li> </ul> | <ul style="list-style-type: none"> <li>• Sealed construction optional</li> <li>• 10A switching in low profile "sugar cube" package</li> <li>• Optional -25 type meets stringent EU requirements, including tracking resistance CTI &gt; 250 &amp; extended life</li> <li>• 4.5kV impulse withstand</li> <li>• Low power consumption</li> </ul> | <ul style="list-style-type: none"> <li>• Compact PCB relay with high insulation</li> <li>• Withstands impulse of 8kV coil-contacts</li> <li>• Meets EN tracking resistance CTI &gt; 250</li> <li>• Class F coil insulation standard</li> <li>• Low power consumption</li> </ul> |
| Contact Information                                              |                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                 |
| Contact form                                                     | 1 Form A, 1 Form C                                                                                                                                                                                              | 1 Form A, 1 Form C                                                                                                                                                                                                                                                              | 1 Form A, 1 Form C                                                                                                                                                                                                                                                                                                                             | 1 Form A, 1 Form C                                                                                                                                                                                                                                                              |
| Contact type(s)                                                  | Single button                                                                                                                                                                                                   | Single button                                                                                                                                                                                                                                                                   | Single button                                                                                                                                                                                                                                                                                                                                  | Single button                                                                                                                                                                                                                                                                   |
| Contact material(s)                                              | AgNi +gold plating                                                                                                                                                                                              | AgSnO <sub>2</sub> /AgSnIn (either with gold plating option)                                                                                                                                                                                                                    | AgSnO <sub>2</sub>                                                                                                                                                                                                                                                                                                                             | AgNi                                                                                                                                                                                                                                                                            |
| Electrical service life<br>(@ 1800 ops./hr.)<br>(resistive load) | 100,000:<br>8A @ 250VAC<br>5A @ 30VDC                                                                                                                                                                           | 100,000:<br>13A @ 120VAC (@ 85°C/87°C)<br>5A @ 250 VAC (AgSnO <sub>2</sub> )<br>6 FLA, 6 LRA @ 120VAC @ 85°C<br>TV-5 @120VAC<br>50,000: 10A @ 250VAC<br>50,000 16A @ 250VAC<br>1/8 HP @ 120 VAC (@ 85°C)<br>30,000: 12A @ 120VAC                                                | 100,000:<br>10A @ 120VAC/250VAC<br>8A @ 30VDC                                                                                                                                                                                                                                                                                                  | 200,000:<br>3A (NO)/3 A (NC) @ 125VAC<br>100,000:<br>3A (NO)/3 A (NC) @ 250VAC<br>5A (NO)/3 A (NC) @ 30VDC<br>50,000: 10A (NO) @125VAC<br>(900 ops. per hour)                                                                                                                   |
| Max. switching capacity<br>(resistive load)                      | 2,000VA, 150W                                                                                                                                                                                                   | 1,200VA, 240W                                                                                                                                                                                                                                                                   | 1,200VA, 240W<br>2,500VA, 240W (-25 type)                                                                                                                                                                                                                                                                                                      | 1,250VA, 150W (NO)<br>375 VA, 90W (NC)                                                                                                                                                                                                                                          |
| Minimum permissible load<br>(for reference only)                 | 10mA @ 5 VDC                                                                                                                                                                                                    | 100mA @ 5VDC,                                                                                                                                                                                                                                                                   | 100mA @ 5VDC                                                                                                                                                                                                                                                                                                                                   | 10mA @ 5VDC                                                                                                                                                                                                                                                                     |
| Coil Information                                                 |                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                 |
| Coil voltage                                                     | 5, 6, 12, 24, 48VDC                                                                                                                                                                                             | 5, 6, 9, 12, 24, 48VDC                                                                                                                                                                                                                                                          | 3, 5, 6, 9, 12, 24, 36, 48VDC                                                                                                                                                                                                                                                                                                                  | 5, 12, 24VDC                                                                                                                                                                                                                                                                    |
| Power consumption                                                | 220mW, 250mW (DC24/48)                                                                                                                                                                                          | 400mW /360mW available                                                                                                                                                                                                                                                          | 360mW (standard)<br>400mW ("40" style)<br>600mW ("60" style)                                                                                                                                                                                                                                                                                   | 400mW Form C<br>200mW Form A                                                                                                                                                                                                                                                    |
| Insulation class                                                 | Class B                                                                                                                                                                                                         | Class B, F (UL/CSA ONLY)                                                                                                                                                                                                                                                        | Class B, F (-25 type)                                                                                                                                                                                                                                                                                                                          | Class F                                                                                                                                                                                                                                                                         |
| Characteristics                                                  |                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                 |
| Operating temperature                                            | -40 to +85°C                                                                                                                                                                                                    | -40 to +85°C                                                                                                                                                                                                                                                                    | -40 to +85°C                                                                                                                                                                                                                                                                                                                                   | -40 to +105°C                                                                                                                                                                                                                                                                   |
| Impulse withstand voltage<br>(1.2 x 50μ sec. unless noted)       | —                                                                                                                                                                                                               | 4.5kV                                                                                                                                                                                                                                                                           | 4.5kV                                                                                                                                                                                                                                                                                                                                          | 8kV                                                                                                                                                                                                                                                                             |
| Dielectric strength<br>(50/60 Hz for 1 minute)                   | 4,000VAC (coil-contact)<br>1,000 (open contacts)                                                                                                                                                                | 2,000VAC (coil-contact)<br>750VAC (open contacts)                                                                                                                                                                                                                               | 2,000VAC (coil-contact)<br>750VAC (open contacts)                                                                                                                                                                                                                                                                                              | 4,000VAC (coil-contact)<br>1,000VAC (open contacts)                                                                                                                                                                                                                             |
| Terminal choices                                                 | PCB                                                                                                                                                                                                             | PCB                                                                                                                                                                                                                                                                             | PCB                                                                                                                                                                                                                                                                                                                                            | PCB                                                                                                                                                                                                                                                                             |
| Protection level                                                 | Sealed                                                                                                                                                                                                          | Standard: Semi-sealed/vented,<br>Option: sealed                                                                                                                                                                                                                                 | Standard: Semi-sealed/vented,<br>Option: sealed                                                                                                                                                                                                                                                                                                | Standard: Semi-sealed/vented,<br>Option: sealed                                                                                                                                                                                                                                 |
| Accessories                                                      | N/A                                                                                                                                                                                                             | N/A                                                                                                                                                                                                                                                                             | N/A                                                                                                                                                                                                                                                                                                                                            | N/A                                                                                                                                                                                                                                                                             |
| Approved standards                                               | UL, CSA, VDE                                                                                                                                                                                                    | UL, CSA, TUV, VDE                                                                                                                                                                                                                                                               | UL, CSA, VDE                                                                                                                                                                                                                                                                                                                                   | UL, CSA, VDE                                                                                                                                                                                                                                                                    |

# Relays - Power PCB

|                                                            |                                                                                                                                                                                                         |                                                                                              | <b>NEW TYPES</b><br>                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                       |
|------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General Attributes                                         | G6C                                                                                                                                                                                                                                                                                      | G5CA                                                                                                                                                                          | G5PA-1                                                                                                                                                                                                                                                                                                                                                                                       | G8PT                                                                                                                                                                                                                                                                                                                                                                                     |
| Dimensions mm (in)                                         | 9.91 H x 20.07 L x 14.99 W<br>(0.39 x 0.79 x 0.59)                                                                                                                                                                                                                                       | 11 H x 16 L x 22 W (10A)<br>(0.43 x 0.63 x 0.87)<br>11 H x 22 L x 25 W (15A)                                                                                                  | 25 H x 24 L x W 10<br>(0.985 x 0.95 x 0.40)                                                                                                                                                                                                                                                                                                                                                  | Multiple, refer to catalog. Basic:<br>20.1(H)x 32.1(L) x 27.7(W)                                                                                                                                                                                                                                                                                                                         |
| Switching                                                  | 10A                                                                                                                                                                                                                                                                                      | 10A (15A high capacity)                                                                                                                                                       | 5A (10A option)                                                                                                                                                                                                                                                                                                                                                                              | 30A (SPST)<br>10A-30A (SPDT)                                                                                                                                                                                                                                                                                                                                                             |
| Features                                                   | <ul style="list-style-type: none"> <li>Low power consumption for high power switching</li> <li>Low profile 10A power relay</li> <li>Single &amp; dual coil latching types available</li> <li>Sealed construction available</li> <li>Meets EN tracking resistance CTI &gt; 250</li> </ul> | <ul style="list-style-type: none"> <li>Fully sealed or flux-sealed</li> <li>High capacity versions</li> <li>High sensitivity types</li> <li>PCB or PCB+QC versions</li> </ul> | <ul style="list-style-type: none"> <li>Ideal for TVs, tuner, &amp; audio power supply switching, both front panel and remote controlled. Also auxiliary switched power outlets on tuners and TVs.</li> <li>A variety of versions in a single standard package meet most UL/FCC power isolation requirements</li> <li>Rated to 100A inrush @ 250 VAC for minimum 40,000 operations</li> </ul> | <ul style="list-style-type: none"> <li>Industry standard form with 30A switching</li> <li>UL Class F insulation standard</li> <li>Wide range of coil ratings</li> <li>Various sealing forms: open frame, vented/flux sealed, fully sealed</li> <li>UL508/UL873 Column A spacings</li> <li>Meets EN Tracking resistance CTI &gt; 175</li> <li>High dielectric at open contacts</li> </ul> |
| Contact Information                                        |                                                                                                                                                                                                                                                                                          |                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                          |
| Contact form                                               | 1 Form A + 1 Form B, 1 Form A                                                                                                                                                                                                                                                            | 1 Form A                                                                                                                                                                      | 1 Form A                                                                                                                                                                                                                                                                                                                                                                                     | 1 Form A, 1 Form C                                                                                                                                                                                                                                                                                                                                                                       |
| Contact type(s)                                            | Single button                                                                                                                                                                                                                                                                            | Single button                                                                                                                                                                 | Single button                                                                                                                                                                                                                                                                                                                                                                                | Single button                                                                                                                                                                                                                                                                                                                                                                            |
| Contact material(s)                                        | Ag-Alloy                                                                                                                                                                                                                                                                                 | AgSnIn                                                                                                                                                                        | AgSnO <sub>2</sub>                                                                                                                                                                                                                                                                                                                                                                           | AgSnIn (other alloys available)                                                                                                                                                                                                                                                                                                                                                          |
| Electrical service life (@ 1800 ops./hr. (resistive load)) | 100,000: 10A @ 30VDC/250VAC                                                                                                                                                                                                                                                              | 100,000:<br>10A @ 30VDC<br>15A @ 110VAC (high capacity)<br>10A @ 250VAC (fully sealed, std)<br>300,000:<br>10A @ 250VAC (semi-sealed)                                         | 30,000: 5A @ 277 VAC 5A @ 30VDC / 277VAC (high capacity type)<br>25,000: TV-5 TV-8 (optional)<br>6,000: 5A @ 30VDC<br>100,000: 10A @ 250 VAC (high-capacity type)                                                                                                                                                                                                                            | 100,000: 30A @ 277VAC (NO)<br>50,000: 30A @ 277VAC (NC)<br>Consult catalog for other ratings                                                                                                                                                                                                                                                                                             |
| Max. switching capacity (resistive load)                   | 2,500VA, 300W<br>2,000VA, 240W (latching)                                                                                                                                                                                                                                                | 2,500VA, 300W                                                                                                                                                                 | N/A                                                                                                                                                                                                                                                                                                                                                                                          | 1 Form A: 7,500VA, 560W<br>1 Form C: 5000/2500VA, 560W/280W*                                                                                                                                                                                                                                                                                                                             |
| Minimum permissible load (for reference only)              | 10mA @ 5VDC                                                                                                                                                                                                                                                                              | 100mA @ 5VDC                                                                                                                                                                  | 10mA @ 5 VDC                                                                                                                                                                                                                                                                                                                                                                                 | 500mA @ 5VDC                                                                                                                                                                                                                                                                                                                                                                             |
| Coil Information                                           |                                                                                                                                                                                                                                                                                          |                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                          |
| Coil voltage                                               | 3, 5, 6, 12, 24VDC                                                                                                                                                                                                                                                                       | 5, 12, 24VDC                                                                                                                                                                  | 5, 6, 9, 12, 24 VDC<br>(4.5 VDC non-standard)                                                                                                                                                                                                                                                                                                                                                | 5, 9, 12, 24, 48, 110VDC<br>Other coil voltages available                                                                                                                                                                                                                                                                                                                                |
| Power consumption                                          | 200mW (monostable & single coil latching)<br>280mW (dual coil latching)                                                                                                                                                                                                                  | 200mW (standard & high capacity)<br>150mW (high sensitivity)                                                                                                                  | 250mW<br>530mW (high capacity, extended electrical life)<br>150mW (under development)                                                                                                                                                                                                                                                                                                        | 900mW                                                                                                                                                                                                                                                                                                                                                                                    |
| Insulation class                                           | Class A                                                                                                                                                                                                                                                                                  | Class B                                                                                                                                                                       | Class B                                                                                                                                                                                                                                                                                                                                                                                      | Class F                                                                                                                                                                                                                                                                                                                                                                                  |
| Characteristics                                            |                                                                                                                                                                                                                                                                                          |                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                          |
| Operating temperature                                      | -40 to +70°C                                                                                                                                                                                                                                                                             | -25 to +70°C                                                                                                                                                                  | -40 to +70°C                                                                                                                                                                                                                                                                                                                                                                                 | -55°C to +105°C                                                                                                                                                                                                                                                                                                                                                                          |
| Impulse withstand voltage (1.2 x 50μ sec. unless noted)    | 4.5kV                                                                                                                                                                                                                                                                                    | 4.5kV                                                                                                                                                                         | 10kV<br>12kV                                                                                                                                                                                                                                                                                                                                                                                 | 6kV                                                                                                                                                                                                                                                                                                                                                                                      |
| Dielectric strength (50/60 Hz for 1 minute)                | 2,000VAC (coil -contact)<br>2,000VAC (contacts pole-pole)<br>1,000VAC (open contacts)                                                                                                                                                                                                    | 2,500VAC (coil-contact)<br>1,000VAC (open contacts)                                                                                                                           | 4,000VAC (coil-contacts)<br>1,000VAC (open contacts)                                                                                                                                                                                                                                                                                                                                         | 2,500VAC, (coil-contact)<br>1,500VAC, (open contacts)                                                                                                                                                                                                                                                                                                                                    |
| Terminal choices                                           | PCB, self clinching                                                                                                                                                                                                                                                                      | PCB<br>Optional: PCB+quick-connect contact terminals                                                                                                                          | PCB                                                                                                                                                                                                                                                                                                                                                                                          | PCB (optional self-clinching)<br>PCB coil /quick connect contact<br>Flange mount all quick connect                                                                                                                                                                                                                                                                                       |
| Protection level                                           | Semi-sealed<br>Fully sealed option                                                                                                                                                                                                                                                       | Semi-sealed<br>Fully sealed option                                                                                                                                            | Semi-sealed                                                                                                                                                                                                                                                                                                                                                                                  | Open frame, Vented/semi-sealed,<br>Fully sealed                                                                                                                                                                                                                                                                                                                                          |
| Accessories                                                | Socket for QC contact terms.,<br>PCB terms., socket clip                                                                                                                                                                                                                                 | N/A                                                                                                                                                                           | N/A                                                                                                                                                                                                                                                                                                                                                                                          | N/A                                                                                                                                                                                                                                                                                                                                                                                      |
| Approved standards                                         | UL, CSA, VDE, SEV                                                                                                                                                                                                                                                                        | UL, CSA, SEV, SEMKO, IEC/TUV                                                                                                                                                  | UL, CSA, SEMKO TUV, VDE                                                                                                                                                                                                                                                                                                                                                                      | UL, CSA, VDE                                                                                                                                                                                                                                                                                                                                                                             |

\* N.O. Contact / N.C. Contact

# Relays - Power PCB

|                                                            |                                                                                                                                                                                |                                                                                                                                                                                               | <b>NEW!</b><br>                                                            | <b>NEW!</b><br>                                                                                                                                                                                                                                                                                                                |
|------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General Attributes                                         | G2R                                                                                                                                                                                                                                                             | G2RL                                                                                                                                                                                                                                                                           | G5RL                                                                                                                                                          | G2RL-TP                                                                                                                                                                                                                                                                                                                                                                                                           |
| Dimensions mm (in)                                         | 25.5 H x 29 L x 13 W<br>(1 x 1.14 x 0.51)                                                                                                                                                                                                                       | 15.5 H x 29 L x 12.7 W<br>(0.61 x 1.14 x 0.50)                                                                                                                                                                                                                                 | 15.7 H x 28.8 L x 12.5 W<br>(0.61 x 1.14 x 0.49)                                                                                                              | 15.7H x 40.4 L x 12.5 W<br>(0.61 x 1.60 x 0.49)                                                                                                                                                                                                                                                                                                                                                                   |
| Switching                                                  | 16A max.                                                                                                                                                                                                                                                        | 16A max.                                                                                                                                                                                                                                                                       | 16A max. (NO), 5A max. (NC)                                                                                                                                   | 16A max.                                                                                                                                                                                                                                                                                                                                                                                                          |
| Features                                                   | <ul style="list-style-type: none"> <li>• High dielectric withstand</li> <li>• 8mm coil/contact spacing</li> <li>• 1 &amp; 2 pole models</li> <li>• 3mm contact gap version available (see G2RG)</li> <li>• Meets EN tracking resistance CTI &gt; 250</li> </ul> | <ul style="list-style-type: none"> <li>• Low profile for power rating</li> <li>• High isolation</li> <li>• Class F insulation option</li> <li>• Low power consumption</li> <li>• Quick connect terminal option</li> <li>• Meets EN tracking resistance CTI &gt; 250</li> </ul> | <ul style="list-style-type: none"> <li>• High dielectric due to large internal creepage distances.</li> <li>• AC coil in industry standard package</li> </ul> | <ul style="list-style-type: none"> <li>• Increased temperature &amp; insulation ratings in low profile package.</li> <li>• Simplifies PCB design by allowing removal of high power PCB tracings.</li> <li>• Contact/load terminals in both 5mm for RAST5 connection &amp; 7.5mm existing standard</li> <li>• Single mounting/soldering process for both types of terminals reduces PCB assembly costs.</li> </ul> |
| Contact Information                                        |                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                |                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Contact form                                               | 1 Form A, 1 Form C, 2 Form A, 2 Form C                                                                                                                                                                                                                          | 1 Form A, 1 Form C, 2 Form A, 2 Form C                                                                                                                                                                                                                                         | 1 Form C                                                                                                                                                      | 1 Form A                                                                                                                                                                                                                                                                                                                                                                                                          |
| Contact type(s)                                            | Single button, bifurcated button                                                                                                                                                                                                                                | Single button (bifurcated available)                                                                                                                                                                                                                                           | Single button                                                                                                                                                 | Single button                                                                                                                                                                                                                                                                                                                                                                                                     |
| Contact material(s)                                        | Ag alloy                                                                                                                                                                                                                                                        | AgSnO <sub>2</sub> (1 pole); AgNi (2 pole)                                                                                                                                                                                                                                     | AgSnIn                                                                                                                                                        | Ag alloy                                                                                                                                                                                                                                                                                                                                                                                                          |
| Electrical service life (@ 1800 ops./hr.) (resistive load) | 100,000: (high-capacity type)<br>16A @ 30VDC/250VAC<br>Consult catalog for other ratings                                                                                                                                                                        | 100,000: 16A @ 250VAC<br>6,000: 25A @ 240VAC<br>Consult catalog for other ratings                                                                                                                                                                                              | 50,000: 16A @ 24VDC/277VAC (NO)<br>25,000: TV-5 (NO)                                                                                                          | 50,000: 16A @ 24VDC/277VAC<br>20A @ 24 VAC (@ 85°C)<br>25,000: TV-5                                                                                                                                                                                                                                                                                                                                               |
| Max. switching capacity (resistive Load)                   | 4,000VA, 480W (high-capacity 1 pole)<br>Consult catalog for other ratings                                                                                                                                                                                       | 4,000VA, 384W (high-capacity 1 pole)<br>Consult catalog for other ratings                                                                                                                                                                                                      | 4,000VA, 384W (NO)<br>1,250VA, 120W (NC)                                                                                                                      | 4,000VA,                                                                                                                                                                                                                                                                                                                                                                                                          |
| Minimum permissible load (@1800 ops./hr.)                  | 1 pole: 100mA @ 5VDC;<br>2 pole: 10mA @ 5VDC                                                                                                                                                                                                                    | 40mA, 24VDC                                                                                                                                                                                                                                                                    | 40mA @ 24VDC                                                                                                                                                  | —                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Coil Information                                           |                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                |                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Coil voltage                                               | 12, 18, 24, 48, 50, 100, 110/120, 110, 120, 200/220, 220, 230, 240VAC<br>5, 6, 9, 12, 18, 24, 48, 60, 100, 110VDC                                                                                                                                               | 5, 12, 24, 48VDC                                                                                                                                                                                                                                                               | 24, 100, 115/120, 200, 230/240 VAC<br>5, 12, 24, 48VDC                                                                                                        | 12, 24VDC<br>Consult catalog for other coil voltages                                                                                                                                                                                                                                                                                                                                                              |
| Power consumption                                          | 0.9VA, 530mW (standard)<br>360mW (high sensitivity)<br>850mW (latching set),<br>600mW (latching reset)                                                                                                                                                          | 400mW (430mW for 48VDC)                                                                                                                                                                                                                                                        | 0.75VA<br>400mW (430mW @ 48VDC)                                                                                                                               | 400mW (430mW for 48VDC)                                                                                                                                                                                                                                                                                                                                                                                           |
| Insulation class                                           | Class B available                                                                                                                                                                                                                                               | Class F                                                                                                                                                                                                                                                                        | —                                                                                                                                                             | Class F                                                                                                                                                                                                                                                                                                                                                                                                           |
| Characteristics                                            |                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                |                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Operating temperature                                      | -40 to +70°C (+85°C option)                                                                                                                                                                                                                                     | -40 to +85°C                                                                                                                                                                                                                                                                   | -40 to +70°C (AC coil)<br>-40 to +85°C (DC coil)                                                                                                              | -40 to +105°C                                                                                                                                                                                                                                                                                                                                                                                                     |
| Impulse withstand voltage (1.2 x 50μ sec. unless noted)    | 10kV                                                                                                                                                                                                                                                            | 10kV                                                                                                                                                                                                                                                                           | 10kV                                                                                                                                                          | 10kV                                                                                                                                                                                                                                                                                                                                                                                                              |
| Dielectric strength (50/60 Hz for 1 minute)                | 5,000VAC (coil-contact)<br>1,000 VAC (open contacts)                                                                                                                                                                                                            | 5,000VAC (coil-contact)<br>1,000 VAC (open contacts)                                                                                                                                                                                                                           | 6,000VAC (coil-contact)<br>1,000VAC (open contacts)                                                                                                           | 5,000 VAC, (coil-contact)<br>1,000 VAC, (open contacts)                                                                                                                                                                                                                                                                                                                                                           |
| Terminal choices                                           | PCB, plug in<br>quick-connect (flange mount)                                                                                                                                                                                                                    | PCB, optional quick-connect<br>contact terminals (-TP type)                                                                                                                                                                                                                    | PCB                                                                                                                                                           | PCB (coil terminals)<br>Quick-connect (contact terminals)                                                                                                                                                                                                                                                                                                                                                         |
| Protection level                                           | Semi-sealed<br>Fully sealed option                                                                                                                                                                                                                              | Semi-sealed<br>Fully sealed option                                                                                                                                                                                                                                             | Semi-sealed                                                                                                                                                   | Semi-sealed                                                                                                                                                                                                                                                                                                                                                                                                       |
| Accessories                                                | N/A                                                                                                                                                                                                                                                             | N/A                                                                                                                                                                                                                                                                            | N/A                                                                                                                                                           | N/A                                                                                                                                                                                                                                                                                                                                                                                                               |
| Approved standards                                         | UL, CSA, SEV SEMKO, VDE, TUV                                                                                                                                                                                                                                    | UL, CSA, VDE                                                                                                                                                                                                                                                                   | UL, CSA, VDE                                                                                                                                                  | UL, CSA, EN 60335                                                                                                                                                                                                                                                                                                                                                                                                 |

# Relays - DC Power

The switching and driving sections are isolated, gas injected and hermetically sealed. This advanced construction requires no arc space, saves space, & helps ensure safety.



## General Attributes

### G9EA

### G9EB

### G9EC

| Model                                 | G9EA-1(-B)                                                                                                       | G9EA-1(-B)-CA                                                            | G9EB (-1B)                                   | G9EC-1(-B)                                                   |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|----------------------------------------------|--------------------------------------------------------------|
| Classification                        | Switching/current conduction                                                                                     | High-current conduction                                                  | Switching/current conduction                 | Switching/current conduction                                 |
| Features                              | Standard compact model carries/switches 400VDC, 60A loads                                                        | Carries 100A Low contact resistance when carrying current                | Smallest in series 250VDC, 25A loads         | Largest capacity in series Carries/switches 400V, 200A loads |
| Contact Information                   |                                                                                                                  |                                                                          |                                              |                                                              |
| Contact Form                          | SPST-NO                                                                                                          | SPST-NO                                                                  | SPST-NO                                      | SPST-NO                                                      |
| Contact structure                     | Double-break, single                                                                                             | Double-break, single                                                     | Double-break, single                         | Double-break, single                                         |
| Contact resistance                    | 30mΩ max. (0.6mΩ typical)                                                                                        | 10mΩ max. (0.3mΩ typical)                                                | 30mΩ max.                                    | 30mΩ max. (0.2mΩ typical)                                    |
| Switching voltage drop                | 0.1V max. (for a carry current of 60A)                                                                           | 0.1V max. (for a carry current of 100A)                                  | 0.1V max (for a carry current of 25A)        | 0.1V max. (for a carry current of 200A)                      |
| *Electrical endurance                 | 120VDC, 100A, 3,000 operations min.<br>400VDC, 60A, 3,000 operations min.<br>400VDC, 30A, 30,000 operations min. | 400VDC, 30A, 1,000 operations min.<br>120VDC, 30A, 2,500 operations min. | 250VDC, 25A, 30,000 operations min.          | 400VDC, 200A, 3,000 operations min.                          |
| Max. switching current                | 100A                                                                                                             | 30A                                                                      | 25A                                          | 200A                                                         |
| Rated carry current                   | 60A                                                                                                              | 100A                                                                     | 25A                                          | 200A                                                         |
| Short-time carry current              | 100A (10 min.)                                                                                                   | 150A (10 min.)                                                           | 50A (5 min.), 40A (10min.)                   | 300A (15min.)                                                |
| *Max. interruption current            | 600A @ 300VDC (5 times)                                                                                          | —                                                                        | 100A @ 250VDC (5 times)                      | 1,000A @ 400VDC (10 times)                                   |
| *Overload interruption                | 180A @ 400VDC (100 times min.)                                                                                   | 100A @ 120VDC (150 times min.)                                           | 50A @ 250VDC (50 times min.)                 | 700A @ 400VDC (40 times min.)                                |
| Reverse polarity interruption         | -60A @ 200VDC (1,000 times min.)                                                                                 | —                                                                        | —                                            | -200A @ 200VDC (1,000 times min.)                            |
| Coil Information                      |                                                                                                                  |                                                                          |                                              |                                                              |
| Rated voltage                         | 12, 24, 48, 60 & 100VDC                                                                                          | 12, 24, 48, 60 & 100VDC                                                  | 12, 24, 48, 60 & 100VDC                      | 12, 24, 48, 60 & 100VDC                                      |
| Power consumption                     | Approx. 5 to 5.4W                                                                                                | Approx. 5 to 5.4W                                                        | Approx. 2W                                   | Approx. 11W                                                  |
| Mechanical endurance                  | 200,000 operations min.                                                                                          | 200,000 operations min.                                                  | 100,000 operations min.                      | 200,000 operations min.                                      |
| Insulation resistance                 |                                                                                                                  |                                                                          |                                              |                                                              |
| Between Coil & Contacts               | 1,000MΩ min.                                                                                                     | 1,000MΩ min.                                                             | 1,000MΩ min.                                 | 1,000MΩ min.                                                 |
| Between contacts of the same polarity | 1,000MΩ min.                                                                                                     | 1,000MΩ min.                                                             | 1,000MΩ min.                                 | 1,000MΩ min.                                                 |
| Dielectric strength                   |                                                                                                                  |                                                                          |                                              |                                                              |
| Between coil & contacts               | 2,500VAC for 1min.                                                                                               | 2,500VAC for 1min.                                                       | 2,500VAC for 1min.                           | 2,500VAC for 1min.                                           |
| Between contacts of the same polarity | 2,500VAC for 1min.                                                                                               | 2,500VAC for 1min.                                                       | 2,500VAC for 1min.                           | 2,500VAC for 1min.                                           |
| Impulse withstand voltage             | 4,500V                                                                                                           | 4,500V                                                                   | 4,500V                                       | 4,500V                                                       |
| Ambient operating temperature         | -40 to +70°C (with no icing or condensation)                                                                     | -40 to +70°C (with no icing or condensation)                             | -40 to +70°C (with no icing or condensation) | -40 to +50°C (with no icing or condensation)                 |
| Terminals                             |                                                                                                                  |                                                                          |                                              |                                                              |
| Screw terminals                       | Yes                                                                                                              | Yes                                                                      | Yes                                          | Yes                                                          |
| Lead wire output                      | Yes                                                                                                              | Yes                                                                      | Yes                                          | Yes                                                          |

\*When using a varistor as protective circuit against reverse surge in the relay coil

# Relays - General Purpose

|                                                                   |                                                                                                                                                                                                                 |                                                                                                                                                                                 |                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                 |
|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                   |                                                                                                                                |                                                                                                |                                                                                                                                                                                  |                                                                                                                                                                              |
| <b>General Attributes</b>                                         | <b>MY4H</b>                                                                                                                                                                                                     | <b>MK</b>                                                                                                                                                                       | <b>MY</b>                                                                                                                                                                                                                                                           | <b>LY</b>                                                                                                                                                                                                                                                       |
| <b>Dimensions mm (in)</b>                                         | 35 H x 28.5 L x 22 W<br>(1.38 x 1.12 x 0.87)                                                                                                                                                                    | 52.58 H x 34.54 L x 34.54 W<br>(2.07 x 1.36 x 1.36)                                                                                                                             | 36 H x 28 L x 21.5 W<br>(1.42 x 1.10 x 0.85)                                                                                                                                                                                                                        | 35.56 H x 27.94 L x 21.59 W<br>(1.40 x 1.10 x 0.85)                                                                                                                                                                                                             |
| <b>Switching</b>                                                  | 3A                                                                                                                                                                                                              | 10 A max.                                                                                                                                                                       | 10A (2 pole);<br>5A (4 pole)                                                                                                                                                                                                                                        | 15A                                                                                                                                                                                                                                                             |
| <b>Features</b>                                                   | <ul style="list-style-type: none"> <li>• Full hermetic seal for hazardous applications</li> <li>• UL Class1, Division II approved</li> <li>• Signal level switching option using bifurcated contacts</li> </ul> | <ul style="list-style-type: none"> <li>• Octal base plug-in</li> <li>• Exceptional reliability</li> <li>• Push-to-test button standard</li> <li>• CENELEC conformity</li> </ul> | <ul style="list-style-type: none"> <li>• Exceptional reliability</li> <li>• Push-to-test button standard</li> <li>• Arc barrier built into 4 pole</li> <li>• Built in diode (DC) or C/R Circuit</li> <li>• Name plate and mechanical indicator, standard</li> </ul> | <ul style="list-style-type: none"> <li>• Compact power relay</li> <li>• LED, Push-to-test button, bifurcated contacts and other features available</li> <li>• Space efficient power switching</li> <li>• Extended life to 500,000/200,000 operations</li> </ul> |
| <b>Contact Information</b>                                        |                                                                                                                                                                                                                 |                                                                                                                                                                                 |                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                 |
| <b>Contact form</b>                                               | 4 Form C                                                                                                                                                                                                        | 2 Form C, 3 Form C                                                                                                                                                              | 2 Form C, 4 Form C                                                                                                                                                                                                                                                  | 1 Form C, 2 Form C, 3 Form C, 4 Form C                                                                                                                                                                                                                          |
| <b>Contact type(s)</b>                                            | Single button, bifurcated button                                                                                                                                                                                | Single button                                                                                                                                                                   | Single button, bifurcated button                                                                                                                                                                                                                                    | Single button, bifurcated                                                                                                                                                                                                                                       |
| <b>Contact material(s)</b>                                        | AgSnIn                                                                                                                                                                                                          | Ag (fine silver)                                                                                                                                                                | AgNi                                                                                                                                                                                                                                                                | Ag-Alloy                                                                                                                                                                                                                                                        |
| <b>Electrical service life (@ 1800 ops./hr.) (resistive load)</b> | 100,000 min.<br>3A@24VDC/110VAC<br>(50,000 min. bifurcated)                                                                                                                                                     | 100,000 min.<br>10A @ 28VDC/250VAC                                                                                                                                              | 2P 500,000: 5A @ 30VDC/250VAC<br>4P 200,000: 3A @ 30VDC/250VAC<br>100,000: 3A@30VDC/250VAC (bifurcated)                                                                                                                                                             | 200,000 min:<br>15A @ 24VDC/110VAC<br>10A @ 24VDC/110VAC<br>500,000 min: (2 pole)<br>10A @ 110VAC                                                                                                                                                               |
| <b>Max. switching capacity (resistive load)</b>                   | 330VA, 72W                                                                                                                                                                                                      | 2,500VA, 280W                                                                                                                                                                   | 2,500VA, 300W<br>1,250VA, 150W (4-pole)                                                                                                                                                                                                                             | 1,700VA, 360W (1 pole)<br>1,100VA, 240W (2, 3, 4 pole)<br>550VA, 120W (bifurcated)                                                                                                                                                                              |
| <b>Minimum permissible load (@1800 ops./hr.)</b>                  | 100µA @ 1VDC for MY4H<br>100µA @ 100mVDC for MY4ZH (Bifurcated contacts)                                                                                                                                        | 100mA @ 1VDC                                                                                                                                                                    | 2 pole: 1mA @ 5VDC<br>4 pole: 1mA @ 5VDC<br>10µA @ 1 VDC (bifurcated contacts)                                                                                                                                                                                      | 100mA @ 5VDC<br>10mA @ 5VDC (bifurcated contacts)                                                                                                                                                                                                               |
| <b>Coil Information</b>                                           |                                                                                                                                                                                                                 |                                                                                                                                                                                 |                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                 |
| <b>Coil voltage</b>                                               | 24, 110/120VAC<br>12, 24VDC                                                                                                                                                                                     | 12, 24, 110/120, 220/240VAC;<br>12, 24, 48, 100VDC                                                                                                                              | 6, 12, 24, 48, 110/120, 220/240 VAC;<br>6, 12, 24, 48, 100/110VDC                                                                                                                                                                                                   | 12, 24, 110/120, 220/240VAC,<br>12, 24, 48, 100VDC                                                                                                                                                                                                              |
| <b>Power consumption</b>                                          | 900 mW; 0.9 - 1.1VA                                                                                                                                                                                             | 2.7VA, 1.5W                                                                                                                                                                     | AC Coil: 0.9 to 1.2VA<br>DC Coil: 0.9W                                                                                                                                                                                                                              | 1.1VA, 0.9W (1 pole);<br>1.1VA, 0.9W (DPDT);<br>1.6VA, 1.4W (3PDT);<br>1.95VA, 1.5W (4PDT)                                                                                                                                                                      |
| <b>Insulation class</b>                                           | —                                                                                                                                                                                                               | N/A                                                                                                                                                                             | Class A                                                                                                                                                                                                                                                             | Class A                                                                                                                                                                                                                                                         |
| <b>Characteristics</b>                                            |                                                                                                                                                                                                                 |                                                                                                                                                                                 |                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                 |
| <b>Operating temperature</b>                                      | -25°C to +60°C                                                                                                                                                                                                  | -10°C to +40°C                                                                                                                                                                  | -55°C to +70°C                                                                                                                                                                                                                                                      | -25°C to +70°C                                                                                                                                                                                                                                                  |
| <b>Impulse withstand voltage (1.2 x 50µ sec. unless noted)</b>    | —                                                                                                                                                                                                               | —                                                                                                                                                                               | —                                                                                                                                                                                                                                                                   | —                                                                                                                                                                                                                                                               |
| <b>Dielectric strength (50/60 Hz for 1 minute)</b>                | 1,000VAC (coil-contact)<br>1,000VAC (contacts pole pole)<br>700VAC (open contacts)                                                                                                                              | 2,500VAC (coil-contact)<br>1,000VAC (open contacts)                                                                                                                             | 2,000VAC (coil-contact)<br>1,000VAC (open contacts)                                                                                                                                                                                                                 | 2,000VAC (coil-contact)<br>1,000VAC (open contacts)                                                                                                                                                                                                             |
| <b>Terminal choices</b>                                           | Plug-in                                                                                                                                                                                                         | Plug-in                                                                                                                                                                         | PCB, plug-in                                                                                                                                                                                                                                                        | Track mounted socket PCB with .187/.250 QC                                                                                                                                                                                                                      |
| <b>Protection level</b>                                           | Hermetic seal                                                                                                                                                                                                   | Unsealed                                                                                                                                                                        | Unsealed                                                                                                                                                                                                                                                            | Unsealed, semi-sealed                                                                                                                                                                                                                                           |
| <b>Accessories</b>                                                | PYF14A-E Socket<br>PYC-A1 Clip                                                                                                                                                                                  | Sockets & clips for track mount sockets with screw terminals, & back connecting sockets with solder & PCB terminals                                                             | Sockets & clips for track mount sockets with screw terminals, & back connecting sockets with solder & PCB terminals. Note: PYF-S series screwless clamp terminal socket available Mounting rails= PFP                                                               | Sockets & clips for track mount sockets with screw terminals, & back connecting sockets with solder & PCB terminals                                                                                                                                             |
| <b>Approved standards</b>                                         | UL, CSA                                                                                                                                                                                                         | UL, CSA, TUV, VDE, SEMKO                                                                                                                                                        | UL, CSA, SEV, CE, VDE, IMA                                                                                                                                                                                                                                          | UL, CSA, SEV, VDE, CE (UL, CSA only with varistors)                                                                                                                                                                                                             |

# Relays - General Purpose

**NEW!**



## General Attributes

### G2RV

### G2R-S (S)

### G7J

### G7L

#### Dimensions mm (in)

91.0 H x 94.0 L x 6.1 W  
(3.58 x 3.7 x 0.24)  
Relay & terminal block

35.5 H x 29 L x 13 W  
(1.40 x 1.14 x .51)

64 H x 53.5 L x 34.5 W  
(2.52 x 2.11 x 1.36)

49.02 H x 68.58 L x 34.54 W  
(1.93 x 2.70 x 1.36)

#### Switching

6A max.

1 pole: 10A max.  
2 pole: 5A max.

25A max.

30A max.

#### Features

- Slimmest control relay available
- Capable of switching both electrical control loads (6A) and signal level loads (1mA)
- Relay available separately
- Sealed for unprotected environments

- Nameplate and mechanical flag indicator standard
- LED diode, and lockable test button option available
- Socket mount 10A relay (1-pole)

- Variety of contact forms
- Ideal for 3 phase motor control
- 4 pole mini contactor
- DIN rail mountable
- Minimal chattering
- UL94V-0

- Reliable high power relay
- 3 mm contact gap
- Conforms to IEC 950/UL 1950
- Class B insulation standard
- Most cost effective solution in its class.
- Ideal for pump, motor loads

## Contact Information

#### Contact form

1 Form C

1 Form C  
2 Form C

4 Form A, 3 Form A/1 Form B,  
2 Form A/2 Form B

1 Form A-(Double Make)  
2 Form A-(Double Make)

#### Contact type(s)

Crossbar

Single button, bifurcated crossbar

Single button

Single button

#### Contact material(s)

Ag Alloy

Ag Alloy

Ag Alloy

Ag Alloy

#### Electrical service life (@ 1800 ops./hr.) (resistive load)

6,000: 6A @ 30 VDC /250VAC

100,000 min. (at rated loads)  
(see data sheet for more information)

100,000 min. (at rated loads)  
(see data sheet for more information)

100,000 min. (at rated loads)  
(see data sheet for more information)

#### Maximum switching capacity

1,500VA, 18W (resistive load)

2,500VA, 300W  
(1-pole resistive load)

5,500VA, 750W (NO contacts)  
1,760VA, 240W (NC contacts)

4,400VA

#### Minimum permissible load (@1800 ops./hr.)

5mA @ 5VDC

100mA @ 5VDC ,  
10mA @ 5VDC (2 pole)

100mA @ 24VDC

100mA @ 5VDC

## Coil Information

#### Coil voltage

12, 24, 48VDC  
24, 48, 110, 230VAC

6, 12, 24, 48VDC;  
24, 110 120, 230, 240VAC

6, 12, 24, 48, 100/110VDC;  
6, 12, 24, 50, 100/120,  
200/240VAC

12, 24, 48, 100VDC;  
12, 24, 100/120, 200/240VAC

#### Power consumption

300mW

0.9VA, 0.53W

1.8 to 2.6VA, 2.0W

1.7 to 2.5VA, 1.9W

#### Insulation class

Class A

Class A

Class A, Class B (available)

Class B

## Characteristics

#### Operating temperature

-40°C to +60°C

-40 to +70°C

-25°C to +60°C

-20°C to +85°C

#### Impulse withstand voltage (1.2 x 50μ sec. unless noted)

6kV

8kV

10kV (coil-contacts)

10kV (coil-contacts)

#### Dielectric strength (50/60 Hz for 1 minute)

4,000VAC (coil-contacts)  
1,000VAC (open contacts)

1 pole: 5,000VAC (coil-contacts)  
1,000VAC (open contacts)  
2 pole: 5,000VAC (coil-contacts)  
3,000VAC (different polarity)  
1,000VAC (open contacts)

4,000VAC (coil-contacts)  
4,000VAC (different polarity)  
2,000VAC (open contacts)

4,000VAC (coil-contacts)  
2,000VAC (different polarity)  
2,000VAC (open contacts)

#### Terminal choices

Relay: Quick-connect  
Socket: screw terminals, push-in  
wire connections (sold separately)

Plug-in

Quick-connect, screw, PCB

Quick-connect, screw, PCB

#### Protection level

Semi-sealed

Unsealed

Unsealed  
Semi-sealed

Unsealed  
Semi-sealed

#### Accessories

Socket: G2RV-SL (UL 508)  
SSR Option: G3MB / G3MC

Sockets for track mount, sockets  
with screw terminals, & back  
connecting sockets with solder &  
PCB terminals. Note: P2RF-S series  
screwless clamp terminal socket  
available. SSR option: G3R.

R99-04V for G5D W-bracket

R99-07G5D E bracket;  
P7LF-D adapter;  
P7LF-06 front connecting socket

#### Approved standards

UL, CSA

UL, CSA, VDE, IEC, LR, CE

UL, CSA, TUV, CE, IEC

UL, CSA, TUV, CE, VDE available

# Relays - General Purpose

|                                                                  | <div>NEW!</div>                                                                                                                                                                                                                                          |                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                           |
|------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General Attributes                                               | G7Z                                                                                                                                                                                                                                                                                                                                       | MGN                                                                                                                                                                                                                                                                                                         | MJN                                                                                                                                                                                                                                                                                                                                                          |
| Dimensions mm (in)                                               | 84 H x 62 L x 45 W<br>(3.31 x 2.44 x 1.77)                                                                                                                                                                                                                                                                                                | Short Base: 55.88 H x 63.50 L x 63.50 W<br>(2.20 x 2.50 x 2.50)<br>Long Base: 60.45 H x 84.33 L x 63.50 W<br>(2.38 x 3.32 x 2.50)                                                                                                                                                                           | 48.38 H x 35.56 L x 38.73 W<br>(1.91 x 1.40 x 1.53)                                                                                                                                                                                                                                                                                                          |
| Switching                                                        | 40A max. (160A max. in parallel)                                                                                                                                                                                                                                                                                                          | 30A max.                                                                                                                                                                                                                                                                                                    | 10A, 20A, 30A (UL ratings)<br>(see: Electrical service life)                                                                                                                                                                                                                                                                                                 |
| Features                                                         | <ul style="list-style-type: none"><li>Each pole able to switch and carry 40A in parallel</li><li>Capable of switching up to 160A</li><li>Reduced power consumption &amp; size</li><li>Low noise</li><li>Safety function included as standard</li><li>Optional auxiliary contact block enables concurrent signal (1mA) switching</li></ul> | <ul style="list-style-type: none"><li>30 Amp heavy duty power relay</li><li>Class F coil insulation system for 155°C (total temperature)</li><li>Coil molded in DuPont Rynite® for environmental protection</li><li>Rugged construction rivets terminals to base</li><li>Magnetic blow-out option</li></ul> | <ul style="list-style-type: none"><li>Rugged power driver offers superior 3/16" through-air &amp; 3/8" over-surface spacing</li><li>Interlocked frame &amp; contact block prevent contact misalignment during plug-in</li><li>Indicator lamp, push-to-operate options</li><li>10A-30A in same package</li><li>Continuous duty at 125% coil voltage</li></ul> |
| Contact Information                                              |                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                              |
| Contact form                                                     | 4A, 3A/1B, 2A/2B                                                                                                                                                                                                                                                                                                                          | 1 Form A, 1Form B, 1Form C, 2 Form A, 2 Form C (long base)                                                                                                                                                                                                                                                  | 1 Form C, 2 Form C, 3 Form C (monostable); 1 Form C, 2 Form C (latching/unlatching)                                                                                                                                                                                                                                                                          |
| Contact type(s)                                                  | Bifurcated Crossbar                                                                                                                                                                                                                                                                                                                       | Single button                                                                                                                                                                                                                                                                                               | Single button                                                                                                                                                                                                                                                                                                                                                |
| Contact material(s)                                              | AgSnIn                                                                                                                                                                                                                                                                                                                                    | 5/16" diameter AgCdO <sub>2</sub>                                                                                                                                                                                                                                                                           | 3/16" diameter AgCdO <sub>2</sub>                                                                                                                                                                                                                                                                                                                            |
| Electrical service life<br>(@ 1800 ops./hr.)<br>(resistive load) | 100,000: 5A @ 110VDC (at 1,200 ops/hr)<br>80,000: 40A @ 440VAC                                                                                                                                                                                                                                                                            | 100,000 min.<br>30A @ 28VDC/240VAC                                                                                                                                                                                                                                                                          | 100,000 min.<br>10A @ 28VDC/240VAC<br>20A @ 28VDC/277VAC<br>30A @ 28VDC                                                                                                                                                                                                                                                                                      |
| Max. Switching Capacity<br>(resistive load)                      | 17,600VA, 550W<br>440VA, 110W (auxiliary contact block)                                                                                                                                                                                                                                                                                   | N/A                                                                                                                                                                                                                                                                                                         | N/A                                                                                                                                                                                                                                                                                                                                                          |
| Minimum permissible load<br>(@1800 ops./hr.)                     | 2A @ 24VDC<br><1mA @ 5VDC (auxiliary contact block)                                                                                                                                                                                                                                                                                       | N/A                                                                                                                                                                                                                                                                                                         | N/A                                                                                                                                                                                                                                                                                                                                                          |
| Coil Information                                                 |                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                              |
| Coil voltage                                                     | 12, 24VDC                                                                                                                                                                                                                                                                                                                                 | 6, 12, 24, 120, 240, 480VAC;<br>6, 12, 24, 48, 110VDC                                                                                                                                                                                                                                                       | 6, 12, 24, 120VAC<br>5, 6, 12, 24, 48, 110VDC                                                                                                                                                                                                                                                                                                                |
| Power consumption                                                | 3.7W                                                                                                                                                                                                                                                                                                                                      | 9.5VA nominal; 2W nominal                                                                                                                                                                                                                                                                                   | AC 1.7VA (1, 2PDT)<br>2.0VA (3PDT DC 1.2W)                                                                                                                                                                                                                                                                                                                   |
| Insulation class                                                 | Class B                                                                                                                                                                                                                                                                                                                                   | Class F                                                                                                                                                                                                                                                                                                     | Class A                                                                                                                                                                                                                                                                                                                                                      |
| Characteristics                                                  |                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                              |
| Operating temperature                                            | -25°C to +60°C                                                                                                                                                                                                                                                                                                                            | At 30Amps:<br>-45°C to +80°C (AC coil)<br>-45°C to +115°C (DC coil)                                                                                                                                                                                                                                         | -45°C to +60°C (1 & 2 pole AC coil), + 70°C (DC coil)<br>-45°C to +45°C (3 pole AC coil)<br>-45°C to +70°C (3 pole DC coil)                                                                                                                                                                                                                                  |
| Impulse withstand voltage<br>(1.2 x 50µ sec. unless noted)       | 10kV (coil to contacts or different polarity)<br>4.5kV (open contacts)                                                                                                                                                                                                                                                                    | N/A                                                                                                                                                                                                                                                                                                         | N/A                                                                                                                                                                                                                                                                                                                                                          |
| Dielectric strength<br>(50/60 Hz for 1 minute)                   | 4,000VAC (coil-contacts)<br>4,000VAC (different polarity)<br>2,000VAC (open contacts)                                                                                                                                                                                                                                                     | 2,200Vrms, 60Hz between contacts;<br>2,200Vrms, 60Hz between other elements                                                                                                                                                                                                                                 | 750VAC, rms 60Hz across open contacts;<br>2,500VAC, rms 60Hz all other mutually insulated elements                                                                                                                                                                                                                                                           |
| Terminal choices                                                 | Screw                                                                                                                                                                                                                                                                                                                                     | Screw                                                                                                                                                                                                                                                                                                       | Quick-connect plug-in                                                                                                                                                                                                                                                                                                                                        |
| Protection level                                                 | Unsealed, fully sealed                                                                                                                                                                                                                                                                                                                    | None                                                                                                                                                                                                                                                                                                        | Semi-sealed                                                                                                                                                                                                                                                                                                                                                  |
| Accessories                                                      | Auxiliary Contact Block (2 poles of 4 poles)<br>Signal level switching capability (2 poles of 4 poles)                                                                                                                                                                                                                                    | Aluminum dust cover - sealed knock-out holes for standard conduit fittings. Relay mounts on pre-drilled base. Snap action cover release<br>127 W x 76.20 H x 101.60 D (5 x 3 x 4)                                                                                                                           | PTF11PC Socket; PTF11QDC Socket; PTF21PC Socket;<br>PTFFCB Socket; PYMJN-PCB Retaining Clips;<br>PYMJN-S Retaining Clips                                                                                                                                                                                                                                     |
| Approved standards                                               | UL, CSA, TUV, VDE                                                                                                                                                                                                                                                                                                                         | UL                                                                                                                                                                                                                                                                                                          | UL, CSA                                                                                                                                                                                                                                                                                                                                                      |

# Relays - Solid State

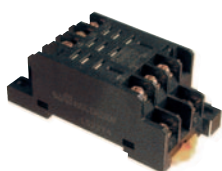
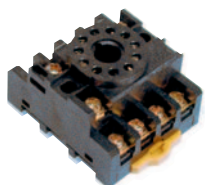
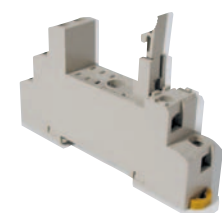
|                                          | SIP                                                                                                 | SIP                                                                                                                                                 | DIP                                                                                                                                     | DIP                                                                                        |
|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General Attributes                       | G3MB                                                                                                                                                                                 | G3MC                                                                                                                                                                                                                                 | G3R I/O                                                                                                                                                                                                                    | G3DZ                                                                                                                                                                          |
| Dimensions mm (in)                       | 20.5 H x 24.5 L x 5.5 W<br>(0.81 x 0.96 x 0.22)                                                                                                                                      | 13.5 H x 24.5 L x 4.5 W<br>(0.53 x 0.96 x 0.18)                                                                                                                                                                                      | Input & Output modules:<br>28 H x 29 L x 13 W<br>(1.10 x 1.14 x 0.51)                                                                                                                                                      | 12.5 max. H x 18.5 L x 6.5 W<br>(0.49 x 0.73 x 0.26) max.                                                                                                                     |
| Switching current (resistive)            | 2A @ 240VAC                                                                                                                                                                          | 2A @ 240VAC                                                                                                                                                                                                                          | Input module: 100mA;<br>Output module: 2A                                                                                                                                                                                  | 0.6A @ 240VAC                                                                                                                                                                 |
| Features                                 | <ul style="list-style-type: none"> <li>• Space saving SIP design</li> <li>• Industry standard footprint</li> <li>• Monoblock construction results in ultimate reliability</li> </ul> | <ul style="list-style-type: none"> <li>• Reduced height thin profile SIP</li> <li>• Ideal for close PCB mounting</li> <li>• Monoblock construction results in ultimate reliability</li> <li>• Industry standard footprint</li> </ul> | <ul style="list-style-type: none"> <li>• 4 kV insulation</li> <li>• Operation indicator standard</li> <li>• Interchangeable with G2R electromechanical relay</li> <li>• Ideal for DIN rail mount I/O operations</li> </ul> | <ul style="list-style-type: none"> <li>• AC/DC &amp; AC half-wave switching with one model</li> <li>• 10µA max. leakage current</li> <li>• Matches G6D form factor</li> </ul> |
| Operating temperature                    | -30°C to +80°C                                                                                                                                                                       | -30°C to +80°C                                                                                                                                                                                                                       | -30°C to +80°C                                                                                                                                                                                                             | -30°C to +85°C                                                                                                                                                                |
| Operating input                          | 5, 12, 24VDC                                                                                                                                                                         | 5, 12, 24VDC                                                                                                                                                                                                                         | Input module: 5VDC;<br>6.6-32VDC; 60-264VAC;<br>Output module: 4-32VDC                                                                                                                                                     | 5, 12, 24VDC                                                                                                                                                                  |
| Output voltage                           | 75-264VAC                                                                                                                                                                            | 75-264VAC                                                                                                                                                                                                                            | Input module: 4-32VDC;<br>Output module:<br>75-264VAC, 4-200VDC                                                                                                                                                            | 5, 12, 24VDC                                                                                                                                                                  |
| Leakage Current (max.)                   | 1.5mA (at 200VAC)                                                                                                                                                                    | 1.5mA (at 200VAC)                                                                                                                                                                                                                    | Input Module: 5µA<br>Output Module: 1.5mA (AC)<br>1mA (DC)                                                                                                                                                                 | 10µA (at 125VDC)                                                                                                                                                              |
| Isolation                                | Phototriac                                                                                                                                                                           | Phototriac                                                                                                                                                                                                                           | Photocoupler, Phototriac                                                                                                                                                                                                   | Phototriac                                                                                                                                                                    |
| Dielectric strength (50/60Hz for 1 min.) | 2,500VAC                                                                                                                                                                             | 2,500VAC                                                                                                                                                                                                                             | 4,000VAC                                                                                                                                                                                                                   | 2,500VAC                                                                                                                                                                      |
| Zero crossing                            | Optional                                                                                                                                                                             | Yes                                                                                                                                                                                                                                  | Input module: No;<br>Output module: Yes                                                                                                                                                                                    | No                                                                                                                                                                            |
| Snubber circuit                          | Optional                                                                                                                                                                             | Yes                                                                                                                                                                                                                                  | Input module: No;<br>Output module                                                                                                                                                                                         | Yes (Built-in Varistor)                                                                                                                                                       |
| Life (MTTF)                              | 100,000 hours                                                                                                                                                                        | 100,000 hours                                                                                                                                                                                                                        | 100,000 hours                                                                                                                                                                                                              | 100,000 hours                                                                                                                                                                 |
| Mounting                                 | PCB                                                                                                                                                                                  | PCB                                                                                                                                                                                                                                  | Socket                                                                                                                                                                                                                     | PCB or Socket                                                                                                                                                                 |
| Terminal                                 | PCB                                                                                                                                                                                  | PCB                                                                                                                                                                                                                                  | Plug-in                                                                                                                                                                                                                    | PCB                                                                                                                                                                           |
| Approvals                                | UL, CSA, TUV                                                                                                                                                                         | UL, CSA, VDE                                                                                                                                                                                                                         | UL, CSA, TUV                                                                                                                                                                                                               | UL, CSA                                                                                                                                                                       |
| Equivalent Omron EMR footprint           | G2RV similar for terminal block                                                                                                                                                      | G2RV similar for terminal block                                                                                                                                                                                                      | G2R                                                                                                                                                                                                                        | G6D, G6DS                                                                                                                                                                     |
| Optional heat sink                       | N/A                                                                                                                                                                                  | N/A                                                                                                                                                                                                                                  | N/A                                                                                                                                                                                                                        | N/A                                                                                                                                                                           |
| Socket                                   | N/A                                                                                                                                                                                  | N/A                                                                                                                                                                                                                                  | P2RF-05E                                                                                                                                                                                                                   | P6D-04P                                                                                                                                                                       |

# Relays - Solid State

|                                                 |                                                                                                                                                                                               |                                                                                                                         |                                                                                                                                                                                                      |                                                                                                                                                                                       |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                 | SIP                                                                                                                                                                                           | SIP                                                                                                                     | SIP                                                                                                                                                                                                  | SIP                                                                                                                                                                                   |
|                                                 |                                                                                                              |                                        |                                                                                                                   |                                                                                                    |
| <b>General Attributes</b>                       | <b>G3S/G3SD</b>                                                                                                                                                                               | <b>G3CN</b>                                                                                                             | <b>G3M</b>                                                                                                                                                                                           | <b>G3TB</b>                                                                                                                                                                           |
| <b>Dimensions mm (in)</b>                       | 16.5 H x 20 L x 10 W<br>(0.65 x 0.79 x 0.39)                                                                                                                                                  | 26H x 33H x 14 W<br>(1.04 x 1.30 x .55) max.                                                                            | 20 H x 40 L x 9 W<br>(0.79 x 1.58 x 0.35)                                                                                                                                                            | Input module:<br>20.5 H x 43.5 L x 10 W<br>(0.81 x 1.70 x 0.39)<br>Output module:<br>30.5 H x 43.5 L x 10 W<br>(1.20 x 1.70 x 0.39)                                                   |
| <b>Switching current (resistive) (max.)</b>     | 1A @ 240VAC<br>(1.2A, G3S-PD & heatsink)<br>(1.1A, G3SD-PD & heatsink)                                                                                                                        | 2A, 3A, @ 53VDC, 26VAC                                                                                                  | 2, 3A, 5A @ 250VAC                                                                                                                                                                                   | Input module: 25mA @ 4 to 32VDC<br>Output module: 3mA max. @ 5 to 48VDC<br>3mA max. @ 100 to 240 VAC<br>1.5 max. @ 48 to 200 VDC                                                      |
| <b>Features</b>                                 | <ul style="list-style-type: none"> <li>AC and DC models available</li> <li>Socketable</li> <li>Heatsink, available</li> <li>Interchanges with G6B SPST electrical mechanical relay</li> </ul> | <ul style="list-style-type: none"> <li>Flat &amp; vertical packages</li> <li>Ideal for FA &amp; OA equipment</li> </ul> | <ul style="list-style-type: none"> <li>Multi-input SSR</li> <li>Space-saving SIP design</li> <li>Ideal for high density Power PCB applications</li> <li>High current switching capability</li> </ul> | <ul style="list-style-type: none"> <li>Color-coded input &amp; output modules</li> <li>Industry standard footprint</li> <li>4kV dielectric strength</li> <li>LED indicator</li> </ul> |
| <b>Operating temperature</b>                    | -30°C to +80°C                                                                                                                                                                                | -30°C to +80°C                                                                                                          | -30°C to +80°C                                                                                                                                                                                       | -30°C to +85°C                                                                                                                                                                        |
| <b>Operating input</b>                          | 5, 12, 24VDC                                                                                                                                                                                  | 5, 12, 24; 3~28VDC                                                                                                      | 5, 12, 24VDC                                                                                                                                                                                         | Input module:<br>80-264VAC, 3-32VDC;<br>Output module: 3-32VDC                                                                                                                        |
| <b>Output voltage</b>                           | 5, 12, 24VDC                                                                                                                                                                                  | 75~264VAC<br>3~53VDC                                                                                                    | 75-264VAC                                                                                                                                                                                            | Input module: 4-32VDC;<br>Output module:<br>75-264VAC, 4-200VDC                                                                                                                       |
| <b>Leakage Current (max.)</b>                   | 2mA (G3S)<br>0.1mA @ 26VDC (G3S)                                                                                                                                                              | 2.5/5mA                                                                                                                 | 2mA @ 100VAC/5mA @ 200VAC<br>(2Amp versions)<br>1.5mA @ 200VAC (3 & 5 Amp versions)                                                                                                                  | Input module: 100µA max.<br>Output module: 5mA @ 200VAC (AC)<br>1mA max. (DC)                                                                                                         |
| <b>Isolation</b>                                | Phototriac (G3S)<br>Photocoupler (G3SD)                                                                                                                                                       | Phototriac<br>Photocoupler                                                                                              | Phototriac                                                                                                                                                                                           | Photocoupler                                                                                                                                                                          |
| <b>Dielectric strength (50/60Hz for 1 min.)</b> | 2,500VAC                                                                                                                                                                                      | 2,500VAC                                                                                                                | 2,000VAC (2A versions)<br>2,500VAC (3A and 5A versions)                                                                                                                                              | 4,000VAC                                                                                                                                                                              |
| <b>Zero crossing</b>                            | No                                                                                                                                                                                            | Optional                                                                                                                | Optional                                                                                                                                                                                             | Input module: No;<br>Output module: Yes                                                                                                                                               |
| <b>Snubber circuit</b>                          | Yes (Built-in Varistor)                                                                                                                                                                       | No                                                                                                                      | Yes                                                                                                                                                                                                  | Input module: No;<br>Output module: Yes                                                                                                                                               |
| <b>Life (MTTF)</b>                              | 100,000 hours                                                                                                                                                                                 | 100,000 hours                                                                                                           | 100,000 hours                                                                                                                                                                                        | 100,000 hours                                                                                                                                                                         |
| <b>Mounting</b>                                 | PCB or Socket                                                                                                                                                                                 | PCB                                                                                                                     | PCB                                                                                                                                                                                                  | PCB                                                                                                                                                                                   |
| <b>Terminal</b>                                 | PCB                                                                                                                                                                                           | PCB                                                                                                                     | PCB                                                                                                                                                                                                  | PCB                                                                                                                                                                                   |
| <b>Approvals</b>                                | UL, CSA                                                                                                                                                                                       | UL (114), CSA (22.2)                                                                                                    | UL, CSA, TUV                                                                                                                                                                                         | UL, CSA                                                                                                                                                                               |
| <b>Equivalent Omron EMR footprint</b>           | G6B                                                                                                                                                                                           | N/A                                                                                                                     | N/A                                                                                                                                                                                                  | N/A                                                                                                                                                                                   |
| <b>Optional heat sink</b>                       | Y92B-S08N                                                                                                                                                                                     | N/A                                                                                                                     | N/A                                                                                                                                                                                                  | N/A                                                                                                                                                                                   |
| <b>Socket</b>                                   | P6B-04P (PCB)                                                                                                                                                                                 | N/A                                                                                                                     | N/A                                                                                                                                                                                                  | N/A                                                                                                                                                                                   |

# Relays - Solid State

|                                          | SIP                                                                                                                                                                                                                                      | Quick Connect                                                                                                               | Quick Connect                                                                                                                                                                        |                                                                                                                                                                                                                                            |
|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                          |                                                                                                                                                         |                                            |                                                                                                    |                                                                                                                                                         |
| General Attributes                       | G3TC                                                                                                                                                                                                                                     | G3NE                                                                                                                        | G3NA                                                                                                                                                                                 | G3PA/B                                                                                                                                                                                                                                     |
| Dimensions mm (in)                       | 31.8 H x 43.2 L x 15.2 W<br>(1.25 x 1.7 x 0.6)                                                                                                                                                                                           | 11.5 H x 47 L x 37.5 W<br>(0.45 x 1.90 x 1.50)                                                                              | 27 H x 58 L x 43 W<br>(1.06 x 2.28 x 1.69)                                                                                                                                           | Consult Omron                                                                                                                                                                                                                              |
| Switching current (resistive) (max.)     | Input Module:<br>12mA, 15mA, or 18mA<br>(depending on model)<br>Output Module:<br>3A (1A on DC output models rated < 200VDC)                                                                                                             | 20A max.@ 240VAC<br>(264VAC max.)                                                                                           | Versions range from 10A to 90A max. (when using heat sink)                                                                                                                           | up to 45A                                                                                                                                                                                                                                  |
| Features                                 | <ul style="list-style-type: none"> <li>• Color-coded modules</li> <li>• Industry standard footprint</li> <li>• Built-in anchor screw</li> <li>• Optical isolation – Dielectric 4kV</li> <li>• Zero cross on AC output modules</li> </ul> | <ul style="list-style-type: none"> <li>• High capacity</li> <li>• Panel Mount</li> <li>• Quick-connect terminals</li> </ul> | <ul style="list-style-type: none"> <li>• Ideal for industrial controls &amp; commercial cooking</li> <li>• "Hockey Puck" standard</li> <li>• Operation indicator standard</li> </ul> | <ul style="list-style-type: none"> <li>• Built-in heat sink increases life and reliability</li> <li>• Voltage turn-on at zero crossing reduces initial inrush load currents</li> <li>• LED indicator when control power applied</li> </ul> |
| Operating temperature                    | -30°C to +80°C                                                                                                                                                                                                                           | -30°C to +80°C                                                                                                              | -30°C to +80°C                                                                                                                                                                       | -30°C to +80°C                                                                                                                                                                                                                             |
| Operating input                          | Input Module:<br>90-140VDC/AC, 180-280 VDC/AC,<br>10-32VDC/AC<br>Output Module:<br>5, 15, 24VDC                                                                                                                                          | 5, 12, 24VDC                                                                                                                | 4-32VDC; 75-264VAC                                                                                                                                                                   | 12-24VDC                                                                                                                                                                                                                                   |
| Output voltage                           | Input Module: 4.5-6VDC,<br>12-18VDC, 20-30VDC<br>Output Module: 75-140 VAC,<br>75-280VAC, 5-60 VDC,<br>5-200VDC                                                                                                                          | 75-264VAC                                                                                                                   | 19 - 264VAC<br>180 - 528VAC<br>4 - 220VDC (10A model)<br>400 - 600VAC (10, 25, 50A models)                                                                                           | 75 - 264VAC<br>180 - 528VAC                                                                                                                                                                                                                |
| Leakage Current (max.)                   | Input Module: 100µA<br>AC Output Modules: 5mA @ 240VAC<br>2.5mA @ 120VAC<br>DC Output Modules: 1mA                                                                                                                                       | 2mA (at 100VAC)<br>5mA (at 200VAC)                                                                                          | 5mA @ 100VAC<br>10mA @ 200VAC<br>20mA @ 400VAC                                                                                                                                       | 10mA @ 200VAC<br>20mA @ 400VAC                                                                                                                                                                                                             |
| Isolation                                | AC Input, DC Input, DC Output:<br>Photocoupler<br>AC Output: Phototriac                                                                                                                                                                  | Phototriac                                                                                                                  | Phototriac, Photocoupler                                                                                                                                                             | Phototriac                                                                                                                                                                                                                                 |
| Dielectric strength (50/60Hz for 1 min.) | 4,000VAC                                                                                                                                                                                                                                 | 2,000VAC                                                                                                                    | 2,500VAC<br>4000VAC (75 and 90A models)                                                                                                                                              | G3PA: 4,000VAC<br>G3PB: 2,500VAC                                                                                                                                                                                                           |
| Zero crossing                            | Yes (AC output modules only)                                                                                                                                                                                                             | Optional                                                                                                                    | Yes                                                                                                                                                                                  | Yes                                                                                                                                                                                                                                        |
| Snubber circuit                          | Yes (AC output modules only)                                                                                                                                                                                                             | Yes (built in varistor)                                                                                                     | Yes                                                                                                                                                                                  | Yes                                                                                                                                                                                                                                        |
| Life (MTTF)                              | 100,000 hours                                                                                                                                                                                                                            | 100,000 hours                                                                                                               | 100,000 hours                                                                                                                                                                        | 100,000 hours                                                                                                                                                                                                                              |
| Mounting                                 | PCB with anchor screw                                                                                                                                                                                                                    | Plug-in                                                                                                                     | Panel                                                                                                                                                                                | Panel, DIN                                                                                                                                                                                                                                 |
| Terminal                                 | PCB                                                                                                                                                                                                                                      | Quick connect                                                                                                               | Screw                                                                                                                                                                                | Screw                                                                                                                                                                                                                                      |
| Approvals                                | UL, CSA, TUV, CE                                                                                                                                                                                                                         | UL, CSA, TUV                                                                                                                | UL, CSA, TUV                                                                                                                                                                         | UL, CSA, TUV, VDE                                                                                                                                                                                                                          |
| Equivalent Omron EMR footprint           | N/A                                                                                                                                                                                                                                      | N/A                                                                                                                         | N/A                                                                                                                                                                                  | N/A                                                                                                                                                                                                                                        |
| Optional heat sink                       | N/A                                                                                                                                                                                                                                      | Y92B-N50, -N100                                                                                                             | Y92B-A □ □, -B□ □, -P                                                                                                                                                                | N/A                                                                                                                                                                                                                                        |
| Socket                                   | N/A                                                                                                                                                                                                                                      | Mounting plate                                                                                                              | Mounting plate                                                                                                                                                                       | PFP-xxx                                                                                                                                                                                                                                    |



| Relay Type   | Track Mount Sockets               | Back Connecting Sockets |                                    |
|--------------|-----------------------------------|-------------------------|------------------------------------|
|              |                                   | Solder terminals        | PCB terminals                      |
| G2R-1-S      | P2RF-05<br>P2RF-05-E<br>P2RF-05-S | P2R-05A                 | P2R-05P                            |
| G2R-2-S      | P2RF-08<br>P2RF-08-E<br>P2RF-08-S | P2R-08A                 | P2R-08P                            |
| G2RV         | G2RL-SL500, -SL700                | —                       | —                                  |
| G6B          | —                                 | —                       | P6B-04P (1-pole), P6B-26P (2-pole) |
| G6D          | —                                 | —                       | P6D-04P                            |
| G6BK         | —                                 | —                       | P6B-06P                            |
| G6BU         | —                                 | —                       | P6B-04P                            |
| G6C-1, G6C-2 | —                                 | —                       | P6C-06P                            |
| G6CK         | —                                 | —                       | P6C-08P                            |
| G6CU         | —                                 | —                       | P6C-06P                            |
| LY1, LY2     | PTF08A-E                          | PT08                    | PT08-0                             |
| LY3          | PTF11A                            | PT11                    | PT11-0                             |
| LY4          | PTF14A-E                          | PT14                    | PT14-0                             |
| MK2          | PF083A-E                          | PL08                    | PLE08-0                            |
| MK3          | PF113A-E                          | PL11                    | PLE11-0                            |
| MY2          | PYF08A-E<br>PYF08A-N<br>PYF08-S   | PY08                    | PY08-02                            |
| MY3          | PYF11A                            | PY11                    | PY11-02                            |
| MY4          | PYF14A-E<br>PYF14A-N<br>PYF14S    | PY14                    | PY14-02                            |
| MY2K         | PYF14A-E                          | PY14                    | PY14-02                            |
| MY4(Z)H      | PYF14A-E                          | —                       | —                                  |

NOTES: 1. -E and -N models are finger-protect construction. Round terminals cannot be used. Use Y-shaped terminals.  
2. -S types are screwless terminal styles.

| Relay Type | Mounting                 | Adaptor | Front Connecting Socket |
|------------|--------------------------|---------|-------------------------|
|            |                          |         | Track Mount/Panel Mount |
| G7J-(ALL)  | R99-04-F0R-G5F W bracket | —       | —                       |
| G7L-1A-T   | R99-07G5D E bracket      | P7LF-D  | P7LF-06                 |
| G7L-1A-TJ  |                          |         | P7LF-06                 |
| G7L-1A-B   |                          |         | —                       |
| G7L-1A-BJ  |                          |         | —                       |
| G7L-2A-T   |                          |         | P7LF-06                 |
| G7L-2A-TJ  |                          |         | P7LF-06                 |
| G7L-2A-B   |                          |         | —                       |
| G7L-2A-BJ  |                          |         | —                       |

| Terminal Cover | Socket Bridge | Mounting Track | Length   |
|----------------|---------------|----------------|----------|
| P&LE-C         | PYDM          | PFP-100N       | 1 meter  |
|                |               | PFP-50N        | .5 meter |

# Designed to "Drop-In" Your Application.

Omron Electronic Components has a great variety of standard options. We can deliver a snap action switch that will drop right into your application. Saving you time, component counts, & cost while improving your products overall quality.

These options include:

## Actuators:

- Long & short panel mount plungers
- Long & short spring plungers
- Hinge levers in various lengths & orientation
- Roller levers in various lengths & orientations
- Simulated roller
- Leaf

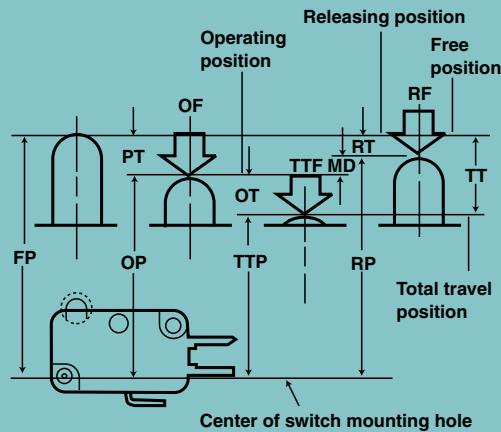
## Termination styles:

- PCB
- Solder
- Quick Connect
- Screw
- Wire Leads
- Connector

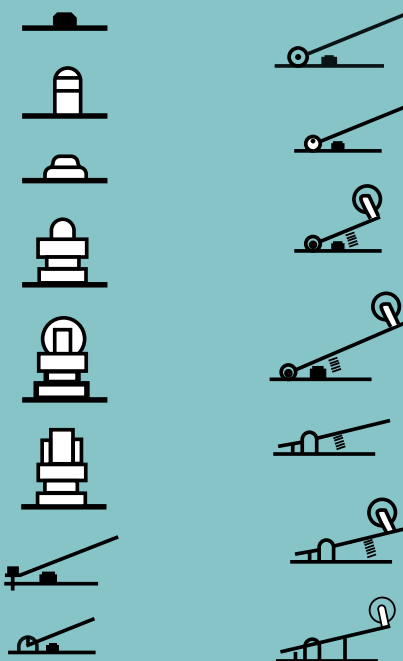
## Additional Features:

- Sealed / Unsealed versions available.
- Class N (200C) types available. (D3V-T)

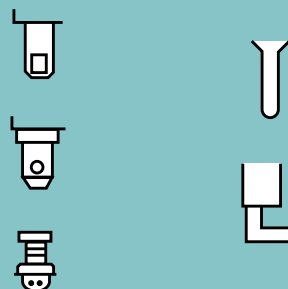
**Contact Omron Components and have it your way. Configure a switch that meets your application needs.**



## Plunger & Lever Options



## Terminal Options



# Switches - Snap Action

|                                              |                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                            |                                                                                                                                                                                                                                      |                                                                                                                                                                                                                           |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                              |                                                                                                                                                                                                                   |                                                                                                           |                                                                                                                                                    |                                                                                                                                        |
|                                              | <b>Z</b>                                                                                                                                                                                                                                                                                           | <b>A</b>                                                                                                                                                                                   | <b>X</b>                                                                                                                                                                                                                             | <b>DZ</b>                                                                                                                                                                                                                 |
| <b>Dimensions mm (in)</b>                    | 24.2 H x 17.45 D x 49.2 W<br>(0.95 x 0.69 x 1.93)                                                                                                                                                                                                                                                  | 24.2 H x 17.45 D x 49.2 W<br>(0.95 x 0.69 x 1.93)                                                                                                                                          | 24.2 H x 17.45 D x 49.2 W<br>(0.95 x 0.69 x 1.93)                                                                                                                                                                                    | 22.7 H x 17.45 D x 49.2 W<br>(0.89 x 0.69 x 1.93)                                                                                                                                                                         |
| <b>Features</b>                              | <ul style="list-style-type: none"> <li>• General Purpose Snap Action Switch</li> <li>• High precision 15 A switch available in a variety of styles</li> </ul>                                                                                                                                      | <ul style="list-style-type: none"> <li>• General Purpose Snap Action Switch</li> <li>• High capacity switch handles loads with large inrush currents</li> </ul>                            | <ul style="list-style-type: none"> <li>• DC switch</li> <li>• Magnetic blowout to extinguish arc</li> </ul>                                                                                                                          | <ul style="list-style-type: none"> <li>• DPDT basic switch</li> <li>• Incorporates two completely independent built-in switches</li> <li>• Can switch two independent circuits operating on different voltages</li> </ul> |
| <b>Contact Rating(s)</b>                     |                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                            |                                                                                                                                                                                                                                      |                                                                                                                                                                                                                           |
| <b>Resistive load</b>                        | 0.1A @ 125VAC<br>15A @ 250VAC*                                                                                                                                                                                                                                                                     | 20A @ 250VAC                                                                                                                                                                               | 10A @ 125VDC<br>3 A @ 250VDC                                                                                                                                                                                                         | 10A @ 250VAC                                                                                                                                                                                                              |
| <b>Contact form</b>                          | SPDT                                                                                                                                                                                                                                                                                               | SPDT                                                                                                                                                                                       | SPDT                                                                                                                                                                                                                                 | DPDT                                                                                                                                                                                                                      |
| <b>Operating force (OF)*</b>                 | 250g to 350g                                                                                                                                                                                                                                                                                       | 400g to 625g                                                                                                                                                                               | 510g                                                                                                                                                                                                                                 | 570g                                                                                                                                                                                                                      |
| <b>Mechanical service life</b>               | Refer to "SPECIFICATIONS" section of data sheet for detailed service life information                                                                                                                                                                                                              | 1,000,000 ops. min.<br>(at rated OT load)                                                                                                                                                  | 1,000,000 operations min.                                                                                                                                                                                                            | 1,000,000 operations min.                                                                                                                                                                                                 |
| <b>Electrical service life</b>               | Refer to "SPECIFICATIONS" section of data sheet for detailed service life information                                                                                                                                                                                                              | 500,000 ops. min.<br>(at rated OT load)                                                                                                                                                    | 100,000 operations min.                                                                                                                                                                                                              | 500,000 operations min.                                                                                                                                                                                                   |
| <b>Mounting pitch mm (in)</b>                | 25.4 (1.0)                                                                                                                                                                                                                                                                                         | 25.4 (1.0)                                                                                                                                                                                 | 25.4 (1.0)                                                                                                                                                                                                                           | 25.4 (1.0)                                                                                                                                                                                                                |
| <b>Actuator types</b>                        | Pin plunger, slim spring plunger, short spring plunger, panel mount plunger, panel mount roller plunger, panel mount cross roller plunger, hinge lever, low force hinge lever, short hinge roller lever, hinge roller lever, unidirectional short hinge roller lever, spring plunger, flexible rod | Pin plunger, short spring plunger, panel mount plunger, panel mount roller plunger, panel mount cross roller, short hinge lever, hinge lever, short hinge roller lever, hinge roller lever | Pin plunger, short spring plunger, slim spring plunger, panel mount plunger, panel mount cross-roller plunger, panel mount roller plunger, leaf spring, hinge lever, hinge roller lever, short hinge lever, short hinge roller lever | Pin plunger, hinge lever, short hinge roller lever, hinge roller lever                                                                                                                                                    |
| <b>Terminal choices</b>                      | Solder, Screw                                                                                                                                                                                                                                                                                      | Solder, Screw, or Quick connect (#250)                                                                                                                                                     | Solder, Screw                                                                                                                                                                                                                        | Solder, Screw                                                                                                                                                                                                             |
| <b>Approved standards</b>                    | UL, CSA, SEV                                                                                                                                                                                                                                                                                       | UL, CSA, SEV                                                                                                                                                                               | UL, CSA                                                                                                                                                                                                                              | UL, CSA                                                                                                                                                                                                                   |
| <b>*Values are for pin plunger type only</b> |                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                            |                                                                                                                                                                                                                                      |                                                                                                                                                                                                                           |

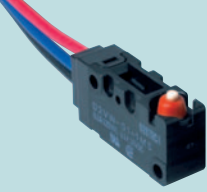
# Switches - Snap Action

|                                              |                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                  |                                                                                                                                                                      |
|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                              |                                                                                  |                                                                                                                                                                                                                                              |                                                                                                                                                |                                                                                   |
|                                              | <b>TZ</b>                                                                                                                                                         | <b>D3V</b>                                                                                                                                                                                                                                                                                                                    | <b>V</b>                                                                                                                                                                                                                         | <b>VX</b>                                                                                                                                                            |
| <b>Dimensions mm (in)</b>                    | 32 H x 17.45 D x 49.2 W<br>(1.26 x 0.69 x 1.93)                                                                                                                   | 15.9 H x 10.3 D x 27.8 W<br>(0.63 x 0.41 x 1.09)                                                                                                                                                                                                                                                                              | 15.9 H x 10.3 D x 27.8 W<br>(0.63 x 0.41 x 1.09)                                                                                                                                                                                 | 18.8 H x 10.3 D x 27.8 W<br>(0.74 x 0.41 x 1.09)                                                                                                                     |
| <b>Features</b>                              | <ul style="list-style-type: none"> <li>• Stable operation at 400°C ambient temperature</li> <li>• High contact reliability</li> <li>• Smooth operation</li> </ul> | <ul style="list-style-type: none"> <li>• Miniature Snap Action Switch</li> <li>• Environmentally friendly: free of beryllium copper &amp; lead</li> <li>• Maximum operating temperature of 105°C (standard versions)</li> <li>• Internally or externally fitted levers</li> <li>• 200°C versions available (D3V-T)</li> </ul> | <ul style="list-style-type: none"> <li>• Miniature Snap Action Switch</li> <li>• Industry standard design with 15 A (V-15G) or 10 A (V-10G) rating</li> <li>• Cadmium-free contacts</li> <li>• Internal lever options</li> </ul> | <ul style="list-style-type: none"> <li>• Miniature Snap Action</li> <li>• Low operating force</li> <li>• High contact reliability</li> <li>• 0.1 A to 5 A</li> </ul> |
| <b>Contact Rating(s)</b>                     |                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                  |                                                                                                                                                                      |
| <b>Resistive load</b>                        | 1A @ 250VAC                                                                                                                                                       | 21/16/11/6A @ 125/250VAC<br>0.1A @ 125VAC                                                                                                                                                                                                                                                                                     | 15A @ 250VAC (V-15G)<br>10A @ 250VAC (V-10G)                                                                                                                                                                                     | 5A @ 250VAC<br>0.1A @ 125VAC                                                                                                                                         |
| <b>Contact form</b>                          | SPST                                                                                                                                                              | SPDT, SPST-NC, SPST-NO                                                                                                                                                                                                                                                                                                        | SPDT, SPST-NC, SPST-NO                                                                                                                                                                                                           | SPDT, SPST-NO, SPST-NC                                                                                                                                               |
| <b>Operating force (OF)*</b>                 | 500g                                                                                                                                                              | 50g, 100g, or 200g                                                                                                                                                                                                                                                                                                            | 100g, 200g, or 400g (V-15G)<br>100g or 200g (V-10G)                                                                                                                                                                              | 25g, 50g                                                                                                                                                             |
| <b>Mechanical service life</b>               | 100,000 operations min.                                                                                                                                           | 10,000,000 operations min.                                                                                                                                                                                                                                                                                                    | 50,000,000 operations min.                                                                                                                                                                                                       | 50,000,000 (5A)<br>10,000,000 (0.A)                                                                                                                                  |
| <b>Electrical service life</b>               | 50,000 operations min.                                                                                                                                            | 100,000 operations min. (D3V-16)<br>200,000 operations min. (D3V-11)<br>500,000 operations min. (D3V-6 / D3V-01)                                                                                                                                                                                                              | 100,000 operations min. (V-15G)<br>300,000 operations min. (V-10G)                                                                                                                                                               | 500,000 (5A )<br>1,000,000 (0.1A )                                                                                                                                   |
| <b>Mounting pitch mm (in)</b>                | 25.4 (1.0)                                                                                                                                                        | –                                                                                                                                                                                                                                                                                                                             | 10.3 x 22.2 (0.41 x 0.87)                                                                                                                                                                                                        | 22.2                                                                                                                                                                 |
| <b>Actuator types</b>                        | Pin plunger, hinge lever, short hinge roller lever, hinge roller lever                                                                                            | Pin plunger, short hinge lever, hinge lever, long hinge lever, simulated roller lever, short hinge roller lever, hinge roller lever                                                                                                                                                                                           | Pin plunger, short hinge lever, hinge lever, long hinge lever, simulated roller lever, short hinge roller lever, hinge roller lever                                                                                              | Pin plunger, short hinge lever, hinge lever, long hinge lever, simulated roller lever, short hinge roller lever, hinge roller lever                                  |
| <b>Terminal choices</b>                      | Bolt                                                                                                                                                              | Solder/Quick connect (#187)<br>Quick connect (#187)<br>Quick connect (#250)                                                                                                                                                                                                                                                   | Solder/Quick connect (#187)<br>Quick connect (#187), Quick connect (#250), Short solder, Screw                                                                                                                                   | Solder, Quick-connect (#187)                                                                                                                                         |
| <b>Approved standards</b>                    | –                                                                                                                                                                 | UL, CSA, VDE, SEMKO                                                                                                                                                                                                                                                                                                           | UL, CSA, SEV, VDE, SEMKO, DENMARK                                                                                                                                                                                                | UL, CSA, VDE                                                                                                                                                         |
| <b>*Values are for pin plunger type only</b> |                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                  |                                                                                                                                                                      |

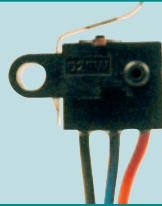
# Switches - Snap Action

|                                              |                                                                                                                                                                                                                                                                                                                                                                  | <b>NEW!</b><br>                                                                                                                                                                                                                                                                                                                      | <b>NEW!</b><br>                        |                                                                                                                                                |
|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                              | <b>SS-P/SS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>SSG</b>                                                                                                                                                                                                                                                                                                                                                                                                            | <b>D3M</b>                                                                                                                | <b>D2F</b>                                                                                                                                                                                                                        |
| <b>Dimensions mm (in)</b>                    | 10.2 H x 6.4 D x 19.8 W<br>(0.40 x 0.25 x 0.78)                                                                                                                                                                                                                                                                                                                                                                                                   | 10.2 H x 6.4 D x 19.8 W<br>(0.40 x 0.25 x 0.78)                                                                                                                                                                                                                                                                                                                                                                       | 10 H x 7 D x 31.6 W<br>(0.39 x 0.28 x 1.24)                                                                               | 6.5 H x 5.8 D x 12.8 W<br>(0.26 x 0.23 x 0.50)                                                                                                                                                                                    |
| <b>Features</b>                              | <ul style="list-style-type: none"> <li>• Subminiature Snap Action Switch</li> <li>• SS-01: Switches microcurrent/ microvoltage load with crossbar contacts</li> <li>• SS-3: Single-leaf moveable spring</li> <li>• SS-5: Split double spring mechanism for a long life of up to 30 million operations</li> <li>• SS-10: Split double spring mechanism for a long life of up to 10 million operations</li> <li>• Internal lever options</li> </ul> | <ul style="list-style-type: none"> <li>• Subminiature Snap Action Switch</li> <li>• SS-01: Switches microcurrent/ microvoltage load with crossbar contacts</li> <li>• SS-5: Split double spring mechanism for a long life of up to 30 million operations</li> <li>• Wide operating temp. range of -25 to + 125°C</li> <li>• Internal lever options</li> <li>• Global switch conforming to EN, UL &amp; CSA</li> </ul> | <ul style="list-style-type: none"> <li>• External actuators</li> <li>• Easy wiring through connector terminals</li> </ul> | <ul style="list-style-type: none"> <li>• Subminiature Snap Action Switch</li> <li>• Switches microvoltage/ micro-current loads</li> <li>• Long lifespan assured by high-precision dual spring reverse-action mechanism</li> </ul> |
| <b>Contact Rating(s)</b>                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                           |                                                                                                                                                                                                                                   |
| <b>Resistive load</b>                        | 0.1A @ 125VAC (SS-01)<br>3A @ 125VAC (SS-3)<br>5A @ 125VAC (SS-5)<br>10.1A @ 125/250VAC (SS-10)                                                                                                                                                                                                                                                                                                                                                   | 3A @ 250VAC<br>0.1A @ 250VAC                                                                                                                                                                                                                                                                                                                                                                                          | 0.1A @ 30VDC                                                                                                              | 0.1A @ 30VDC (D2F-01)<br>3A @ 125VAC (D2F)<br>1A @ 125VAC (D2F-F)                                                                                                                                                                 |
| <b>Contact form</b>                          | SPDT (SPST-NC, SPST-NO per request)                                                                                                                                                                                                                                                                                                                                                                                                               | SPDT, SPST-NO, SPST-NC                                                                                                                                                                                                                                                                                                                                                                                                | SPST-NC, SPST-NO                                                                                                          | SPDT                                                                                                                                                                                                                              |
| <b>Operating force (OF)*</b>                 | 25g, 50g, or 150g (SS-01)<br>150g (SS-3)<br>50g or 150g (SS-5)<br>150g (SS-10)                                                                                                                                                                                                                                                                                                                                                                    | 25g, 51g, 153g                                                                                                                                                                                                                                                                                                                                                                                                        | 153g                                                                                                                      | 75g (D2F-01)<br>150g (D2F)<br>75g (D2F-F)                                                                                                                                                                                         |
| <b>Mechanical service life</b>               | 30,000,000 ops. min. (SS-01, SS-5)*<br>1,000,000 ops. min. (SS-01P, SS-3)<br>10,000,000 ops. min. (SS-10)*                                                                                                                                                                                                                                                                                                                                        | 10,000,000 operations min.                                                                                                                                                                                                                                                                                                                                                                                            | 500,000 operations min.                                                                                                   | 1,000,000 operations min.                                                                                                                                                                                                         |
| <b>Electrical service life</b>               | 200,000 operations min. (SS-01, SS-5)**<br>70,000 operations min. (SS-3)<br>50,000 operations min. (SS-10)**                                                                                                                                                                                                                                                                                                                                      | 200,000 operations min.                                                                                                                                                                                                                                                                                                                                                                                               | 200,000 operations min.                                                                                                   | 30,000 operations min. (OT: full stroke)                                                                                                                                                                                          |
| <b>Mounting pitch mm (in)</b>                | 9.5 (0.37)                                                                                                                                                                                                                                                                                                                                                                                                                                        | 9.5                                                                                                                                                                                                                                                                                                                                                                                                                   | 9.5                                                                                                                       | 6.5 (0.26)                                                                                                                                                                                                                        |
| <b>Actuator types</b>                        | Pin plunger, hinge lever, simulated roller lever, formed hinge lever, hinge roller lever                                                                                                                                                                                                                                                                                                                                                          | Pin plunger, hinge lever, simulated roller lever, hinge roller lever                                                                                                                                                                                                                                                                                                                                                  | Pin plunger, hinge lever, hinge roller lever, simulated roller lever                                                      | Pin plunger, hinge lever, simulated roller lever, roller lever                                                                                                                                                                    |
| <b>Terminal choices</b>                      | SS-01, SS-3, SS-5: PCB (straight, parallel left, parallel right), Solder, Quick connect SS-10: PCB (straight), Solder, Quick connect (#110)                                                                                                                                                                                                                                                                                                       | Solder, quick-connect (#110), PCB                                                                                                                                                                                                                                                                                                                                                                                     | Dipole XA Connector                                                                                                       | PCB (straight, self-supporting, right and left angle), Solder                                                                                                                                                                     |
| <b>Approved standards</b>                    | UL, CSA, EN                                                                                                                                                                                                                                                                                                                                                                                                                                       | UL, CSA, EN                                                                                                                                                                                                                                                                                                                                                                                                           | UL, CSA                                                                                                                   | UL, CSA                                                                                                                                                                                                                           |
| <b>*Values are for pin plunger type only</b> | *at rated OT value<br>**at rated load                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                           |                                                                                                                                                                                                                                   |

# Switches - Sealed Snap Action

|                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                   |                                                                                                                                                                                                                                                                                                   |                                                                                                                                                |                                                                                                                                                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                  |                                                                                                                                                                                                                  |                                                             |                                                                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>D2VW</b>                                                                                                                                       | <b>D2RW</b>                                                                                                                                                                                                                                                                                       | <b>D2SW</b>                                                                                                                                    | <b>D2SW-P</b>                                                                                                                                                             |
| <b>Dimensions mm (in)</b>                                                                                                                                                                                                                                                                                                                                                                                                        | 15.9 H x 10.3 D x 33 W<br>(0.63 x 0.41 x 1.29)                                                                                                    | 15.9 H x 10.3 D x 35.9 W<br>(0.63 x 0.41 x 1.41)                                                                                                                                                                                                                                                  | 10.1 H x 6.4 D x 19.8 W<br>(0.40 x 0.25 x 0.78)                                                                                                | 7.7 H x 6.4 D x 19.8 W<br>(0.30 x 0.25 x 0.78)                                                                                                                            |
| <b>Features</b>                                                                                                                                                                                                                                                                                                                                                                                                                  | <ul style="list-style-type: none"> <li>• Miniature Snap Action Switch</li> <li>• Sealed water-tight switch conforms to IP67 &amp; IP68</li> </ul> | <ul style="list-style-type: none"> <li>• Suitable for microloads to 1 million operations minimum</li> <li>• Internal Reed Switch sealed to IP67 ensures stable operation</li> <li>• Extended humidity operating range, up to 95% RH</li> <li>• Available with internally fitted levers</li> </ul> | <ul style="list-style-type: none"> <li>• Subminiature snap action switch</li> <li>• Small sealed switch conforms to IP67 &amp; IP68</li> </ul> | <ul style="list-style-type: none"> <li>• Sealed basic switch (IP67)</li> <li>• Single leaf movable spring construction</li> <li>• Microload versions available</li> </ul> |
| <b>Contact Rating(s)</b>                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                   |                                                                                                                                                                                                                                                                                                   |                                                                                                                                                |                                                                                                                                                                           |
| <b>Resistive load</b>                                                                                                                                                                                                                                                                                                                                                                                                            | 0.1A @ 125VAC or 5A @125/250VAC                                                                                                                   | 0.25A @ 100VDC                                                                                                                                                                                                                                                                                    | 0.1A @ 125VAC or 3A @125VAC                                                                                                                    | 2A @ 250VAC or 0.1A @ 125VAC                                                                                                                                              |
| <b>Contact form</b>                                                                                                                                                                                                                                                                                                                                                                                                              | SPDT (SPST-NC, SPST-NO per request)                                                                                                               | SPST-NO                                                                                                                                                                                                                                                                                           | SPDT (SPST-NC, SPST-NO per request)                                                                                                            | SPDT, SPST-NO, SPST-NC                                                                                                                                                    |
| <b>Operating force (OF)*</b>                                                                                                                                                                                                                                                                                                                                                                                                     | 200g                                                                                                                                              | 153g                                                                                                                                                                                                                                                                                              | 180g                                                                                                                                           | 183g                                                                                                                                                                      |
| <b>Mechanical service life</b>                                                                                                                                                                                                                                                                                                                                                                                                   | 10,000,000 operations min.                                                                                                                        | 1,000,000 operations min.                                                                                                                                                                                                                                                                         | 5,000,000 operations min.                                                                                                                      | 1,000,000 operations min.                                                                                                                                                 |
| <b>Electrical service life</b>                                                                                                                                                                                                                                                                                                                                                                                                   | 1,000,000 operations min.<br>(0.1A, 125VAC)<br>100,000 operations min.<br>(3A, 125/250VAC)                                                        | 1,000,000 operations min.                                                                                                                                                                                                                                                                         | 200,000 operations min.<br>(0.1 or 3A, 125VAC)<br>100,000 operations min.<br>(2A, 250VAC)                                                      | 50,000 (2 A) or 200,000 (0.1A) operations min.                                                                                                                            |
| <b>Mounting pitch mm (in)</b>                                                                                                                                                                                                                                                                                                                                                                                                    | 10.3 x 22.2 (0.41 x 0.87)                                                                                                                         | 22.2mm                                                                                                                                                                                                                                                                                            | 9.5 (0.37)                                                                                                                                     | 9.5mm                                                                                                                                                                     |
| <b>Actuator types</b>                                                                                                                                                                                                                                                                                                                                                                                                            | Pin plunger, short hinge lever, hinge lever, long hinge lever, simulated roller lever, short hinge roller lever, hinge roller lever               | Pin plunger, hinge lever, hinge roller lever, simulated roller lever                                                                                                                                                                                                                              | Pin plunger, hinge lever, simulated roller lever, hinge roller lever                                                                           | Pin plunger, hinge lever, hinge roller lever, simulated roller lever                                                                                                      |
| <b>Terminal choices</b>                                                                                                                                                                                                                                                                                                                                                                                                          | Solder/Quick connect (#187 tab terminals) lead wires                                                                                              | Molded lead wires                                                                                                                                                                                                                                                                                 | Solder, Quick connect (#110), PCB, lead wires                                                                                                  | Solder, Quick connect (#110), PCB (even & uneven pitch), Molded lead wires                                                                                                |
| <b>Approved standards</b>                                                                                                                                                                                                                                                                                                                                                                                                        | UL, CSA (refer to "Ratings" section of data sheet)                                                                                                | —                                                                                                                                                                                                                                                                                                 | UL, CSA                                                                                                                                        | UL, CSA                                                                                                                                                                   |
| <b>*Values are for pin plunger type only</b>                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                   |                                                                                                                                                                                                                                                                                                   |                                                                                                                                                |                                                                                                                                                                           |
| <p>**IP68 Ratings are based on specific application environments and conditions, per IEC 529. Test conditions for Grade 8 pertaining to continuous immersion are subject to prior agreement between Omron and the user. Acceptance of the test requirements and the ratings may or may not occur, solely based on the specific conditions of each application. Consult Omron for consideration of specific usage conditions.</p> |                                                                                                                                                   |                                                                                                                                                                                                                                                                                                   |                                                                                                                                                |                                                                                                                                                                           |

# Switches - Sealed Snap Action

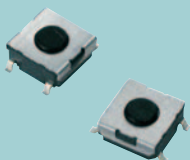
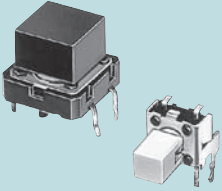
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|                                |                                                                                                           |                                                                                                   |                                                                             |                                              |
|                                | <b>D2HW</b>                                                                                                                                                                                | <b>D2JW</b>                                                                                                                                                                        | <b>D2FW-G</b>                                                                                                                                                  | <b>D2X</b>                                                                                                                      |
| <b>Dimensions mm (in)</b>      | 7 H x 5.3 D x 13.3/18.5 W<br>(0.28 x 0.21 x 0.52/0.73)                                                                                                                                     | 9.4 H x 5.3 D x 12.7 W<br>(0.37 x 0.21 x 0.50)                                                                                                                                     | 13.5 H x 8.0 D x 23.5 W<br>(0.53 x 0.31 x 0.93)                                                                                                                | 28.1 H x 8.4 D x 5.3 W<br>(1.11 x 0.33 x 0.21)                                                                                  |
| <b>Features</b>                | <ul style="list-style-type: none"> <li>• Subminiature Snap Action Switch</li> <li>• Small sealed switch with long stroke for reliable ON/OFF action</li> <li>• Conforms to IP67</li> </ul> | <ul style="list-style-type: none"> <li>• Small size</li> <li>• Gold crossbar contact and coil-spring for long life</li> <li>• IP67 rating for molded lead wire versions</li> </ul> | <ul style="list-style-type: none"> <li>• Subminiature Snap Action Switch</li> <li>• Small sealed switch with lead wires</li> <li>• Conforms to IP67</li> </ul> | <ul style="list-style-type: none"> <li>• High contact force</li> <li>• Wiping action for greater contact reliability</li> </ul> |
| <b>Contact Rating(s)</b>       |                                                                                                                                                                                            |                                                                                                                                                                                    |                                                                                                                                                                |                                                                                                                                 |
| <b>Resistive load</b>          | 2A @ 12VDC/ 1A @ 24VDC/<br>0.5A @ 42VDC                                                                                                                                                    | 0.1A @ 30VDC                                                                                                                                                                       | 0.5A @ 30VDC or 50mA @<br>30VDC                                                                                                                                | 0.1A @ 30VDC                                                                                                                    |
| <b>Contact form</b>            | SPDT, SPST-NC, SPST-NO                                                                                                                                                                     | SPDT                                                                                                                                                                               | SPDT, SPST-NC, SPST-NO                                                                                                                                         | SPST-NC                                                                                                                         |
| <b>Operating force (OF)*</b>   | 76g                                                                                                                                                                                        | 250g                                                                                                                                                                               | 120g                                                                                                                                                           | 50g                                                                                                                             |
| <b>Mechanical service life</b> | 1,000,000 operations min.                                                                                                                                                                  | 1,000,000 operations min.                                                                                                                                                          | 300,000 operations min.                                                                                                                                        | 1,000,000 operations min.                                                                                                       |
| <b>Electrical service life</b> | 100,000 operations min.                                                                                                                                                                    | 500,000 operations min.                                                                                                                                                            | 100,000 operations min.                                                                                                                                        | 50,000 operations min.                                                                                                          |
| <b>Mounting pitch mm (in)</b>  | 8 (0.32) posts, 13 (0.51 ) screw                                                                                                                                                           | 4.8                                                                                                                                                                                | 16 (0.63)                                                                                                                                                      | 12.2                                                                                                                            |
| <b>Actuator types</b>          | Pin plunger, hinge lever, long hinge lever, simulated roller lever, leaf lever, simulated leaf lever, long leaf lever                                                                      | Pin plunger, short hinge lever, hinge lever, simulated roller lever, hinge roller lever                                                                                            | Leaf lever, Long leaf lever                                                                                                                                    | Bi-directional paddle                                                                                                           |
| <b>Terminal choices</b>        | PCB (straight, angled), Solder, Lead wire (bottom, right side, left side)                                                                                                                  | Solder, molded lead wire                                                                                                                                                           | Lead wires                                                                                                                                                     | Crimp connector                                                                                                                 |
| <b>Approved standards</b>      | —                                                                                                                                                                                          | UL, CSA, VDE                                                                                                                                                                       | —                                                                                                                                                              | —                                                                                                                               |

\* Values are for pin plunger type only

# Switches - Snap Action

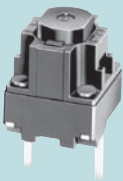
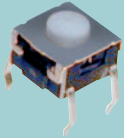
|                                        |                                                      | <b>NEW!</b><br>                        | <b>NEW!</b><br>                                                                          |                                                             |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
|                                        | <b>D3C</b>                                                                                                                            | <b>D3K</b>                                                                                                              | <b>D3D</b>                                                                                                                                                                 | <b>D2T</b>                                                                                                                                     |
| <b>Dimensions mm (in)</b>              | 6 H x 4.2 D x 8 W<br>(0.24 x 0.17 x 0.31)                                                                                             | 13.7 H x 5.6 D x 18.9 W<br>(0.54 x 0.22 x 0.74)                                                                         | 30.7 H x 15 D x 36.4 W<br>(1.21 x 0.59 x 1.43)                                                                                                                             | 24.65 H x 11.5 D x 28.8 W<br>(0.97 x 0.45 x 1.13)                                                                                              |
| <b>Features</b>                        | <ul style="list-style-type: none"> <li>• Low torque built-in slide mechanism for selecting shorting or non-shorting timing</li> </ul> | <ul style="list-style-type: none"> <li>• Very low operating force</li> <li>• Detects cards &amp; paper sheet</li> </ul> | <ul style="list-style-type: none"> <li>• Miniature door switch</li> <li>• Low-noise</li> <li>• Disconnectable crimp connector</li> <li>• Gold crossbar contacts</li> </ul> | <ul style="list-style-type: none"> <li>• Compact door switch</li> <li>• Incorporates two circuits for power loads &amp; micro loads</li> </ul> |
| <b>Contact Rating(s)</b>               |                                                                                                                                       |                                                                                                                         |                                                                                                                                                                            |                                                                                                                                                |
| <b>Resistive load</b>                  | 0.1A @ 30VDC                                                                                                                          | 10mA @ 12VDC                                                                                                            | 1A @ 125VAC or 0.5A @ 250VAC                                                                                                                                               | 5A @ 250VAC<br>0.1A @ 25VAC                                                                                                                    |
| <b>Contact form</b>                    | SPDT                                                                                                                                  | SPST-NO                                                                                                                 | SPDT, SPST-NC, SPST-NO                                                                                                                                                     | DPST-NO                                                                                                                                        |
| <b>Operating force (OF)*</b>           | 40g, 130g                                                                                                                             | 3g                                                                                                                      | 204g                                                                                                                                                                       | 330g                                                                                                                                           |
| <b>Mechanical service life</b>         | 50,000 operations min.                                                                                                                | 2,000,000 operations min.                                                                                               | 300,000 operations min.                                                                                                                                                    | 100,000 operations min.                                                                                                                        |
| <b>Electrical service life</b>         | 50,000 operations min.                                                                                                                | 2,000,000 operations min.                                                                                               | 100,000 operations min.                                                                                                                                                    | 100,000 operations min.                                                                                                                        |
| <b>Mounting pitch mm (in)</b>          | 5.7                                                                                                                                   | 17.3                                                                                                                    | Panel-mount                                                                                                                                                                | 26.4                                                                                                                                           |
| <b>Actuator types</b>                  | Rotary lever                                                                                                                          | Paddle lever                                                                                                            | Pin plunger, lever                                                                                                                                                         | Pin plunger, hinge lever                                                                                                                       |
| <b>Terminal choices</b>                | PCB                                                                                                                                   | Connector                                                                                                               | Connector                                                                                                                                                                  | Solder                                                                                                                                         |
| <b>Approved standards</b>              | —                                                                                                                                     | —                                                                                                                       | UL, CSA                                                                                                                                                                    | UL, CSA, VDE, SEMKO                                                                                                                            |
| * Values are for pin plunger type only |                                                                                                                                       |                                                                                                                         |                                                                                                                                                                            |                                                                                                                                                |

# Switches - Tactile

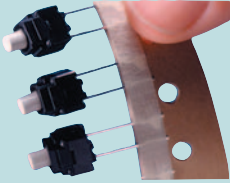
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|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                   |                                                                                                                                                                                                                |                                                                                                                               |                                                                                       |
|                                                   | <b>B3F</b>                                                                                                                                                                                                                                                                                      | <b>B3FS</b>                                                                                                                                                                                                     | <b>B32</b>                                                                                                                                                               |
| <b>Dimensions mm (in)</b>                         | Varies by type                                                                                                                                                                                                                                                                                  | Varies by type                                                                                                                                                                                                  | Various                                                                                                                                                                  |
| <b>Features</b>                                   | <ul style="list-style-type: none"> <li>• Tactile 6 mm/12 mm Square Switch</li> <li>• Space saving switch with extended mechanical/electrical service life</li> <li>• Taped radial packaging available*</li> </ul>                                                                               | <ul style="list-style-type: none"> <li>• Tape &amp; Reel Surface Mount Switches</li> <li>• Tactile switch that incorporates a snap action contact mechanism which ensures sharp switching operations</li> </ul> | <ul style="list-style-type: none"> <li>• Key tops for projected-plunger B3F and B3W tactile switches</li> <li>• Available in a wide range of colors and sizes</li> </ul> |
| <b>Contact Rating(s)</b><br><b>Resistive load</b> | 50mA @ 24 VDC                                                                                                                                                                                                                                                                                   | 50mA @ 24 VDC                                                                                                                                                                                                   |                                                                                                                                                                          |
| <b>Contact form</b>                               | SPST-NO                                                                                                                                                                                                                                                                                         | SPST-NO                                                                                                                                                                                                         |                                                                                                                                                                          |
| <b>Action</b>                                     | Momentary                                                                                                                                                                                                                                                                                       | Momentary                                                                                                                                                                                                       |                                                                                                                                                                          |
| <b>Ground terminal</b>                            | Models available with or without ground terminal                                                                                                                                                                                                                                                | None                                                                                                                                                                                                            |                                                                                                                                                                          |
| <b>Keycap (optional)</b>                          | Refer to "ACCESSORIES" section of data sheet for Keycap information                                                                                                                                                                                                                             | None                                                                                                                                                                                                            |                                                                                                                                                                          |
| <b>Operating force (OF)*</b>                      | Refer to "OPERATING CHARACTERISTICS" section of data sheet                                                                                                                                                                                                                                      | 100gf (General purpose)<br>150gf (High force)                                                                                                                                                                   |                                                                                                                                                                          |
| <b>Service life (Mechanical/Electrical)</b>       | B3F-1□□□ /3□□□<br>1,000,000 operations min.<br>(High force: 300,000 operations min.)<br>B3F-4 □□□<br>3,000,000 operations min.<br>(High force: 300,000 operations min.)<br>B3F-5 □□□ 10,000,000 operations min.<br>B3F-6 □□□ 1,000,000 operations min.<br>(High force: 300,000 operations min.) | 1,000,000 operations min. (General purpose)<br>300,000 operations min. (High force)                                                                                                                             |                                                                                                                                                                          |
| <b>Actuator type</b>                              | Plunger                                                                                                                                                                                                                                                                                         | Plunger                                                                                                                                                                                                         |                                                                                                                                                                          |
| <b>Terminal choices</b>                           | PCB                                                                                                                                                                                                                                                                                             | Surface mount                                                                                                                                                                                                   |                                                                                                                                                                          |
| <b>Cleaning</b>                                   | Not possible                                                                                                                                                                                                                                                                                    | Not possible                                                                                                                                                                                                    | N/A                                                                                                                                                                      |

IMPORTANT NOTE: None of the Tactile switch models listed within this catalog are water-washable.

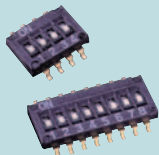
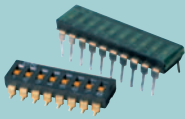
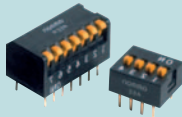
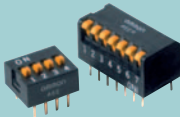
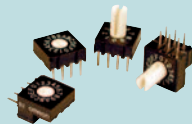
# Switches - Tactile

|                                              |                                                                                                                                                                               |                                                                                                                                                                                                              |                                                                                                                                                                       |                                                                                                                                                                                                           |
|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                              |                                                                                              |                                                                                                                             |                                                                                     |                                                                                                                        |
|                                              | <b>B3M</b>                                                                                                                                                                    | <b>B3W</b>                                                                                                                                                                                                   | <b>B3S</b>                                                                                                                                                            | <b>B3SN</b>                                                                                                                                                                                               |
| <b>Dimensions mm (in)</b>                    | 7.3 H x 6.0 D x 6.0 W<br>(0.29 x 0.24 x 0.24)                                                                                                                                 | Varies by type                                                                                                                                                                                               | 4.3 H x 6.0 D x 6.0 W<br>(0.17 x 0.24 x 0.24)                                                                                                                         | 3.1 H x 6.5 D x 7.0 W<br>(0.12 x 0.26 x 0.28)                                                                                                                                                             |
| <b>Features</b>                              | <ul style="list-style-type: none"> <li>• High Profile Tactile Switch</li> <li>• Stroke length of 0.85mm</li> <li>• Light touch with a minimum overstroke of 0.25mm</li> </ul> | <ul style="list-style-type: none"> <li>• 6 mm/12 mm Square Tactile Switch</li> <li>• Sealed Construction allows immersion cleaning with Alcohol based solution</li> </ul>                                    | <ul style="list-style-type: none"> <li>• Surface Mount Tactile Switch</li> <li>• Sealed Construction allows immersion cleaning with Alcohol based solution</li> </ul> | <ul style="list-style-type: none"> <li>• Surface Mount Tactile Switch</li> <li>• Low profile sealed construction for dust or humid environments</li> <li>• Available in bulk or tape packaging</li> </ul> |
| <b>Service life (Mechanical/ Electrical)</b> | 2,000,000 operations min.                                                                                                                                                     | B3W-1 □□□<br>Standard force:<br>1,000,000 operations min.<br>High-force:<br>300,000 operations min.<br>B3W-4 □□□<br>Standard force:<br>3,000,000 operations min.<br>High force:<br>1,000,000 operations min. | 500,000 operations min.<br>(General purpose)<br>300,000 operations min.<br>(High force)                                                                               | 50,000 operations min.                                                                                                                                                                                    |
| <b>Contact Rating(s)</b>                     |                                                                                                                                                                               |                                                                                                                                                                                                              |                                                                                                                                                                       |                                                                                                                                                                                                           |
| <b>Resistive load</b>                        | 50mA @ 12VDC                                                                                                                                                                  | 50mA @ 24VDC                                                                                                                                                                                                 | 50mA @ 24VDC                                                                                                                                                          | 1 to 30mA @ 5 to 24VDC                                                                                                                                                                                    |
| <b>Contact form</b>                          | SPST-NO                                                                                                                                                                       | SPST-NO                                                                                                                                                                                                      | SPST-NO                                                                                                                                                               | SPST-NO                                                                                                                                                                                                   |
| <b>Action</b>                                | Momentary                                                                                                                                                                     | Momentary                                                                                                                                                                                                    | Momentary                                                                                                                                                             | Momentary                                                                                                                                                                                                 |
| <b>Ground terminal</b>                       | None                                                                                                                                                                          | Models available with or without ground terminal                                                                                                                                                             | Models available with or without ground terminal                                                                                                                      | Models available with or without ground terminal                                                                                                                                                          |
| <b>Keycap (Optional)</b>                     | Built in                                                                                                                                                                      | Refer to "ACCESSORIES" section of data sheet for Keycap information                                                                                                                                          | None                                                                                                                                                                  | None                                                                                                                                                                                                      |
| <b>Operating force (OF)*</b>                 | 70 ±20gf                                                                                                                                                                      | Refer to "OPERATING" CHARACTERISTICS" section of datasheet                                                                                                                                                   | 160gf (General purpose)<br>230gf (High force)                                                                                                                         | 160 ±50g max.                                                                                                                                                                                             |
| <b>Actuator type</b>                         | Plunger                                                                                                                                                                       | Plunger                                                                                                                                                                                                      | Plunger                                                                                                                                                               | Plunger                                                                                                                                                                                                   |
| <b>Terminal choices</b>                      | PCB                                                                                                                                                                           | PCB                                                                                                                                                                                                          | Surface mount                                                                                                                                                         | Surface mount                                                                                                                                                                                             |
| <b>Cleaning</b>                              | Not possible                                                                                                                                                                  | Possible                                                                                                                                                                                                     | Possible                                                                                                                                                              | Possible                                                                                                                                                                                                  |

# Switches - Tactile

|                                              |                                                                                                                                    |                                     |                                                                               |                                                                               |
|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                              | <b>B3WN</b>                                                                                                                                                                                                         | <b>B3J</b>                                                                                                           | <b>B3D</b>                                                                                                                                                      | <b>B3DA</b>                                                                                                                                                      |
| <b>Dimensions mm (in)</b>                    | 13 H x 8.0 D x 8.0 W<br>(0.51 x 0.31 x 0.31)                                                                                                                                                                        | 10.3 H x 18.0 D x 12.0 W<br>(0.41 x 0.71 x 0.47)                                                                     | 4 mm or 5 mm domes                                                                                                                                              | 4 mm or 5 mm domes                                                                                                                                               |
| <b>Features</b>                              | <ul style="list-style-type: none"> <li>• Radial Tape Sealed Tactile Switch</li> <li>• Compact 8 x 8 mm square size with double sealing construction</li> <li>• Assures water-tight/dust-tight protection</li> </ul> | <ul style="list-style-type: none"> <li>• Hinged Tactile Switch</li> <li>• Available with 1, 2 or no LED's</li> </ul> | <ul style="list-style-type: none"> <li>• Adhesive-backed individual dome</li> <li>• Superior dust-tight performance</li> <li>• No soldering required</li> </ul> | <ul style="list-style-type: none"> <li>• Adhesive-backed individual array</li> <li>• Superior dust-tight performance</li> <li>• No soldering required</li> </ul> |
| <b>Service life (Mechanical/ Electrical)</b> | 100,000 operations min.                                                                                                                                                                                             | 3,000,000 operations min.                                                                                            | 500,000 (4 mm) /<br>1,000,000 (5 mm)                                                                                                                            | 500,000 (4 mm) /<br>1,000,000 (5 mm)                                                                                                                             |
| <b>Contact Rating(s)<br/>Resistive load</b>  | 50mA @ 12VDC                                                                                                                                                                                                        | 1 to 50mA @ 5 to 24VDC                                                                                               | 10mA @ 12VDC                                                                                                                                                    | —                                                                                                                                                                |
| <b>Contact form</b>                          | SPST-NO                                                                                                                                                                                                             | SPST-NO                                                                                                              | N/A                                                                                                                                                             | N/A                                                                                                                                                              |
| <b>Action</b>                                | Momentary                                                                                                                                                                                                           | Momentary                                                                                                            | Momentary                                                                                                                                                       | Momentary                                                                                                                                                        |
| <b>Ground terminal</b>                       | None                                                                                                                                                                                                                | None                                                                                                                 | None                                                                                                                                                            | None                                                                                                                                                             |
| <b>Keycap (Optional)</b>                     | None                                                                                                                                                                                                                | None                                                                                                                 | None                                                                                                                                                            | None                                                                                                                                                             |
| <b>Operating force (OF)*</b>                 | 200 ±70gf                                                                                                                                                                                                           | 130 ±50gf                                                                                                            | 170g                                                                                                                                                            | 160g                                                                                                                                                             |
| <b>Actuator type</b>                         | Plunger                                                                                                                                                                                                             | Hinge lever                                                                                                          | Dome                                                                                                                                                            | Dome                                                                                                                                                             |
| <b>Terminal choices</b>                      | PCB                                                                                                                                                                                                                 | PCB                                                                                                                  | Surface mount                                                                                                                                                   | Surface mount                                                                                                                                                    |
| <b>Cleaning</b>                              | Possible                                                                                                                                                                                                            | Not possible                                                                                                         | Not possible                                                                                                                                                    | Not possible                                                                                                                                                     |

# Switches - DIP

|                                 |                                                                               |                                                                                                                                                                         |                                                                         |                                                       |                                                                                                                          |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                 | A6H                                                                                                                                                            | A6T/A6S                                                                                                                                                                                                                                                  | A6D/A6DR                                                                                                                                                  | A6E/A6ER                                                                                                                                 | A6R/A6RV                                                                                                                                                                                                    |
| <b>Dimensions mm (in)</b>       | Varies by type                                                                                                                                                 | Varies by type                                                                                                                                                                                                                                           | Varies by type                                                                                                                                            | Varies by type                                                                                                                           | Varies by type                                                                                                                                                                                              |
| <b>Features</b>                 | <ul style="list-style-type: none"> <li>• Half-pitch Surface Mount DIP Switch</li> <li>• Low profile of 1.55mm</li> <li>• Seal tape models available</li> </ul> | <ul style="list-style-type: none"> <li>• Straight PCB/ Surface Mount DIP Switch</li> <li>• Flat actuated types with or without seal tape, &amp; tape seal versions in embossed tape packaging</li> <li>• Raised actuator types also available</li> </ul> | <ul style="list-style-type: none"> <li>• Dustproof construction</li> <li>• Top, raised &amp; side actuators</li> <li>• Smooth switching action</li> </ul> | <ul style="list-style-type: none"> <li>• Available in a variety of model types: A6E: Flat/Raised actuator A6ER: Side actuator</li> </ul> | <ul style="list-style-type: none"> <li>• Economical rotary DIP switch</li> <li>• Top, side &amp; extended shaft models</li> <li>• O-ring sealed construction to prevent ingress of dust and dirt</li> </ul> |
| <b>Contact Rating(s)</b>        |                                                                                                                                                                |                                                                                                                                                                                                                                                          |                                                                                                                                                           |                                                                                                                                          |                                                                                                                                                                                                             |
| Resistive load                  | 25mA @ 24VDC                                                                                                                                                   | 25mA @ 24VDC                                                                                                                                                                                                                                             | 30mA @ 30VDC                                                                                                                                              | 25mA @ 24VDC                                                                                                                             | 25mA @ 24VDC                                                                                                                                                                                                |
| <b>Switching positions</b>      | –                                                                                                                                                              | –                                                                                                                                                                                                                                                        | –                                                                                                                                                         | –                                                                                                                                        | 10-BCD<br>16-Hexadecimal                                                                                                                                                                                    |
| <b>Number of poles</b>          | 4, 8                                                                                                                                                           | A6T: 1, 2, 4, 6, 8, 10<br>A6S: 2, 3, 4, 5, 6, 7, 8, 9, 10<br>A6S (embossed tape): 4, 6, 8                                                                                                                                                                | 4, 6, 8, 10                                                                                                                                               | 2, 3, 4, 5, 6, 7, 8, 9, 10                                                                                                               | –                                                                                                                                                                                                           |
| <b>Operating force (OF)*</b>    | 30gf                                                                                                                                                           | 30gf                                                                                                                                                                                                                                                     | 500gf                                                                                                                                                     | 30gf                                                                                                                                     | 200g-cm max.                                                                                                                                                                                                |
| <b>Mechanical service life,</b> | 1,000 operations min.                                                                                                                                          | 1,000 operations min.                                                                                                                                                                                                                                    | 5,000 operations min.                                                                                                                                     | 1,000 operations min.                                                                                                                    | 5,000 detent operations min.                                                                                                                                                                                |
| <b>Electrical service life</b>  | 1,000 operations min.                                                                                                                                          | 1,000 operations min.                                                                                                                                                                                                                                    | 2,000 operations min.                                                                                                                                     | 1,000 operations min.                                                                                                                    | 5,000 detent operations min.                                                                                                                                                                                |
| <b>Actuator types</b>           | Top                                                                                                                                                            | Top, raised                                                                                                                                                                                                                                              | Top, raised, side                                                                                                                                         | Top, raised, side                                                                                                                        | Rotary                                                                                                                                                                                                      |
| <b>Terminal choices</b>         | Surface mount                                                                                                                                                  | PCB terminal; Surface mount                                                                                                                                                                                                                              | PCB terminal                                                                                                                                              | PCB terminal                                                                                                                             | PCB terminal                                                                                                                                                                                                |
| <b>Washable</b>                 | Yes (seal tape only)                                                                                                                                           | Yes (seal tape only)                                                                                                                                                                                                                                     | Yes                                                                                                                                                       | No                                                                                                                                       | No                                                                                                                                                                                                          |

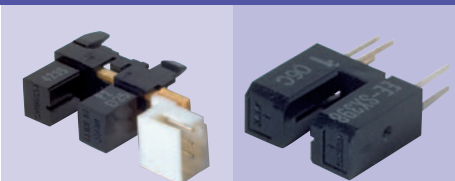
## Switches - DIP



A6C

# Photomicrosensors

## Photo IC - Slotted



### Non-Amplified Non-Amplified

| Sub-category                        | Slotted Photo IC with connector                                                                                                                                       | Slotted Photo IC                                                                                                                  |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Models                              | EE-SX4235A-P2                                                                                                                                                         | EE-SX398, EE-SX3070, EE-SX3081, EE-SX3088, EE-SX498, EE-SX4070, EE-SX4081, EE-SX4088                                              |
| Connection type                     | Connector*                                                                                                                                                            | PCB mount                                                                                                                         |
| Features                            | <ul style="list-style-type: none"> <li>Unique snap-in mounting mechanism eliminates screws &amp; nuts</li> <li>Compatible with 1.0, 1.2, &amp; 1.6 mm PCBs</li> </ul> | <ul style="list-style-type: none"> <li>Built-in Schmitt trigger circuit</li> <li>Directly compatible with TTL and CMOS</li> </ul> |
| Slot width mm (in)                  | 5 (0.2)                                                                                                                                                               | 3 to 8 (0.12 to 0.315)                                                                                                            |
| Output logic                        | Light-ON                                                                                                                                                              | Light-ON or Dark-ON                                                                                                               |
| Max. forward current mA             | —                                                                                                                                                                     | 50mA                                                                                                                              |
| Supply voltage (VDC)                | 7VDC                                                                                                                                                                  | 4.5 to 16VDC                                                                                                                      |
| Operating temperature               | -25° to +75°C                                                                                                                                                         | -40° to +75°C                                                                                                                     |
| Output low voltage (V)              | 0.35V max.                                                                                                                                                            | 0.4V max.                                                                                                                         |
| Output high voltage (V)             | (Vcc x 0.9) Vmin.                                                                                                                                                     | 15V min.                                                                                                                          |
| Response frequency (Hz)             | 3,000Hz                                                                                                                                                               | 3,000Hz                                                                                                                           |
| Output permissible dissipation (mW) | 250mW                                                                                                                                                                 | 250mW                                                                                                                             |
| Forward voltage (V)                 | —                                                                                                                                                                     | 1.2V – typ.                                                                                                                       |
| Hysteresis                          | —                                                                                                                                                                     | 15%                                                                                                                               |
| Rising time (low to high)           | —                                                                                                                                                                     | 3μS – typ.                                                                                                                        |
| Falling time (high to low)          | —                                                                                                                                                                     | 20μS – typ.                                                                                                                       |
| Current consumption (mA)            | 30mA max.                                                                                                                                                             | 10mA max.                                                                                                                         |

\*Applicable Mating Connector  
AMP 175778-3  
AMP 173977-3

## Phototransistor - Reflective



### Non-Amplified Non-Amplified

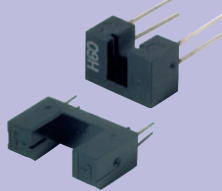
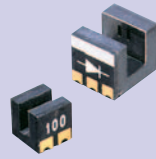
| Sub-category                       | Reflective PCB mount phototransistor                                                                                                                                         | Reflective solder terminal phototransistor                                                                                           |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Model numbers                      | EE-SY169, EE-SY169A, EE-SY169B, EE-SB5-B, EE-SF5-B                                                                                                                           | EE-SB5, EE-SF5                                                                                                                       |
| Connection type                    | PCB mount                                                                                                                                                                    | Solder terminals                                                                                                                     |
| Features                           | <ul style="list-style-type: none"> <li>Ideal for office automation and computer peripheral equipment</li> <li>Infrared LED &amp; phototransistor assure long life</li> </ul> | <ul style="list-style-type: none"> <li>Sensor housing reduces external light's influence</li> <li>High resolution sensing</li> </ul> |
| Sensing distance mm (in)           | 5 (0.2)                                                                                                                                                                      | 5 (0.2)                                                                                                                              |
| Max. forward current (mA)          | 50mA<br>(40 mA: EE-SY169, EE-SY169B)                                                                                                                                         | 50mA                                                                                                                                 |
| Supply voltage (VDC)               | 5 to 30V                                                                                                                                                                     | 5 to 30V                                                                                                                             |
| Light current (mA)                 | EE-SY169(A)(B):<br>160μA to 2,000μA;<br>EE-SB5/EE-SF5-B:<br>200μA to 2,000μA                                                                                                 | 200μA to 2,000μA                                                                                                                     |
| Response frequency (Hz)            | 15kHz                                                                                                                                                                        | 15kHz                                                                                                                                |
| Ambient operating temperature (°C) | 0° to +70°C                                                                                                                                                                  | -25° to +85°C                                                                                                                        |

NOTE: The above specifications do not apply to all models listed.

For specific model information and additional product variations, visit [www.components.omron.com](http://www.components.omron.com) or contact your local Omron representative.

# Photomicrosensors

## Phototransistors - Slotted

|                                                                                                                                                                                                                                                                    |                                                  |                                                                                                   |                                                                                            |                                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Sub-category                                                                                                                                                                                                                                                       | Non-Amplified                                                                                                                     | Non-Amplified                                                                                                                                                                      | Non-Amplified                                                                                                                                                                 | Non-Amplified                                                                                                     |
| Models                                                                                                                                                                                                                                                             | EE-SX1235A-P2                                                                                                                     | EE-SX198, EE-SX1018, EE-SX1035, EE-SX1041, EE-SX1042, EE-SX1046, EE-SX1055, EE-SX1070, EE-SX1071, EE-SX1081, EE-SX1088, EE-SX1096, EE-SX1103, EE-SX1105, EE-SX1106                 | EE-SX1107, EE-SX1108, EE-SX1109, EE-SX1131 (dual channel)                                                                                                                     | EE-SA107-P2                                                                                                       |
| Connection type                                                                                                                                                                                                                                                    | Connector*                                                                                                                        | PCB mount                                                                                                                                                                          | Surface mount                                                                                                                                                                 | Connector*                                                                                                        |
| Features                                                                                                                                                                                                                                                           | <ul style="list-style-type: none"> <li>Electrical connections using AMP connector</li> <li>Compact and high-resolution</li> </ul> | <ul style="list-style-type: none"> <li>Infrared LED &amp; phototransistor for long life</li> <li>Narrow aperture slit for high resolution sensing</li> <li>Compact size</li> </ul> | <ul style="list-style-type: none"> <li>Ultra-compact</li> <li>High-resolution sensing with phototransistor output</li> <li>Ideal for restricted space applications</li> </ul> | <ul style="list-style-type: none"> <li>High resolution sensing</li> <li>Non-contact, noiseless sensing</li> </ul> |
| Slot width mm (in)                                                                                                                                                                                                                                                 | 5 (0.2)                                                                                                                           | 2 to 8 (0.08 to 0.32)                                                                                                                                                              | 1 to 3 (0.04 to 0.12)                                                                                                                                                         | 3.6 (0.14)                                                                                                        |
| Max. forward current (mA)                                                                                                                                                                                                                                          | 50mA                                                                                                                              | 50mA                                                                                                                                                                               | 25mA                                                                                                                                                                          | 50mA                                                                                                              |
| Max. collector dissipation (mW)                                                                                                                                                                                                                                    | 100mW                                                                                                                             | 100mW                                                                                                                                                                              | 75mW                                                                                                                                                                          | 100mW                                                                                                             |
| Operating temperature (°C)                                                                                                                                                                                                                                         | -25° to +95°C                                                                                                                     | -25° to +85°C                                                                                                                                                                      | -30° to +85°C                                                                                                                                                                 | -25° to +85°C                                                                                                     |
| Forward voltage (V)                                                                                                                                                                                                                                                | 1.2V typ.                                                                                                                         | 1.2 to 1.3V                                                                                                                                                                        | 1.1V typ.                                                                                                                                                                     | 1.2V typ.                                                                                                         |
| Light current (mA)                                                                                                                                                                                                                                                 | 0.6mA to 14mA max.                                                                                                                | 0.03 to 14mA max.                                                                                                                                                                  | 0.05 to 0.50mA                                                                                                                                                                | 0.5 to 14mA                                                                                                       |
| Collector-emitter saturated voltage (V)                                                                                                                                                                                                                            | 0.4V max.                                                                                                                         | 0.4V max.                                                                                                                                                                          | 0.1V typ.                                                                                                                                                                     | 0.4V max.                                                                                                         |
| Rising time (low to high)                                                                                                                                                                                                                                          | 8µS typ.                                                                                                                          | 4µS typ.<br>(10µS typ.: EE-SX1103, EE-SX1105, EE-SX1106)                                                                                                                           | 10µS typ.                                                                                                                                                                     | 8µS typ.                                                                                                          |
| Falling time (high to low)                                                                                                                                                                                                                                         | 8µS typ.                                                                                                                          | 4 µS typ.<br>(10µS typ.: EE-SX1103, EE-SX1105, EE-SX1106)                                                                                                                          | 10µS typ.                                                                                                                                                                     | 8µS typ.                                                                                                          |
|                                                                                                                                                                                                                                                                    | *Applicable Mating Connector<br>AMP 175778-3<br>AMP 173977-3                                                                      |                                                                                                                                                                                    |                                                                                                                                                                               | *Applicable Mating Connector<br>AMP 175778-3<br>AMP 173977-3                                                      |
| NOTE: The above specifications do not apply to all models listed.<br>For specific model information and additional product variations,<br>visit <a href="http://www.components.omron.com">www.components.omron.com</a> or contact your local Omron representative. |                                                                                                                                   |                                                                                                                                                                                    |                                                                                                                                                                               |                                                                                                                   |

# Micro Sensors - MEMS

## Mass Air Flow 1~5L



| D6F                   |                                                                                                                                                                                                                                                                                                              |            |              |            |             |     |     |          |              |     |     |          |              |    |     |          |              |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------|------------|-------------|-----|-----|----------|--------------|-----|-----|----------|--------------|----|-----|----------|--------------|
| Dimensions mm (in)    | 15H x 20D x 66W<br>(0.60 x 0.79 x 2.60)                                                                                                                                                                                                                                                                      |            |              |            |             |     |     |          |              |     |     |          |              |    |     |          |              |
| Features              | Detects – <ul style="list-style-type: none"><li>• Breath rate in respiratory equipment</li><li>• Natural gas flow rate</li><li>• Gas in fuel cells</li><li>• Flow in ventilation systems</li></ul>                                                                                                           |            |              |            |             |     |     |          |              |     |     |          |              |    |     |          |              |
| Applicable gases      | Air, Natural gas, LP gas, O <sub>2</sub> , and N <sub>2</sub> O *                                                                                                                                                                                                                                            |            |              |            |             |     |     |          |              |     |     |          |              |    |     |          |              |
| Supply voltage        | 12 to 24VDC                                                                                                                                                                                                                                                                                                  |            |              |            |             |     |     |          |              |     |     |          |              |    |     |          |              |
| Operating temp. range | -10° to +60°C                                                                                                                                                                                                                                                                                                |            |              |            |             |     |     |          |              |     |     |          |              |    |     |          |              |
| Ordering information  | <table><tr><th>Case</th><th>Gas</th><th>Flow range</th><th>Part number</th></tr><tr><td>PPS</td><td>Air</td><td>0~1L/min</td><td>D6F-101A-110</td></tr><tr><td>PPS</td><td>Air</td><td>0~2L/min</td><td>D6F-102A-110</td></tr><tr><td>AL</td><td>LNG</td><td>0~5L/min</td><td>D6F-05N2-000</td></tr></table> | Case       | Gas          | Flow range | Part number | PPS | Air | 0~1L/min | D6F-101A-110 | PPS | Air | 0~2L/min | D6F-102A-110 | AL | LNG | 0~5L/min | D6F-05N2-000 |
| Case                  | Gas                                                                                                                                                                                                                                                                                                          | Flow range | Part number  |            |             |     |     |          |              |     |     |          |              |    |     |          |              |
| PPS                   | Air                                                                                                                                                                                                                                                                                                          | 0~1L/min   | D6F-101A-110 |            |             |     |     |          |              |     |     |          |              |    |     |          |              |
| PPS                   | Air                                                                                                                                                                                                                                                                                                          | 0~2L/min   | D6F-102A-110 |            |             |     |     |          |              |     |     |          |              |    |     |          |              |
| AL                    | LNG                                                                                                                                                                                                                                                                                                          | 0~5L/min   | D6F-05N2-000 |            |             |     |     |          |              |     |     |          |              |    |     |          |              |

\*Contact Omron regarding other gases.

## Mass Air Flow 10~50L



| D6F-10/20/50                 |                                                                                                                                                                                                                  |            |             |         |           |         |           |         |           |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-------------|---------|-----------|---------|-----------|---------|-----------|
| <b>Dimensions mm (in)</b>    | 30H x 30D x 78L<br>(1.18 x 1.18 x 3.07)                                                                                                                                                                          |            |             |         |           |         |           |         |           |
| <b>Features</b>              | <ul style="list-style-type: none"> <li>• Precision unidirectional mass airflow up to 50LPM</li> <li>• Stable output</li> <li>• Horizontal mounting with NBR 'O' ring</li> <li>• Low power consumption</li> </ul> |            |             |         |           |         |           |         |           |
| <b>Applicable gases</b>      | Air, Natural gas, LP gas, O <sub>2</sub> , & N <sub>2</sub> O*                                                                                                                                                   |            |             |         |           |         |           |         |           |
| <b>Supply voltage</b>        | 12 to 24VDC                                                                                                                                                                                                      |            |             |         |           |         |           |         |           |
| <b>Operating temp. range</b> | -10° to +60°C                                                                                                                                                                                                    |            |             |         |           |         |           |         |           |
| <b>Ordering information</b>  | <table> <tr> <th>Flow range</th><th>Part number</th></tr> <tr> <td>0-10LPM</td><td>D6F10A600</td></tr> <tr> <td>0-20LPM</td><td>D6F20A600</td></tr> <tr> <td>0-50LPM</td><td>D6F50A600</td></tr> </table>        | Flow range | Part number | 0-10LPM | D6F10A600 | 0-20LPM | D6F20A600 | 0-50LPM | D6F50A600 |
| Flow range                   | Part number                                                                                                                                                                                                      |            |             |         |           |         |           |         |           |
| 0-10LPM                      | D6F10A600                                                                                                                                                                                                        |            |             |         |           |         |           |         |           |
| 0-20LPM                      | D6F20A600                                                                                                                                                                                                        |            |             |         |           |         |           |         |           |
| 0-50LPM                      | D6F50A600                                                                                                                                                                                                        |            |             |         |           |         |           |         |           |

\*Contact Omron regarding other gases.

## Air Velocity Sensor

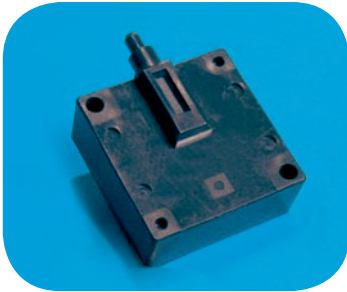


|                       | D6F-W                                                                                                                                                                                               | D6F-V                                                                                                                                                                                                                                 |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dimensions mm (in)    | 9H x 20Dx 39L<br>(0.35 x 0.79 x 1.53)                                                                                                                                                               | 8H x 13D x 24L<br>(0.31 x 0.51 x 0.94)                                                                                                                                                                                                |
| Features              | <ul style="list-style-type: none"><li>• Clogged filter detection</li><li>• Compact size</li><li>• Integral passive Dust Segregation System (DSS)</li><li>• Fast fit for easy installation</li></ul> | <ul style="list-style-type: none"><li>• Value engineered version of D6F-W</li><li>• Smaller package</li><li>• Lower Supply Voltage</li><li>• Built for OEM designs</li><li>• Internal passive Dust Segregation System (DSS)</li></ul> |
| Applicable gases      | Air*                                                                                                                                                                                                | Air*                                                                                                                                                                                                                                  |
| Supply voltage        | 12 - 24VDC                                                                                                                                                                                          | 3.3VDC                                                                                                                                                                                                                                |
| Output voltage        | 5VDC                                                                                                                                                                                                | 0 to 2VDC                                                                                                                                                                                                                             |
| Operating temp. range | -10° to +60°C                                                                                                                                                                                       | -10° to +60°C                                                                                                                                                                                                                         |
| Ordering information  | <div>Flow rangePart number</div> <div>0~1 m/sec flow rangeD6F-W01A</div> <div>0~4 m/sec flow rangeD6F-W04A</div>                                                                                    | <div>Flow rangePart number</div> <div>0~3 m/sec flow rangeD6F-V03A1</div>                                                                                                                                                             |

\*Contact Omron regarding other gases.

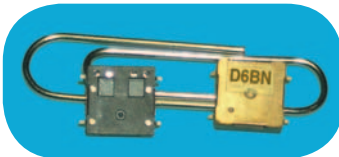
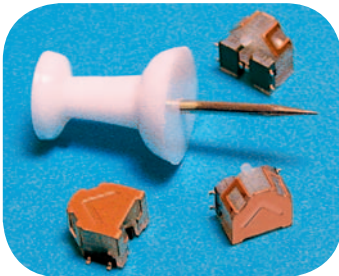
# Micro Sensors - MEMS

## Pressure / Blood Pressure



|                              | D8M-R                                                                                                      | Blood Pressure 2SMCP-10                                                                                                                                                                                                           |
|------------------------------|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Dimensions mm (in)</b>    | 30 H x 25.8 D x 30 W<br>(1.18 x 1.02 x 1.18)                                                               | 6.2 x 4.8 x 8.3<br>(0.27 x 0.21 x 0.37)                                                                                                                                                                                           |
| <b>Features</b>              | <ul style="list-style-type: none"> <li>• Solid state MEMS pressure sensor with frequency output</li> </ul> | <ul style="list-style-type: none"> <li>• For applications using a minimum of 100,000 pieces per year only</li> <li>• For pulse rate detection</li> <li>• Electrostatic capacity style suitable for microcomputer input</li> </ul> |
| <b>Applicable gases</b>      | Air, please inquire about other gases.                                                                     | Air                                                                                                                                                                                                                               |
| <b>Pressure range</b>        | 0 - 0.78" of H <sub>2</sub> O                                                                              | 0-280mm Hg (600mm Hg max.)                                                                                                                                                                                                        |
| <b>Output</b>                | 80 - 300kHz (1kHz/9.81 Pa)                                                                                 | -                                                                                                                                                                                                                                 |
| <b>Supply voltage</b>        | 4.2 - 5.5VDC                                                                                               | 5VDC                                                                                                                                                                                                                              |
| <b>Current consumption</b>   | 10 mA max.                                                                                                 | -                                                                                                                                                                                                                                 |
| <b>Operating temp. range</b> | -20° to +70°C                                                                                              | 0° to +50°C                                                                                                                                                                                                                       |

## Tilt



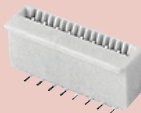
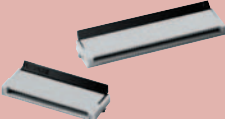
|                                | D6B                                                                                                                                                                                 | D6BN                                                                                                                                                                       |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Dimensions mm (in)</b>      | 5.50 H x 3.75 D x 5.50 W<br>(0.22 x 0.15 x 0.22)                                                                                                                                    | 2 H x 7 D x 7 W<br>(0.08 X 0.28 x 0.28)                                                                                                                                    |
| <b>Features</b>                | <ul style="list-style-type: none"> <li>• Utilizes Hall Effect technology</li> <li>• For space-constrained applications</li> <li>• Surface mount</li> <li>• No EMC bounce</li> </ul> | <ul style="list-style-type: none"> <li>• Utilizes Hall Effect technology</li> <li>• Low profile less than 1mm</li> <li>• Surface mount</li> <li>• No EMC bounce</li> </ul> |
| <b>Operating angle</b>         | 45~75° (output from high to low)                                                                                                                                                    | 40~80° (left & right)                                                                                                                                                      |
| <b>Return angle</b>            | 50~20° (output from low to high)                                                                                                                                                    | 50~10° (left & right)                                                                                                                                                      |
| <b>Operating voltage (Vdd)</b> | 2.7~3.3VDC                                                                                                                                                                          | 2.4 ~ 3.6VDC                                                                                                                                                               |
| <b>Output voltage</b>          |                                                                                                                                                                                     |                                                                                                                                                                            |
| <b>Low</b>                     | 0.5VDC max.                                                                                                                                                                         | 0.4VDC max.                                                                                                                                                                |
| <b>High</b>                    | Vdd - 0.5VDC min.                                                                                                                                                                   | Vdd - 0.4VDC max.                                                                                                                                                          |
| <b>Current consumption</b>     | 20µA max.; 10µA typ (Vcc = 3VDC)                                                                                                                                                    | 1mA max., 1µ standby                                                                                                                                                       |
| <b>Operating temp. range</b>   | -10° to +60°C                                                                                                                                                                       | -10° to +60°C                                                                                                                                                              |
| <b>Ordering information</b>    | D6B-2                                                                                                                                                                               | D6BN-1                                                                                                                                                                     |

## Shock/ Vibration/Tilt



|                              | D7E                                                                                                                                                                                                                               |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Dimensions mm (in)</b>    | 23.1 H x 23.6 D x 36.4 W<br>(0.91 x 0.93 x 1.43)                                                                                                                                                                                  |
| <b>Features</b>              | <ul style="list-style-type: none"> <li>• Compact tilt sensor</li> <li>• Responds to gradual tilting of 1degree/sec</li> <li>• Self-resetting</li> <li>• Quick-connect terminals</li> <li>• PCB version available (D7A)</li> </ul> |
| <b>Operating angle</b>       | 50~80°                                                                                                                                                                                                                            |
| <b>Return angle (reset)</b>  | 25° or more                                                                                                                                                                                                                       |
| <b>Contact capacity</b>      | 0.1mA @ 5VDC to 100mA<br>at 30VDC resistive load                                                                                                                                                                                  |
| <b>Contact form</b>          | SPST-NC                                                                                                                                                                                                                           |
| <b>Operating temp. range</b> | -25° to +60°C                                                                                                                                                                                                                     |
| <b>Service life</b>          | 5000 operations min.                                                                                                                                                                                                              |

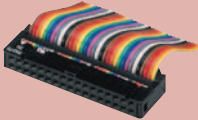
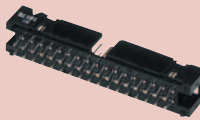
# Connectors - FPC (Flexible Printed Circuit)

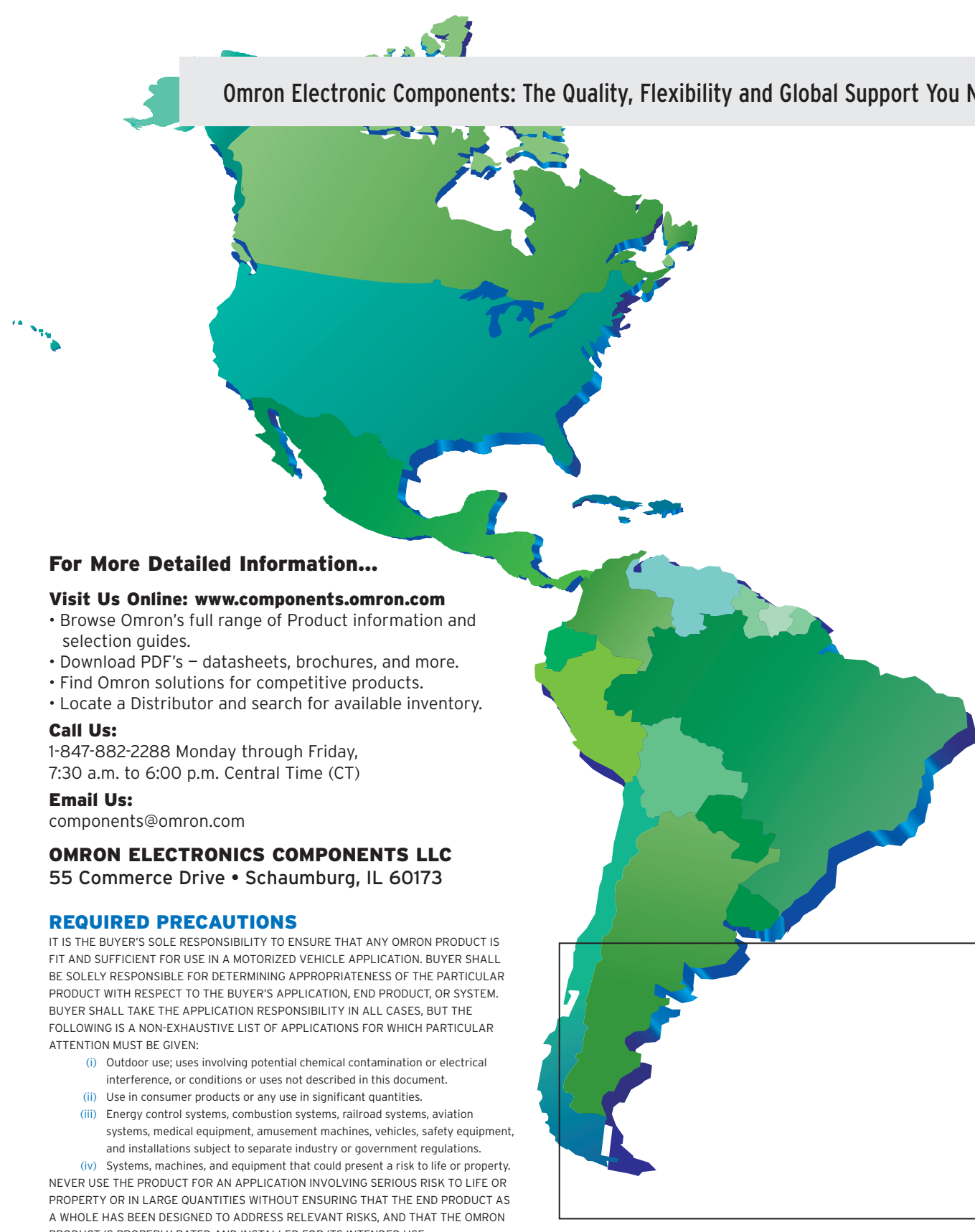
|                                               |                                                                                                                                                                                                                                                          |                                                                                                                                                                                                     |                                                                                                           |                                                                                                            |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
|                                               |                                                                                                                                                                         |                                                                                                                    |                         |                         |
|                                               | <b>XF2G</b>                                                                                                                                                                                                                                              | <b>XF2U</b>                                                                                                                                                                                         | <b>XF2J</b>                                                                                               | <b>XF2L</b>                                                                                                |
| <b>Pitch mm</b>                               | 0.3mm                                                                                                                                                                                                                                                    | 0.5mm                                                                                                                                                                                               | 0.5mm                                                                                                     | 0.5mm                                                                                                      |
| <b>Insertion type</b>                         | non-ZIF                                                                                                                                                                                                                                                  | ZIF                                                                                                                                                                                                 | ZIF                                                                                                       | ZIF                                                                                                        |
| <b>Cable lock type</b>                        | Rear rotary lock                                                                                                                                                                                                                                         | Rear rotary lock                                                                                                                                                                                    | Slide Lock                                                                                                | Slide Lock                                                                                                 |
| <b>PCB mounting</b>                           | SMT                                                                                                                                                                                                                                                      | SMT                                                                                                                                                                                                 | SMT                                                                                                       | SMT                                                                                                        |
| <b>Cable insertion</b>                        | Horizontal                                                                                                                                                                                                                                               | Horizontal                                                                                                                                                                                          | Vertical                                                                                                  | Horizontal                                                                                                 |
| <b>Contact type(s)</b>                        | Top                                                                                                                                                                                                                                                      | Double sided                                                                                                                                                                                        | Vertical                                                                                                  | Top & Bottom                                                                                               |
| <b>Dimensions mm (in)</b>                     | 9.1W x 3.8D x 0.9H<br>(0.4 x 0.15 x 0.04)<br>for 29 circuits                                                                                                                                                                                             | 12.6W x 3.5D x 0.9H<br>(0.5 x 0.14 x 0.04)<br>for 24 circuits                                                                                                                                       | 19.5 W x 3.4 D x 4.15 H<br>(0.77 x 0.13 x 0.16)<br>for 30 circuits                                        | 18.9 W x 3.5 D x 1.2 H<br>(0.74 x 0.14 x 0.05)<br>for 30 circuits                                          |
| <b>Available circuits</b>                     | 17, 21, 25, 29, 35, 39, & 51                                                                                                                                                                                                                             | 4, 11, 14, 20, 24, 27, 30, 32,<br>& 40                                                                                                                                                              | 6, 8, 10, 12, 14, 16, 18, 20, 22,<br>& 24, 26, 28, 30                                                     | 4, 5, 6, 7, 8, 10, 12, 13, 15, 18,<br>19, 20, 21, 22, 24, 26, 30                                           |
| <b>Packaging</b>                              | Tape & reel                                                                                                                                                                                                                                              | Tape & reel                                                                                                                                                                                         | Tape & reel                                                                                               | Tape & reel                                                                                                |
| <b>Features</b>                               | <ul style="list-style-type: none"> <li>• Low 4.15mm on-board profile</li> <li>• Applicable FPC thickness of t=0.3mm</li> <li>• Top-entry</li> <li>• Upper contacts</li> <li>• Wide molding wall on bottom allows greater board design freedom</li> </ul> | <ul style="list-style-type: none"> <li>• Low on-board profile of 0.9mm</li> <li>• Ultra-slim with 3.5mm depth</li> <li>• Wide molding wall on bottom allows greater board design freedom</li> </ul> | <ul style="list-style-type: none"> <li>• Low profile, top entry</li> <li>• 0.3mm FPC thickness</li> </ul> | <ul style="list-style-type: none"> <li>• Low profile, small size</li> <li>• 0.3mm FPC thickness</li> </ul> |
| <b>Specifications</b>                         |                                                                                                                                                                                                                                                          |                                                                                                                                                                                                     |                                                                                                           |                                                                                                            |
| <b>Rated current</b>                          | 0.2A                                                                                                                                                                                                                                                     | 0.5A                                                                                                                                                                                                | 0.5A                                                                                                      | 0.5A                                                                                                       |
| <b>Rated voltage</b>                          | 50VDC                                                                                                                                                                                                                                                    | 50VDC                                                                                                                                                                                               | 50VDC                                                                                                     | 50VDC                                                                                                      |
| <b>Contact resistance<br/>(@ 20mV, 100mA)</b> | 80mΩ max.                                                                                                                                                                                                                                                | 60mΩ max.                                                                                                                                                                                           | 30mΩ max.                                                                                                 | 30mΩ max.                                                                                                  |
| <b>Insulation resistance<br/>(min.)</b>       | 100MΩ @ 250VAC                                                                                                                                                                                                                                           | 100MΩ @ 250VAC                                                                                                                                                                                      | 100MΩ @ 250VDC                                                                                            | 100MΩ @ 250VDC                                                                                             |
| <b>Withstand voltage</b>                      | 250VAC 1 min.<br>(leakage current: 1mA max.)                                                                                                                                                                                                             | 250VAC 1 min.<br>(leakage current: 1mA max.)                                                                                                                                                        | 250VAC 1 min.<br>(leakage current: 1mA max.)                                                              | 250VAC 1 min.<br>(leakage current: 1mA max.)                                                               |
| <b>Circuit insertion or<br/>service life</b>  | 10 times                                                                                                                                                                                                                                                 | 20 times                                                                                                                                                                                            | 20 times                                                                                                  | 20 times                                                                                                   |
| <b>Ambient operating<br/>temperature</b>      | -30°C to + 85°C                                                                                                                                                                                                                                          | -30°C to + 85°C                                                                                                                                                                                     | -30°C to + 85°C                                                                                           | -30°C to + 85°C                                                                                            |

## Connectors - FPC

39

# Connectors FFC (Flat Flexible Cable)

|                                                      | <b>NEW!</b><br>                                                                                                    | <b>NEW!</b><br>                                                                                                    | <b>NEW!</b><br>                                                                                                                                                                      | <b>NEW!</b><br>                                                                                                                             | <b>NEW!</b><br>                                                                                                                                                                       |
|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                      | <b>XG4U</b>                                                                                                                                                                                         | <b>XG4M</b>                                                                                                                                                                                         | <b>XG4A</b>                                                                                                                                                                                                                                                            | <b>XG4E</b>                                                                                                                                                                                                                    | <b>XG4C</b>                                                                                                                                                                                                                                                              |
| <b>Description</b>                                   | Strain relief                                                                                                                                                                                       | MIL-type socket                                                                                                                                                                                     | MIL-type socket                                                                                                                                                                                                                                                        | IDC plug                                                                                                                                                                                                                       | Box type plug                                                                                                                                                                                                                                                            |
| <b>Pitch mm</b>                                      | 2.54                                                                                                                                                                                                | 2.54                                                                                                                                                                                                | 2.54                                                                                                                                                                                                                                                                   | 2.54                                                                                                                                                                                                                           | 2.54                                                                                                                                                                                                                                                                     |
| <b>Socket / Plug</b>                                 | Socket                                                                                                                                                                                              | Socket                                                                                                                                                                                              | Plug                                                                                                                                                                                                                                                                   | Plug                                                                                                                                                                                                                           | Plug                                                                                                                                                                                                                                                                     |
| <b>Plating on contacts</b>                           | Au plating                                                                                                                                                                                          | Au plating                                                                                                                                                                                          | Au plating                                                                                                                                                                                                                                                             | Au plating                                                                                                                                                                                                                     | Au plating                                                                                                                                                                                                                                                               |
| <b>PCB mounting</b>                                  | Thru-hole                                                                                                                                                                                           | Thru-hole                                                                                                                                                                                           | Thru-hole                                                                                                                                                                                                                                                              | Thru-hole                                                                                                                                                                                                                      | Thru-hole                                                                                                                                                                                                                                                                |
| <b>Cable insertion</b>                               | Vertical or horizontal                                                                                                                                                                              | Vertical or horizontal                                                                                                                                                                              | Vertical or horizontal                                                                                                                                                                                                                                                 | Vertical or horizontal                                                                                                                                                                                                         | Vertical or horizontal                                                                                                                                                                                                                                                   |
| <b>Contact type(s)</b>                               | IDC flat ribbon cable                                                                                                                                                                               | IDC flat ribbon cable                                                                                                                                                                               | IDC flat ribbon cable                                                                                                                                                                                                                                                  | IDC flat ribbon cable                                                                                                                                                                                                          | IDC flat ribbon cable                                                                                                                                                                                                                                                    |
| <b>Dimensions mm (in)</b>                            | Please consult product specifications for more information                                                                                                                                          | Please consult product specifications for more information                                                                                                                                          | Please consult product specifications for more information                                                                                                                                                                                                             | Please consult product specifications for more information                                                                                                                                                                     | Please consult product specifications for more information                                                                                                                                                                                                               |
| <b>Available circuits</b>                            | 10, 14, 16, 20, 26, 30, 34, 40, 50, 60, 64                                                                                                                                                          | 10, 14, 16, 20, 26, 30, 34, 40, 50, 60, 64                                                                                                                                                          | 10, 14, 16, 20, 26, 30, 34, 40, 50, 60, 64                                                                                                                                                                                                                             | 10, 14, 16, 20, 26, 30, 34, 40, 50, 60, 64                                                                                                                                                                                     | 10, 14, 16, 20, 26, 30, 34, 40, 50, 60, 64                                                                                                                                                                                                                               |
| <b>Packaging</b>                                     | Bag                                                                                                                                                                                                 | Bag                                                                                                                                                                                                 | Bag                                                                                                                                                                                                                                                                    | Bag                                                                                                                                                                                                                            | Bag                                                                                                                                                                                                                                                                      |
| <b>Features</b>                                      | <ul style="list-style-type: none"> <li>• Can connect &amp; disconnect with one hand</li> <li>• Save board space</li> <li>• Reduced mounting height</li> <li>• High-reliability, low cost</li> </ul> | <ul style="list-style-type: none"> <li>• Can connect &amp; disconnect with one hand</li> <li>• Save board space</li> <li>• Reduced mounting height</li> <li>• High-reliability, low cost</li> </ul> | <ul style="list-style-type: none"> <li>• Can connect &amp; disconnect with one hand</li> <li>• Save board space</li> <li>• Reduced mounting height</li> <li>• High-reliability, low cost</li> <li>• Available in short lock, long lock and dual port models</li> </ul> | <ul style="list-style-type: none"> <li>• Solderless plug</li> <li>• Can connect &amp; disconnect with one hand</li> <li>• Save board space</li> <li>• Reduced mounting height</li> <li>• High-reliability, low cost</li> </ul> | <ul style="list-style-type: none"> <li>• Available in straight DIP &amp; right-angle DIP terminals</li> <li>• Can connect &amp; disconnect with one hand</li> <li>• Save board space</li> <li>• Reduced mounting height</li> <li>• High-reliability, low cost</li> </ul> |
| <b>Specifications</b>                                |                                                                                                                                                                                                     |                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                          |
| <b>Rated current</b>                                 | 1A                                                                                                                                                                                                  | 1A                                                                                                                                                                                                  | 1A                                                                                                                                                                                                                                                                     | 1A                                                                                                                                                                                                                             | 1A                                                                                                                                                                                                                                                                       |
| <b>Rated voltage</b>                                 | 250VAC                                                                                                                                                                                              | 250VAC                                                                                                                                                                                              | 250VAC                                                                                                                                                                                                                                                                 | 250VAC                                                                                                                                                                                                                         | 250VAC                                                                                                                                                                                                                                                                   |
| <b>Contact resistance</b>                            | 20mΩ max.                                                                                                                                                                                           | 20mΩ max.                                                                                                                                                                                           | 20mΩ max.                                                                                                                                                                                                                                                              | 20mΩ max.                                                                                                                                                                                                                      | 20mΩ max.                                                                                                                                                                                                                                                                |
| <b>Insulation resistance</b>                         | 100MΩ @ 500VDC                                                                                                                                                                                      | 100MΩ @ 500VDC                                                                                                                                                                                      | 100MΩ @ 500VDC                                                                                                                                                                                                                                                         | 100MΩ @ 500VDC                                                                                                                                                                                                                 | 100MΩ @ 500VDC                                                                                                                                                                                                                                                           |
| <b>Withstand voltage (leakage current: 1mA max.)</b> | 500VAC for 1 minute                                                                                                                                                                                 | 500VAC for 1 minute                                                                                                                                                                                 | 500VAC for 1 minute                                                                                                                                                                                                                                                    | 500VAC for 1 minute                                                                                                                                                                                                            | 500VAC for 1 minute                                                                                                                                                                                                                                                      |
| <b>Circuit insertion or service life</b>             | 50 times                                                                                                                                                                                            | 50 times                                                                                                                                                                                            | 50 times                                                                                                                                                                                                                                                               | 50 times                                                                                                                                                                                                                       | 50 times                                                                                                                                                                                                                                                                 |
| <b>Ambient operating temperature</b>                 | -55°C to +105°C                                                                                                                                                                                     | -55°C to +105°C                                                                                                                                                                                     | -55°C to +105°C                                                                                                                                                                                                                                                        | -55°C to +105°C                                                                                                                                                                                                                | -55°C to +105°C                                                                                                                                                                                                                                                          |
|                                                      |                                                                                                                                                                                                     |                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                          |



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### Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: [info@moschip.ru](mailto:info@moschip.ru)

Skype отдела продаж:

moschip.ru

moschip.ru\_4

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