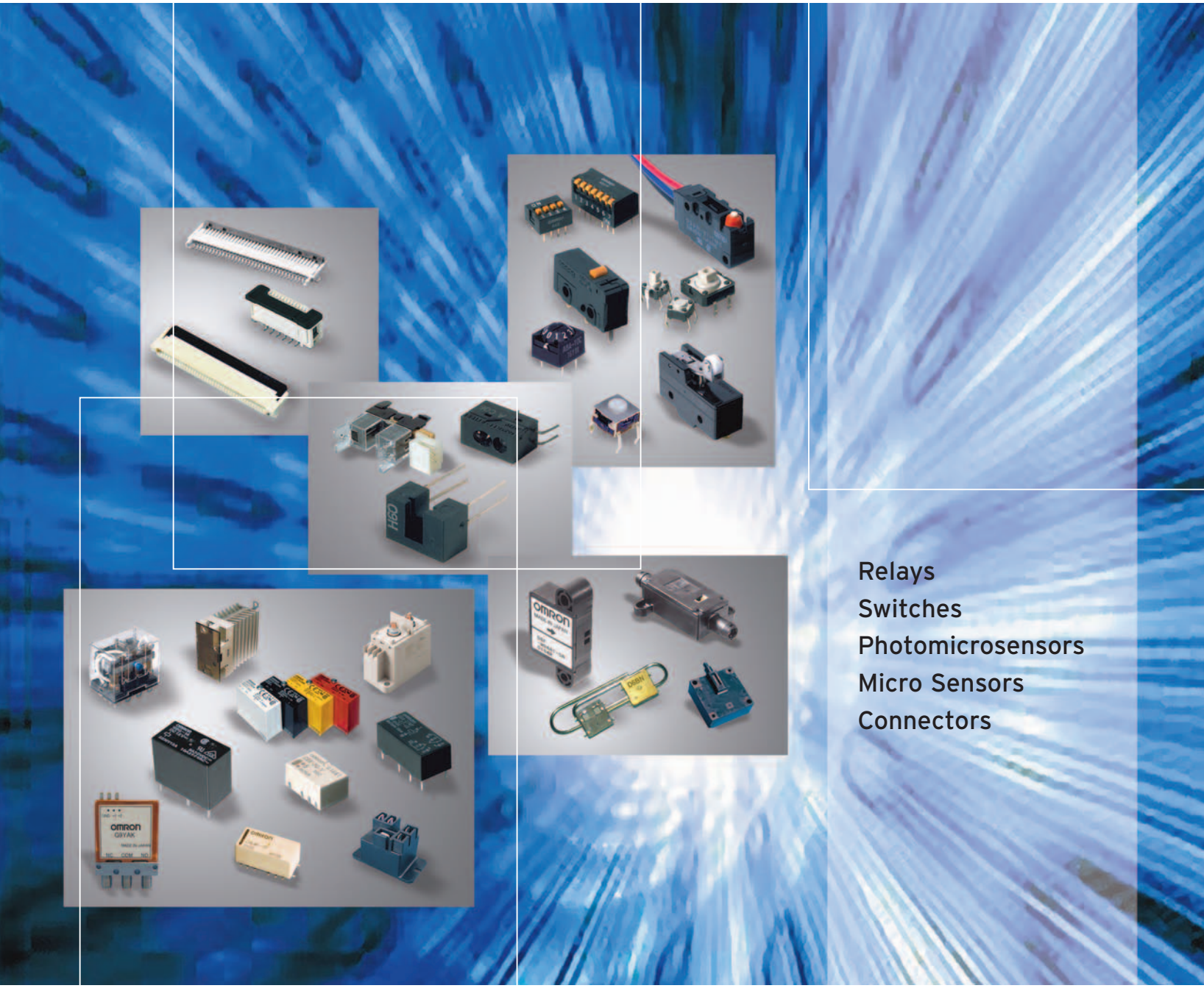
Electronic Components

Master Selection Guide



Relays
Switches
Photomicrosensors
Micro Sensors
Connectors

OMRON
ELECTRONIC COMPONENTS

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.omrom.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
Or visit: 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
Email: components@omron.com
Phone: 847-882-2288 Monday through Friday 7:30 AM till 6:00 PM CST.

OMRON®
ELECTRONIC COMPONENTS

TABLE OF CONTENTS

General Omron Information

History and Profile 2
Core Competencies, Technologies, & Markets served . 3

Relays

MOS FET . . . . . 4 & 5
Low Signal . . . . . 6 & 7
HF/RF 8
Power PCB . . . . . 9~13
DC Power 14
General Purpose . . . . . 15~17
Solid State . . . . . 18~20
Sockets 21

Switches

Designed to "Drop-In" your Application 22
Snap Action* . . . . . 23~28
Tactile . . . . . 29~31
DIP . . . . . 32 & 33

Photomicrosensors

Photo IC-Slotted 34
Phototransister - Reflective 34
Phototransister - Slotted 35

Micro Sensors

Flow 36
Tilt 37
Pressure 37
Shock/Vibration/Tilt 37

Connectors

FPC Connectors . . . . . 38 & 39
FFC Connectors 40

* 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

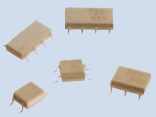
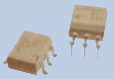
Healthcare Business

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.

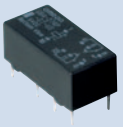
Commitment to the Environment:
Omron is committed to creating products that are designed with consideration for the environment throughout their entire lifespan (what we call "Eco-Products"). These considerations address energy and resource conservation, extended product life, reuse and recycling, as 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

					
General Attributes	**G3VM-200**	**G3VM-350**	**G3VM-400**	**G3VM High Voltage & Dielectric**	**G3VM Current Limiting**
Dimensions mm (in)	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
Features	• 1 & 2 channel configurations • Ideal for Instrumentation, Broadband Systems, Measurement Devices, Data Loggers, Consumer Electronics, Medical Equipment	• Broad product offering • Form A & Form B configurations • Ideal for Instrumentation, Broadband Systems, Measurement Devices, Data loggers, Consumer Electronics, Security Systems, Electronic Automatic Exchange Systems, Industrial Automation Equipment, Medical Equipment	• Broad product offering • 10kV surge withstand models available • Ideal for Instrumentation, Broadband Systems, Measurement Devices, Data Loggers, Consumer Electronics, Security Systems, Electronic Automatic Exchange Systems, Industrial Automation Equipment, Medical Equipment	• Capable of switching loads up to 600V (AC and DC) • 10kV surge withstand • Ideal for Instrumentation, Electronic Automatic Exchange Systems, Industrial Automation Systems, Measurement Devices, Security Systems, Medical Equipment	• Current limiting of 150 to 300mA • Ideal for Electronic Automatic Exchange Systems, Multi-function Telephones, Cordless Telephones, Measurement Devices, Instrumentation
Load voltage	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)
Maximum Ratings and Electrical Characteristics **Continuous load current**	0-50mA & 0-200mA	0-90mA, 0-100mA, 0-110mA, 0-120mA, 0-150mA	0-120mA	0-100mA	0-120mA
ON resistance (typical)	5Ω & 30Ω	15Ω, 27Ω, 30Ω, 25Ω, 40Ω	17Ω & 18Ω	25Ω	22Ω
Output capacitance	–	–	–	–	–
Available switching configurations	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
Leakage current	10nA (max.) & 1.0μA (max.)	1.0μA (max.)	1.0μA (max.)	1.0μA (max.)	1.0μA (max.)
turn-ON time (typical)	40ms & 600ms	0.1ms, 0.25ms, 0.3ms, 0.5ms, 1.0ms	0.3ms & 0.5ms	0.2ms	0.3ms & 0.5ms
turn-OFF time (typical)	100ms	0.1ms, 0.15ms, 0.5ms, 1.0ms, 3.0ms	0.1ms & 0.5ms	0.2ms	0.3ms & 0.5ms
Dielectric strength (AC for 1 minute between input and output)	1,500Vrms (min.)	1,500Vrms (min.) 2,500Vrms (min.)	1,500Vrms (min.) 2,500Vrms (min.) 5,000Vrms (min.)	5,000Vrms (min.)	1,500Vrms (min.) 2,500Vrms (min.)
Available packaging & terminal choices	SOP 4 PIN, 6 PIN, 8 PIN	PCB, SMT, SOP 4 PIN, 6 PIN, 8 PIN	PCB, SMT, SOP 4 PIN, 6 PIN, 8 PIN	PCB & SMT 6 PIN	PCB, SMT & SOP 4 PIN, 6 PIN, 8 PIN
Accessories	Tape & reel	Tape & reel	Tape & reel	Tape & reel	Tape & reel
Approved standards	UL 1577	UL 1577	UL 1577	UL 1577	UL 1577

General Attributes	**G3VM GR**	**G3VM LR**	**G3VM-60**	**G3VM-80**	**G3VM-22**
Dimensions mm (in)	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
Features	• C x R characteristics as low as 5pF*Ω • Low leakage current • Very high operating speed • Ideal for IC and Memory Test Equipment, SoC Testers, Measurement Devices, Instrumentation, Medical Equipment, Broadband Systems, Data Loggers, Security Systems	• Smallest MOS FET relay on the market • C x R characteristics as low as 5pF*Ω • Low leakage current • Very high operating speed • Ideal for IC and Memory Test Equipment, SoC Testers, Measurement Devices, Instrumentation, Medical Equipment, Broadband Systems, Data Loggers, Security Systems	• High current switching capability • Low ON-resistance • Low leakage current • Cost effective solutions • Ideal for Measurement Devices, Instrumentation, Security Systems, Medical Equipment, Alarm Controls, Consumer Electronics	• High current switching capability • Low leakage current • Ideal for Broadband Systems, Measurement Devices, Instrumentation, Medical Equipment, Data Loggers, Consumer Electronics	• Single input channel with dual output channels • Low ON-resistance • Ideal for Inline Interface Applications, Data Loggers, ADSL Modems and Routers, Edge Routers, Data Storage Devices
Load voltage	0-20V (AC or DC) 0-40V (AC or DC)	0-20V (AC or DC) 0-40V (AC or DC)	0-60V (AC or DC)	0-80V (AC or DC)	0-20V (AC or DC)
Maximum Ratings and Electrical Characteristics **Continuous load current**	0-120mA 0-160mA 0-300mA	0-120mA 0-160mA 0-300mA 0-450mA	0-400mA 0-500mA 0-1,000mA 0-2,000mA 0-2,500mA	0-350mA 0-1,250mA	0-150mA
ON resistance (typical)	1Ω, 5Ω, 10Ω	0.8Ω, 1Ω, 5Ω, 10Ω	0.12Ω (max.) 7Ω (max.) 1Ω (typ.)	0.11Ω & 1.0Ω	2Ω
Output capacitance	1.0pF (typ.) 5.0pF (typ.) 10pF (typ.)	0.8pF (typ.) 1.0pF (typ.) 5.0pF (typ.) 10pF (typ.)	–	–	–
Available switching configurations	1 Form A	1 Form A	1 Form A	1 Form A	Dual 1 Form A
Leakage current	1.0nA (max.)	1.0nA (max.)	1.0nA (max.) & 1.0μA (max.)	0.2nA (typ.) & 1.2nA (typ.)	1.0μA (max.)
turn-ON time (typical)	0.3ms	0.3ms	0.8ms 1.0ms 1.4ms	0.3ms 2.0ms	0.5ms
turn-OFF time (typical)	0.3ms	0.3ms	0.1ms 0.2ms 0.6ms	0.3ms 0.7ms	0.5ms
Dielectric strength (AC for 1 minute between input and output)	1,500Vrms (min.)	1,500Vrms (min.)	1,500Vrms (min.) 2,500Vrms (min.)	1,500Vrms (min.)	2,500Vrms (min.)
Available packaging & terminal choices	SOP 4 PIN	SOP 4 PIN	SOP, PCB, SMT 4 PIN, 6 PIN	SOP 4 PIN, 6 PIN	PCB & SMT 8 PIN
Accessories	Tape & reel	Tape & reel	Tape & reel	Tape & reel	Tape & reel
Approved standards	UL 1577	UL 1577	UL 1577	UL 1577	UL 1577

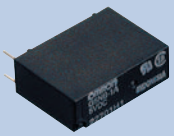
Relays - Low Signal

					
General Attributes	**G6J-Y**	**G6K**	**G6H**	**G6S**	**G6A**
Dimensions mm (in)	10.0 H x 10.6 L x 5.7 W (0.39 x 0.42 x 0.22)	5.30 H x 10.20 L x 6.70 W (0.21 x 0.40 x 0.26)	5.08 H x 13.97 L x 8.89 W (0.20 x 0.55 x 0.35)	9.40 H x 15 L x 7.50 W (0.37 x 0.59 x 0.30)	8.40 H x 20.20 L x 10.10 W (0.33 x 0.80 x 0.40)
Switching	1A max.	1A max.	1A max.	2A max.	2A max.
Features	• Slimline, 2 Form C, 1 Amp relay • SMT & PCB versions • 2.5kV surge withstand • Available in SMT & PCB • Latching & non-latching versions • Ideal for Telecom, Test & Measurement, Medical, Security, Computer Peripheral, Office Automation	• Small real estate, 2 Form C, 1 Amp relay • 100mW power consumption • 2.5kV surge withstand • SMT & PCB versions • Latching & non-latching models • Ideal for Telecom, Test & Measurement, Medical, Security, Office Automation, Computer Peripheral	• Low profile (5mm), 2 Form C, 1 Amp relay) • Available in SMT & PCB • 1.5kV surge withstand • 140mW power consumption • Ideal for Telecom, Test & Measurement, Medical, Security, Office Automation, Computer Peripheral	• Industry standard, 2 Form C, 2 Amp relay • 2.5 kV surge withstand • SMT gullwing, SMT inside-L, PCB models • Latching & non-latching versions • European version available (supplementary insulation at 250V at pollution degree 2 per EN60950/EN41003) • Ideal for Telecom, Thermostats, Medical, Test & Measurement, Security	• Industry standard, 2 Form C, 2 Amp relay • 200mW, 400mW versions • 2 Pole & 4 Pole models • Latching & non-latching versions • 1.5kV surge withstand • Ideal for Telecom, Test & Measurement, Security
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; AgPd with Au clad	Ag with Au clad; AgPd with Au clad
Rated load (under resistive load)	0.3A @ 125VAC, 1A @ 30VDC	0.3A @ 125VAC, 1A @ 30VDC	0.5A @ 125VAC, 1A @ 30VDC	0.5 @ 125VAC, 2A @ 30VDC	0.3A to 0.5A @ 125VAC, 1A to 2A @ 30VDC
Max. operating voltage	125VAC, 110VDC	125VAC, 60VDC	125VAC, 110VDC	250VAC, 220VDC	250VAC, 220VDC
Max. switching capacity under resistive load	37.5VA, 30W (NO)	37.5VA, 30W	62.5VA, 33W	62.5VA, 60W	125VA, 60W
Min. electrical service life (operations at rated load)	100,000	100,000	100,000	100,000	500,000
Min. permissible load (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 (230mW for DC24)	100mW (standard and latching)	140mW (standard)	140mW (standard) 140mW, 200mW (latching)	200mW (DPDT standard) 180mW (DPDT latching) 360mW (4PDT standard)
Characteristics **Dielectric strength between coil & contacts (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, SMT Inside-L, PCB	PCB (G6H), SMT Gullwing (G6H-2F)	SMT Gullwing, SMT Inside-L, PCB	PCB
Packaging	Tape & reel available	Tape & reel available	Tape & reel available	Tape & reel available	–
Approved standards	Bellcore 2.5kV / Telcordia GR-1089-CORE 2.5kV between coil and contacts	Bellcore 2.5kV / Telcordia GR-1089-CORE 2.5kV between coil and contacts	UL, CSA, (FCC Part 68)	Bellcore 2.5 kV / Telcordia GR-1089-CORE 2.5 kV (between coil and contacts)	UL, CSA, (FCC Part 68)

General Attributes	G5A	G5V-1	G6L	G5V-2	G6E
Dimensions mm (in)	8.38 H x 16 L x 9.9 W (0.33 x 0.63 x 0.39)	10.0 H x 12.50 L x 7.50 W (0.39 x 0.49 x 0.30)	4.5 H x 10.6 L x 7.0 W (0.18 x 0.42 x 0.28	11.43 H x 20.32 L x 9.91 W (0.45 x 0.80 x 0.39)	8.38 H x 16 L x 9.9 W (0.33 x 0.63 x 0.39)
Switching	1A max.	1A max.	1A max.	2A max.	3A max.
Features	• General use, 2 Form C, 1 Amp relay • Semi-sealed or fully-sealed construction • Ideal for Telecom, Security, Computer Peripheral, Office Automation	• General use, 1 Form C, 1 Amp relay • 150mW power consumption • 1.5kV surge withstand • Ideal for Telecom, Security, Computer Peripheral	• Very low profile, 1 Form A, 1 Amp relay • 1.5kV surge withstand • SMT & PCB versions • Ideal for Security & General Use	• 2 Form C, 1-2 Amp relay • Ideal for general use • Industry standard footprint • 150mW, 360mW & 500mW coil power versions • 1.5 kV surge withstand	• General use, 1 Form C, 3 Amp relay • 2.5 kV surge withstand • 200mW, 400mW models • Latching and non-latching versions
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) 360mW (high-sensitivity) 150mW (ultra-sensitive)	200mW (standard) 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) 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
					NEW!
Dimensions mm (in)	8.9 H x 20 L x 9.4 W (0.35 x 0.79 x 0.37)	9.20 H x 20.70 L x 11.70 W (0.36 x 0.81 x 0.46)	8.9 H x 20 L x 8.6 W (0.35 x 0.79 x 0.34)	5.4 H x 10.3 L x 6.9 W (0.21 x 0.41 x 0.27)	39.0 H x 34.0 L x 13.2 W (1.54 x 1.34 x 0.52)
Switching	0.5A max.	1A max.	0.5A max.	1A max.	100mA max.
Features	• 5GHz+ HF relay • 1 Form C • Tri-plate micro strip line technology • Latching & non-latching models • SMT and PCB versions • Ideal for Base Station LNA & TMA switching, Test & Measurement, Broadcast, FWA	• 900MHz+ HF relay • 1 Form C • Micro strip line technology • Ideal for CATV, Digital TV tuners, Test & Measurement	• 2.6GHz+ HF relay • 1 Form C • Micro strip line technology • 75 Ω & 50 Ω impedance models • Latching & non-latching models • Reverse terminal configurations • Y & E terminal configurations • SMT and PCB versions • Ideal for Base Station LNA & TMA switching, CATV, Digital TV tuners, Test & Measurement, Broadcast, FWA	• 1GHz+ HF relay • 2 Form C • 100mW coil power • Smallest 2 Form C on the market • Ideal for Test & Measurement, CATV, Digital TV tuners	• 26.5GHz bandwidth • Coaxial HF relay • 60dB isolation (26.5GHz) • Contact carry power of 120W at 3GHz • Available in failsafe & TTL-driven models • Also available in non-latching and dual latching configuraitons • Ideal for Mobile Communications Infrastructure Equipment, Broadcast Equipment, Test and Measurement Equipment, Wireless LAN
HF Characteristics **Isolation**	65dB (2GHz) 60dB (2.5GHz) 40dB (5.0GHz)	65dB (900MHz)	60 - 65dB (900MHz) 30 - 45dB (2.6GHz)	20 - 30dB (1GHz)	60dB (26.5GHz) 65dB (12.4GHz)
Insertion loss	0.2dB (2GHz) 0.2dB (2.5GHz) 0.4dB (5.0GHz)	0.5dB (900MHz)	0.1 - 0.2dB (900MHz) 0.3 - 0.5dB (2.6GHz)	0.2dB (1GHz)	0.8dB (26.5GHz) 0.4dB (12.4GHz) 0.3dB (8GHz)
VSWR	1.2 (2GHz) 1.2 (2.5GHz) 1.5 (5.0GHz)	1.5 (900MHz)	1.1 - 1.2 (900MHz) 1.3 - 1.5 (2.6GHz)	0.2dB (1GHz)	1.7 (26.5GHz) 1.35 (12.4GHz) 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 10mA @ 30VDC 2.5GHz, 10W	10mA @ 30VAC; 10mA @ 30VAC; 900 MHz, 1W	10mA @ 30VAC; 10mA @ 30VDC; 900MHz, 10W	0.3A @ 125VAC; 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) 200mW (single latching) 360mW (dual latching)	200mW	200mW (standard) 200mW (single latching) 360mW (dual latching)	100mW	500mW (dual latching) 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

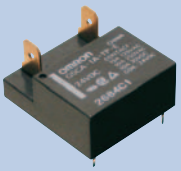
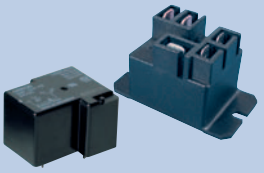
	NEW!	NEW! 	NEW!	
General Attributes	**G5NB**	**G5NB-E**	**G5SB**	**G6D-ASI**
Dimensions mm (in)	15.3 H x 20.5 L x 7.2 W (0.60 x 0.81 x 0.28)	15.3 H x 20.5 L x 7.2 W (0.60 x 0.81 x 0.28) max.	15.8 H x 20.3 L x 10.3 W (0.62 x 0.80 x 0.41)	12.5 H x 17.5 L x 6.5 W (0.49 x 0.69 x 0.26)
Switching	3A/5A	3A/5A	5A(NO)/3A(NC)	5A
Features	• High capacity 5A version available • Meets EN tracking resistance CTI>250 • HA version for home appliances	• Small compact form for 10 kV impulse and 5A switching capability • Meets EN tracking resistance CTI>250	• High insulation between coil & contact • Impulse withstand of 8kV • Fully Sealed • Incorporates 5A NO contact	• Subminiature, slim lightweight design • Low power consumption • Fully Sealed
Contact Information				
Contact form	1 Form A	1 Form A	1 Form A	1 Form A
Contact type(s)	Single button	Single button	Single button	Single button
Contact material(s)	AgNi	AgSnIn	AgNi/AgSnIn	AgNi/AgSnIn
Electrical service life (@ 1800 ops./hr.)	(resistive load) 200,000 (resistive): 3A @ 125VAC/30VDC	200,000 (resistive): 3A @ 30VDC 100,000: 5A @ 250VAC	For resistive loads: 200,000: 3 A (NO)/3 A (NC) at 125 VAC; 50,000: 5 A (NO)/3 A (NC) at 125 VAC; 50,000: 5 A (NO) at 250 VAC; 10,000: 3 A (NC) at 250 VAC; 10,000: 5 A (NO)/3 A (NC) at 30 VDC	300,000: 2A @ 30VDC/250VAC 70,000: 5A @ 30VDC/250VAC
Max. switching capacity (and resistive load)	375VA, 90W	1,250VA, 90W	1,250VA, 150W(NO) 750VA, 30W(NC)	1,250VA, 150W
Minimum permissible load (for reference only)	10mA @ 5VDC	10mA @ 5VDC	10mA @ 5VDC	10mA @ 5VDC
Coil Information				
Coil voltage	5, 12, 18, 24VDC	5, 12, 18, 24VDC	5, 9, 12, 24VDC	5, 12, 24, 48, 110/120VDC
Power consumption	200mW	200mW	400mW	200mW
Insulation class	Class A	Class B	Class B	Class B
Characteristics				
Operating temperature	-40 to +70°C	-40 to +85°C	-40 to +70°C	-25 to +70°C
Impulse withstand voltage (1.2 x 50µ sec. unless noted)	10kV	10kV	8kV	6kV
Dielectric strength (50/60 Hz for 1 minute)	4,000VAC (coil-contact) 750VAC (open contacts)	4,000VAC (coil-contact) 750VAC (open contacts)	4,000VAC (coil-contact) 1,000VAC (open contacts)	3,000VAC (coil-contact) 750VAC (open contacts)
Terminal choices	PCB	PCB	PCB	PCB
Protection level	Semi-sealed	Semi-sealed	Semi-sealed	Semi-sealed
Accessories	N/A	N/A	N/A	Socket for back connecting, sockets with PCB terminals
Approved standards	UL, CSA, VDE	UL, CSA, VDE	UL, CSA, VDE	UL, CSA, TUV, SEV

Relays - Power PCB

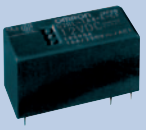
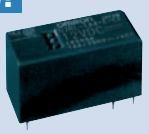
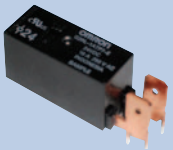
General Attributes	NEW! G6DS	NEW! G6M	G2RG	G6B
Dimensions mm (in)	12.4 H x 20 L x 5.0 W (0.60 x 0.81 x 0.28)	17.7 H x 20.3 L x 5.08 W (0.70 x 0.80 x 0.20)	25.5 H x 29 L x 13 W (1.00 x 1.14 x 0.51)	9.91 H x 20.07 L x 9.91 W (0.39 x 0.79 x 0.39)
Switching	5A	5A	8A	8A/5A
Features	• Slim 5mm for max. density mounting • High sensitive coil option reduces power consumption • Meets EN reinforced insulation requirement for control equipment • Fully sealed • Resistant to mechanical shock	• Slim 5mm width, & reduced PCB area (103mm^2) ideal for high-density mounting • Highly efficient magnetic circuit for high sensitivity • UL Class I, Division II approved for hazardous locations	• 1.5mm contact gap x 2 poles=3mm total gap meeting UPS standards • Dimensions & mounting holes are same as G2R relay series • Sealed construction, standard • Meets EN tracking resistance CTI > 250 • UL508/CSA 22.2	• Subminiature and low power • Sealed construction standard • Single & dual coil latching available
Contact Information **Contact form**	1 Form A	1 Form A	2 Form A	1 Form A, 2 Form A, 2 Form B 1 Form A + 1 Form B
Contact type(s)	Single button	Single button	Single button	Single button
Contact material(s)	AgNi	Ag-Alloy	$AgSnO_2$	$AgSnO_2$
Electrical service life (@ 1800 ops./hr.) (resistive load)	100,000: 5A @ 30VDC/250VAC 80,000 (high sensitivity): 5A @ 30VDC/250VAC	100,000: 3A @ 30VDC/250VAC 6,000: 5A @ 250VAC/24VDC	10,000: 8A @ 250VAC	100,000: 5A @ 30 VDC/250VAC 8A @ 30 VDC/250VAC (high-capacity)
Max. switching capacity (resistive load)	1,250VA, 150W	750VA, 90W	2,000 VA	1,250VA, 150W 2,000VA, 240W (high-capacity type)
Minimum permissible load (for reference only)	5mA @ 24VDC	10mA @ 5VDC	10mA @ 5VDC	10mA @ 5VDC
Coil Information **Coil voltage**	5, 12, 24VDC	5, 12, 24VDC	12, 24VDC	5, 6, 12, 24VDC
Power consumption	180mW 120mW (high-sensitivity)	120mW	800mW	200mW (1 pole) 300mW (2 pole)
Insulation class	Class B	Class B	Class B	Class A
Characteristics **Operating temperature**	-40 to +85°C	-40 to +85°C	-40 to +70°C	-25 to +70°C
Impulse withstand voltage (1.2 x 50µ sec. unless noted)	6kV	5.08kV	10kV	—
Dielectric strength (50/60 Hz for 1 minute)	3,000VAC (coil-contacts) 750VAC (open contacts)	3,000VAC, (coil-contact) 750VAC, (open contacts)	5,000VAC, (coil-contact) 3,000VAC, (contacts pole-pole) 1,000VAC (open contacts)	4,000VAC (coil-contact) 2,000VAC (contacts pole-pole) 1,000VAC (open contacts)
Terminal choices	PCB	PCB	PCB	PCB
Protection level	Fully Sealed	Fully sealed	Fully sealed	Fully sealed
Accessories	Socket for back connecting, sockets with PCB terminals	N/A	N/A	Sockets & clips for back connecting sockets with PCB terminals
Approved standards	UL, CSA, VDE	UL, CSA, VDE, EN, IEC 61131-2, IEC 61010	UL, CSA, VDE (0700/0110)	UL, CSA, (FCC Part 68) SEV, TUV, IEC

General Attributes	G6RN	G5LE/-E	G5LB/-25	G5Q
		NEW!	NEW!	
Dimensions mm (in)	15 H x 28.5 L x 10 W (0.59 x 1.12 x 0.39)	19 H x 22.5 L x 16.5 W (0.75 x 0.89 x 0.65)	15.2 H x 19.6 L x 15.6 W (0.60 x 0.77 x 0.61)	15.8 H x 20.3 L x 10.3 W (0.62 x 0.80 x 0.41)
Switching	8A	10A (16A for Semi-sealed "E" type)	10A	10A (NO contacts)
Features	• 8 mm coil/contact creepage • Low profile • Sealed construction standard • Ideal for switching contactors, solenoids & motors	• Small "sugar cube" size used as common platform • Sealed construction optional • High capacity contacts:-E • Increased (0.8) contact gap:-G8 • Special application versions available	• Sealed construction optional • 10A switching in low profile "sugar cube" package • Optional -25 type meets stringent EU requirements, including tracking resistance CTI > 250 & extended life • 4.5kV impulse withstand • Low power consumption	• Compact PCB relay with high insulation • Withstands impulse of 8kV coil-contacts • Meets EN tracking resistance CTI >250 • Class F coil insulation standard • Low power consumption
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	$AgSnO_2$/AgSnIn (either with gold plating option)	$AgSnO_2$	AgNi
Electrical service life (@ 1800 ops./hr.) (resistive load)	100,000: 8A @ 250VAC 5A @ 30VDC	100,000: 13A @ 120VAC (@ 85°C/87°C) 5A @ 250 VAC (AgSnO2) 6 FLA, 6 LRA @ 120VAC @ 85°C TV-5 @120VAC 50,000: 10A @ 250VAC 50,000 16A @ 250VAC 1/8 HP @ 120 VAC (@ 85°C) 30,000: 12A @ 120VAC	100,000: 10A @ 120VAC/250VAC 8A @ 30VDC	200,000: 3A (NO)/3 A (NC) @ 125VAC 100,000: 3A (NO)/3 A (NC) @ 250VAC 5A (NO)/3 A (NC) @ 30VDC 50,000: 10A (NO) @125VAC (900 ops.per hour)
Max. switching capacity (resistive load)	2,000VA,150W	1,200VA,240W	1,200VA, 240W 2,500VA, 240W (-25 type)	1,250VA,150W (NO) 375 VA, 90W (NC)
Minimum permissible load (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) 400mW ("-40" style) 600mW ("-60" style)	400mW Form C 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 (1.2 x 50µ sec. unless noted)	—	4.5kV	4.5kV	8kV
Dielectric strength (50/60 Hz for 1 minute)	4,000VAC (coil-contact) 1,000 (open contacts)	2,000VAC (coil-contact) 750VAC (open contacts)	2,000VAC (coil-contact) 750VAC (open contacts)	4,000VAC (coil-contact) 1,000VAC (open contacts)
Terminal choices	PCB	PCB	PCB	PCB
Protection level	Sealed	Standard: Semi-sealed/vented, Option: sealed	Standard: Semi-sealed/vented, Option: sealed	Standard: Semi-sealed/vented, 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

General Attributes	G6C	G5CA	G5PA-1	G8PT
			NEW TYPES	
Dimensions mm (in)	9.91 H x 20.07 L x 14.99 W (0.39 x 0.79 x 0.59)	11 H x 16 L x 22 W (10A) (0.43 x 0.63 x 0.87) 11 H x 22 L x 25 W (15A)	25 H x 24 L x W 10 (0.985 x 0.95 x 0.40)	Multiple, refer to catalog. Basic: 20.1(H)x 32.1(L) x 27.7(W)
Switching	10A	10A (15A high capacity)	5A (10A option)	30A (SPST) 10A-30A (SPDT)
Features	• Low power consumption for high power switching • Low profile 10A power relay • Single & dual coil latching types available • Sealed construction available • Meets EN tracking resistance CTI > 250	• Fully sealed or flux-sealed • High capacity versions • High sensitivity types • PCB or PCB+QC versions	• Ideal for TVs, tuner, & audio power supply switching, both front panel and remote controlled. Also auxiliary switched power outlets on tuners and TVs. • A variety of versions in a single standard package meet most UL/FCC power isolation requirements • Rated to 100A inrush @ 250 VAC for minimum 40,000 operations	• Industry standard form with 30A switching • UL Class F insulation standard • Wide range of coil ratings • Various sealing forms: open frame, vented/flux sealed, fully sealed • UL508/UL873 Column A spacings • Meets EN Tracking resistance CTI > 175 • High dielectric at open contacts
Contact Information				
Contact form	1 Form A + 1 Form B, 1 Form A	1 Form A	1 Form A	1 Form A, 1Form C
Contact type(s)	Single button	Single button	Single button	Single button
Contact material(s)	Ag-Alloy	AgSnIn	$AgSnO_2$	AgSnIn (other alloys available)
Electrical service life (@ 1800 ops./hr.) (resistive load)	100,000: 10A @ 30VDC/250VAC	100,000: 10A @ 30VDC 15A @ 110VAC (high capacity) 10A @ 250VAC (fully sealed, std) 300,000: 10A @ 250VAC (semi-sealed)	30,000: 54@277 VAC 5A @ 30VDC / 277VAC (high capacity type) 25,000: TV-5 TV-8 (optional) 6,000: 5A @ 30VDC 100,000: 10A @ 250 VAC (high-capacity type)	100,000: 30A @ 277VAC (NO) 50,000: 30A @ 277VAC (NC) Consult catalog for other ratings
Max. switching capacity (resistive load)	2,500VA, 300W 2,000VA, 240W (latching)	2,500VA, 300W	N/A	1 Form A: 7,500VA, 560W 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 (4.5 VDC non-standard)	5, 9, 12, 24, 48, 110VDC Other coil voltages available
Power consumption	200mW (monostable & single coil latching) 280mW (dual coil latching)	200mW (standard & high capacity) 150mW (high sensitivity)	250mW 530mW (high capacity, extended electrical life) 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 12kV	6kV
Dielectric strength (50/60 Hz for 1 minute)	2,000VAC (coil -contact) 2,000VAC (contacts pole-pole) 1,000VAC (open contacts)	2,500VAC (coil-contact) 1,000VAC (open contacts)	4,000VAC (coil-contacts) 1,000VAC (open contacts)	2,500VAC, (coil-contact) 1,500VAC, (open contacts)
Terminal choices	PCB, self clinching	PCB Optional: PCB+quick-connect contact terminals	PCB	PCB (optional self-clinching) PCB coil /quick connect contact Flange mount all quick connect
Protection level	Semi-sealed Fully sealed option	Semi-sealed Fully sealed option	Semi-sealed	Open frame, Vented/semi-sealed, Fully sealed
Accessories	Socket for QC contact terms., 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

			NEW! 	NEW! 
General Attributes	**G2R**	**G2RL**	**G5RL**	**G2RL-TP**
Dimensions mm (in)	25.5 H x 29 L x 13 W (1 x 1.14 x 0.51)	15.5 H x 29 L x 12.7 W (0.61 x 1.14 x 0.50)	15.7 H x 28.8 L x 12.5 W (0.61 x 1.14 x 0.49)	15.7H x 40.4 L x 12.5 W (0.61 x 1.60 x 0.49)
Switching	16A max.	16A max.	16A max. (NO), 5A max. (NC)	16A max.
Features	• High dielectric withstand • 8mm coil/contact spacing • 1 & 2 pole models • 3mm contact gap version available (see G2RG) • Meets EN tracking resistance CTI > 250	• Low profile for power rating • High isolation • Class F insulation option • Low power consumption • Quick connect terminal option • Meets EN tracking resistance CTI > 250	• High dielectric due to large internal creepage distances. • AC coil in industry standard package	• Increased temperature & insulation ratings in low profile package. • Simplifies PCB design by allowing removal of high power PCB tracings. • Contact/load terminals in both 5mm for RAST5 connection & 7.5mm existing standard • Single mounting/soldering process for both types of terminals reduces PCB assembly costs.
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	$AgSnO_2$ (1 pole); AgNi (2 pole)	AgSnIn	Ag alloy
Electrical service life (@ 1800 ops./hr.) (resistive load)	100,000: (high-capacity type) 16A @ 30VDC/250VAC Consult catalog for other ratings	100,000: 16A @ 250VAC 6,000: 25A @ 240VAC Consult catalog for other ratings	50,000: 16A @ 24VDC/277VAC (NO) 25,000: TV-5 (NO)	50,000: 16A @ 24VDC/277VAC 20A @ 24 VAC (@ 85ºC) 25,000: TV-5
Max. switching capacity (resistive Load)	4,000VA, 480W (high-capacity 1 pole) Consult catalog for other ratings	4,000VA, 384W (high-capacity 1 pole) Consult catalog for other ratings	4,000VA, 384W (NO) 1,250VA, 120W (NC)	4,000VA,
Minimum permissible load (@1800 ops./hr.)	1 pole: 100mA @ 5VDC; 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 5, 6, 9, 12, 18, 24, 48,60, 100, 110VDC	5, 12, 24, 48VDC	24, 100, 115/120, 200, 230/240 VAC 5, 12, 24, 48VDC	12, 24VDC Consult catalog for other coil voltages
Power consumption	0.9VA, 530mW (standard) 360mW (high sensitivity) 850mW (latching set), 600mW (latching reset)	400mW (430mW for 48VDC)	0.75VA 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) -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) 1,000 VAC (open contacts)	5,000VAC (coil-contact) 1,000 VAC (open contacts)	6,000VAC (coil-contact) 1,000VAC (open contacts)	5,000 VAC, (coil-contact) 1,000 VAC, (open contacts)
Terminal choices	PCB, plug in quick-connect (flange mount)	PCB, optional quick-connect contact terminals (-TP type)	PCB	PCB (coil terminals) Quick-connect (contact terminals)
Protection level	Semi-sealed Fully sealed option	Semi-sealed 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. 400VDC, 60A, 3,000 operations min. 400VDC, 30A, 30,000 operations min.	400VDC, 30A, 1,000 operations min. 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

General Attributes	**MY4H**	**MK**	**MY**	**LY**
Dimensions mm (in)	35 H x 28.5 L x 22 W (1.38 x 1.12 x 0.87)	52.58 H x 34.54 L x 34.54 W (2.07 x 1.36 x 1.36)	36 H x 28 L x 21.5 W (1.42 x 1.10 x 0.85)	35.56 H x 27.94 L x 21.59 W (1.40 x 1.10 x 0.85)
Switching	3A	10 A max.	10A (2 pole); 5 A (4 pole)	15A
Features	• Full hermetic seal for hazardous applications • UL Class1, Division II approved • Signal level switching option using bifurcated contacts	• Octal base plug-in • Exceptional reliability • Push-to-test button standard • CENELEC conformity	• Exceptional reliability • Push-to-test button standard • Arc barrier built into 4 pole • Built in diode (DC) or C/R Circuit • Name plate and mechanical indicator, standard	• Compact power relay • LED, Push-to-test button, bifurcated contacts and other features available • Space efficient power switching • Extended life to 500,000/200,000 operations
Contact Information **Contact form**	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
Contact type(s)	Single button, bifurcated button	Single button	Single button, bifurcated button	Single button, bifurcated
Contact material(s)	AgSnIn	Ag (fine silver)	AgNi	Ag-Alloy
Electrical service life (@ 1800 ops./hr.) (resistive load)	100,000 min. 3A@24VDC/110VAC (50,000 min. bifurcated)	100,000 min. 10A @ 28VDC/250VAC	2P 500,000: 5A @ 30VDC/250VAC 4P 200,000: 3A @ 30VDC/250VAC 100,000: 3A@30VDC/250VAC (bifurcated)	200,000 min: 15A @ 24VDC/110VAC 10A @ 24VDC/110VAC 500,000 min: (2 pole) 10A @ 110VAC
Max. switching capacity (resistive load)	330VA, 72W	2,500VA, 280W	2,500VA, 300W 1,250VA, 150W (4-pole)	1,700VA, 360W (1 pole) 1,100VA, 240W (2, 3, 4 pole) 550VA, 120W (bifurcated)
Minimum permissible load (@1800 ops./hr.)	100µA @ 1VDC for MY4H 100µA @ 100mVDC for MY4ZH (Bifurcated contacts)	100mA @ 1VDC	2 pole: 1mA @ 5VDC 4 pole: 1mA @ 5VDC 10µA @ 1 VDC (bifurcated contacts)	100mA @ 5VDC 10mA @ 5VDC (bifurcated contacts)
Coil Information **Coil voltage**	24, 110/120VAC 12, 24VDC	12, 24, 110/120, 220/240VAC; 12, 24, 48, 100VDC	6, 12, 24, 48, 110/120, 220/240 VAC; 6,12, 24, 48, 100/110VDC	12, 24, 110/120, 220/240VAC, 12, 24, 48, 100VDC
Power consumption	900 mW; 0.9 - 1.1VA	2.7VA, 1.5W	AC Coil: 0.9 to 1.2VA DC Coil: 0.9W	1.1VA, 0.9W (1 pole); 1.1VA, 0.9W (DPDT); 1.6VA, 1.4W (3PDT); 1.95VA, 1.5W (4PDT)
Insulation class	—	N/A	Class A	Class A
Characteristics **Operating temperature**	-25°C to +60°C	-10°C to +40°C	-55°C to +70°C	-25°C to +70°C
Impulse withstand voltage (1.2 x 50µ sec. unless noted)	—	—	—	—
Dielectric strength (50/60 Hz for 1 minute)	1,000VAC (coil-contact) 1,000VAC (contacts pole pole) 700VAC (open contacts)	2,500VAC (coil-contact) 1,000VAC (open contacts)	2,000VAC (coil-contact) 1,000VAC (open contacts)	2,000VAC (coil-contact) 1,000VAC (open contacts)
Terminal choices	Plug-in	Plug-in	PCB, plug-in	Track mounted socket PCB with .187/.250 QC
Protection level	Hermetic seal	Unsealed	Unsealed	Unsealed, semi-sealed
Accessories	PYF14A-E Socket 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
Approved standards	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

General Attributes	NEW! 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**	-40ºC to +60ºC	-40 to +70°C	-25ºC to +60°C	-20ºC 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

General Attributes	NEW! G7Z	MGN	MJN
Dimensions mm (in)	84 H x 62 L x 45 W (3.31 x 2.44 x 1.77)	Short Base: 55.88 H x 63.50 L x 63.50 W (2.20 x 2.50 x 2.50) Long Base: 60.45 H x 84.33 L x 63.50 W (2.38 x 3.32 x 2.50)	48.38 H x 35.56 L x 38.73 W (1.91 x 1.40 x 1.53)
Switching	40A max. (160A max. in parallel)	30A max.	10A, 20A, 30A (UL ratings) (see: Electrical service life)
Features	• Each pole able to switch and carry 40A in parallel • Capable of switching up to 160A • Reduced power consumption & size • Low noise • Safety function included as standard • Optional auxiliary contact block enables concurrent signal (1mA) switching	• 30 Amp heavy duty power relay • Class F coil insulation system for 155°C (total temperature) • Coil molded in DuPont Rynite® for environmental protection • Rugged construction rivets terminals to base • Magnetic blow-out option	• Rugged power driver offers superior 3/16" through-air & 3/8" over-surface spacing • Interlocked frame & contact block prevent contact misalignment during plug-in • Indicator lamp, push-to-operate options • 10A-30A in same package • Continous duty at 125% coil voltage
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 $AgCdO_2$	3/16" diameter $AgCdO_2$
Electrical service life (@ 1800 ops./hr.) (resistive load)	100,000: 5A @ 110VDC (at 1,2000 ops/hr) 80,000: 40A @ 440VAC	100,000 min. 30A @ 28VDC/240VAC	100,000 min. 10A @ 28VDC/240VAC 20A @ 28VDC/277VAC 30A @ 28VDC
Max. Switching Capacity (resistive load)	17,600VA, 550W 440VA, 110W (auxiliary contact block)	N/A	N/A
Minimum permissible load (@1800 ops./hr.)	2A @ 24VDC <1mA @ 5VDC (auxiliary contact block)	N/A	N/A
Coil Information **Coil voltage**	12, 24VDC	6, 12, 24, 120, 240, 480VAC; 6, 12, 24, 48, 110VDC	6, 12, 24, 120VAC 5, 6, 12, 24, 48, 110VDC
Power consumption	3.7W	9.5VA nominal; 2W nominal	AC 1.7VA (1, 2PDT) 2.0VA (3PDT DC 1.2W
Insulation class	Class B	Class F	Class A
Characteristics **Operating temperature**	-25ºC to +60ºC	At 30Amps: -45ºC to +80°C (AC coil) -45ºC to +115°C (DC coil)	-45ºC to +60°C (1 & 2 pole AC coil), + 70°C (DC coil) -45ºC to +45°C (3 pole AC coil) -45ºC to +70°C (3 pole DC coil)
Impulse withstand voltage (1.2 x 50µ sec. unless noted)	10kV (coil to contacts or different polarity) 4.5kV (open contacts)	N/A	N/A
Dielectric strength (50/60 Hz for 1 minute)	4,000VAC (coil-contacts) 4,000VAC (different polarity) 2,000VAC (open contacts)	2,200Vrms, 60Hz between contacts; 2,200Vrms, 60Hz between other elements	750VAC, rms 60Hz across open contacts; 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) 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 127 W x 76.20 H x 101.60 D (5 x 3 x 4)	PTF11PC Socket; PTF11QDC Socket; PTF21PC Socket; PTFPCB Socket; PYMJN-PCB Retaining Clips; PYMJN-S Retaining Clips
Approved standards	UL, CSA, TUV, VDE	UL	UL, CSA

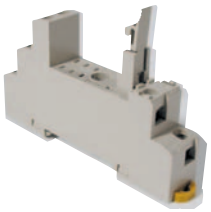
Relays - Solid State

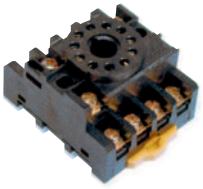
General Attributes	SIP G3MB	SIP G3MC	DIP G3R I/O	DIP G3DZ
Dimensions mm (in)	20.5 H x 24.5 L x 5.5 W (0.81 x 0.96 x 0.22)	13.5 H x 24.5 L x 4.5 W (0.53 x 0.96 x 0.18)	Input & Output modules: 28 H x 29 L x 13 W (1.10 x 1.14 x 0.51)	12.5 max. H x 18.5 L x 6.5 W (0.49 x 0.73 x 0.26) max.
Switching current (resistive)	2A @ 240VAC	2A @ 240VAC	Input module: 100mA; Output module: 2A	0.6A @ 240VAC
Features	• Space saving SIP design • Industry standard footprint • Monoblock construction results in ultimate reliability	• Reduced height thin profile SIP • Ideal for close PCB mounting • Monoblock construction results in ultimate reliability • Industry standard footprint	• 4 kV insulation • Operation indicator standard • Interchangeable with G2R electromechanical relay • Ideal for DIN rail mount I/O operations	• AC/DC & AC half-wave switching with one model • 10µA max. leakage current • Matches G6D form factor
Operating temperature	-30ºC to +80°C	-30ºC to +80°C	-30ºC to +80°C	-30ºC to +85°C
Operating input	5, 12, 24VDC	5, 12, 24VDC	Input module: 5VDC; 6.6-32VDC; 60-264VAC; Output module: 4-32VDC	5, 12, 24VDC
Output voltage	75-264VAC	75-264VAC	Input module: 4-32VDC; Output module: 75-264VAC, 4-200VDC	5, 12, 24VDC
Leakage Current (max.)	1.5mA (at 200VAC)	1.5mA (at 200VAC)	Input Module: 5µA Output Module: 1.5mA (AC) 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; Output module: Yes	No
Snubber circuit	Optional	Yes	Input module: No; 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

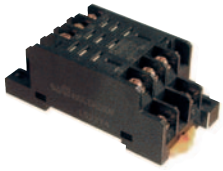
General Attributes	SIP G3S/G3SD	SIP G3CN	SIP G3M	SIP G3TB
Dimensions mm (in)	16.5 H x 20 L x 10 W (0.65 x 0.79 x 0.39)	26H x 33H x 14 W (1.04 x 1.30 x .55) max.	20 H x 40 L x 9 W (0.79 x 1.58 x 0.35)	Input module: 20.5 H x 43.5 L x 10 W (0.81 x 1.70 x 0.39) Output module: 30.5 H x 43.5 L x 10 W (1.20 x 1.70 x 0.39)
Switching current (resistive) (max.)	1A @ 240VAC (1.2A, G3S-PD & heatsink) (1.1A, G3SD-PD & heatsink)	2A, 3A, @ 53VDC, 26VAC	2, 3A, 5A @ 250VAC	Input module: 25mA @ 4 to 32VDC Output module: 3mA max. @ 5 to 48VDC 3mA max. @ 100 to 240 VAC 1.5 max. @ 48 to 200 VDC
Features	• AC and DC models available • Socketable • Heatsink, available • Interchanges with G6B SPST electrical mechanical relay	• Flat & vertical packages • Ideal for FA & OA equipment	• Multi-input SSR • Space-saving SIP design • Ideal for high density Power PCB applications • High current switching capability	• Color-coded input & output modules • Industry standard footprint • 4kV dielectric strength • LED indicator
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, 24; 3~28VDC	5, 12, 24VDC	Input module: 80-264VAC, 3-32VDC; Output module: 3-32VDC
Output voltage	5, 12. 24VDC	75~264VAC 3~53VDC	75-264VAC	Input module: 4-32VDC; Output module: 75-264VAC, 4-200VDC
Leakage Current (max.)	2mA (G3S) 0.1mA @ 26VDC (G3S)	2.5/5mA	2mA @ 100VAC/5mA @ 200VAC (2Amp versions) 1.5mA @ 200VAC (3 & 5 Amp versions)	Input module: 100µA max. Output module: 5mA @ 200VAC (AC) 1mA max. (DC)
Isolation	Phototriac (G3S) Photocoupler (G3SD)	Phototriac Photocoupler	Phototriac	Photocoupler
Dielectric strength (50/60Hz for 1 min.)	2,500VAC	2,500VAC	2,000VAC (2A versions) 2,500VAC (3A and 5A versions)	4,000VAC
Zero crossing	No	Optional	Optional	Input module: No; Output module: Yes
Snubber circuit	Yes (Built-in Varistor)	No	Yes	Input module: No; Output module: Yes
Life (MTTF)	100,000 hours	100,000 hours	100,000 hours	100,000 hours
Mounting	PCB or Socket	PCB	PCB	PCB
Terminal	PCB	PCB	PCB	PCB
Approvals	UL, CSA	UL (114), CSA (22.2)	UL, CSA, TUV	UL, CSA
Equivalent Omron EMR footprint	G6B	N/A	N/A	N/A
Optional heat sink	Y92B-S08N	N/A	N/A	N/A
Socket	P6B-04P (PCB)	N/A	N/A	N/A

Relays - Solid State

General Attributes	SIP G3TC	Quick Connect G3NE	Quick Connect G3NA	G3PA/B
Dimensions mm (in)	31.8 H x 43.2 L x 15.2 W (1.25 x 1.7 x 0.6)	11.5 H x 47 L x 37.5 W (0.45 x 1.90 x 1.50)	27 H x 58 L x 43 W (1.06 x 2.28 x 1.69)	Consult Omron
Switching current (resistive) (max.)	Input Module: 12mA, 15mA, or 18mA (depending on model) Output Module: 3A (1A on DC output models rated< 200VDC)	20A max.@ 240VAC (264VAC max.)	Versions range from 10A to 90A max. (when using heat sink)	up to 45A
Features	• Color-coded modules • Industry standard footprint • Built-in anchor screw • Optical isolation – Dielectric 4kV • Zero cross on AC output modules	• High capacity • Panel Mount • Quick-connect terminals	• Ideal for industrial controls & commercial cooking • "Hockey Puck" standard • Operation indicator standard	• Built-in heat sink increases life and reliability • Voltage turn-on at zero cross-ing reduces initial inrush load currents • LED indicator when control power applied
Operating temperature	-30ºC to +80°C	-30ºC to +80°C	-30ºC to +80°C	-30ºC to +80°C
Operating input	Input Module: 90-140VDC/AC, 180-280 VDC/AC, 10-32VDC/AC Output Module: 5, 15, 24VDC	5, 12, 24VDC	4-32VDC; 75-264VAC	12-24VDC
Output voltage	Input Module: 4.5-6VDC, 12-18VDC, 20-30VDC Output Module: 75-140 VAC, 75-280VAC, 5-60 VDC, 5-200VDC	75-264VAC	19 - 264VAC 180 - 528VAC 4 - 220VDC (10A model) 400 - 600VAC (10, 25, 50A models)	75 - 264VAC 180 - 528VAC
Leakage Current (max.)	Input Module: 100µA AC Output Modules: 5mA @ 240VAC 2.5mA @ 120VAC DC Output Modules: 1mA	2mA (at 100VAC) 5mA (at 200VAC)	5mA @ 100VAC 10mA @ 200VAC 20mA @ 400VAC	10mA @ 200VAC 20mA @ 400VAC
Isolation	AC Input, DC Input, DC Output: Photocoupler AC Output: Phototriac	Phototriac	Phototriac, Photocoupler	Phototriac
Dielectric strength (50/60Hz for 1 min.)	4,000VAC	2,000VAC	2,500VAC 4000VAC (75 and 90A models)	G3PA: 4,000VAC 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 P2RF-05-E P2RF-05-S	P2R-05A	P2R-05P
G2R-2-S	P2RF-08 P2RF-08-E 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	PFO83A-E	PL08	PLE08-0
MK3	PF113A-E	PL11	PLE11-0
MY2	PYF08A-E PYF08A-N PYF08-S	PY08	PY08-02
MY3	PYF11A	PY11	PY11-02
MY4	PYF14A-E PYF14A-N 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
	Bracket	Track Mount/Panel Mount	Track Mount/Panel Mount
G7J-(ALL)	R99-04-FOR-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
P&LE-C	PYDM

Mounting Track	Length
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.

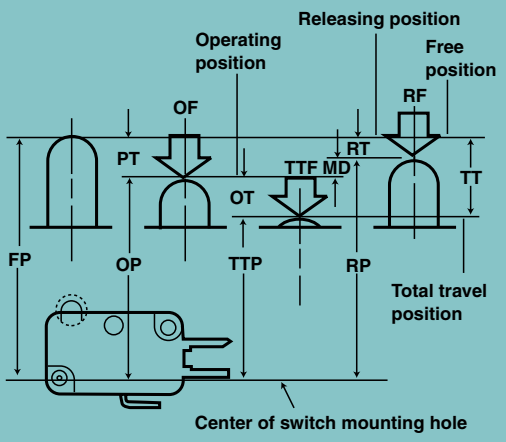
These options include:

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

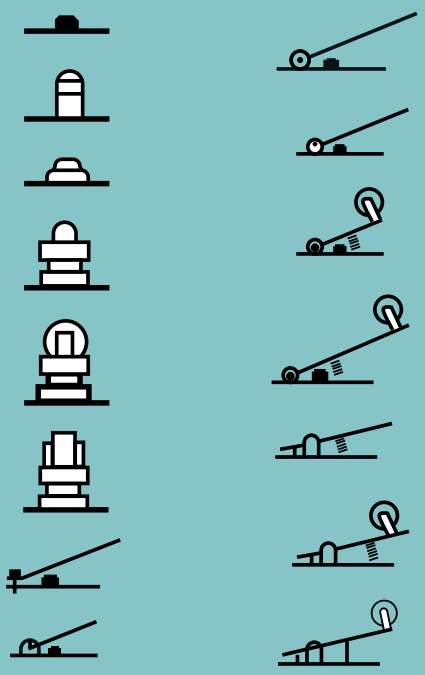
Termination styles:
- PCB
- Solder
- Quick Connect
- Screw
- Wire Leads
- Connector

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

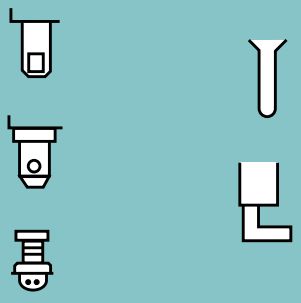
Contact Omron Components and have it your way. Configure a switch that meets your application needs.

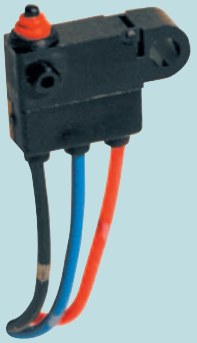


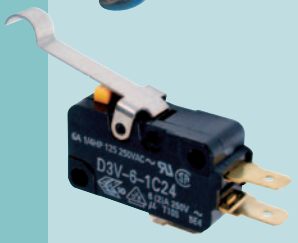
Plunger & Lever Options

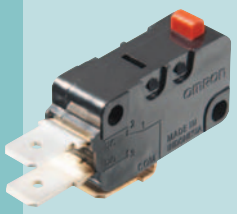


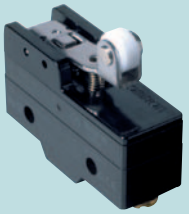
Terminal Options



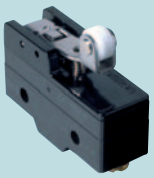








Designed to "Drop-In" Your Application.

				
	Z	**A**	**X**	**DZ**
Dimensions mm (in)	24.2 H x 17.45 D x 49.2 W (0.95 x 0.69 x 1.93)	24.2 H x 17.45 D x 49.2 W (0.95 x 0.69 x 1.93)	24.2 H x 17.45 D x 49.2 W (0.95 x 0.69 x 1.93)	22.7 H x 17.45 D x 49.2 W (0.89 x 0.69 x 1.93)
Features	• General Purpose Snap Action Switch • High precision 15 A switch available in a variety of styles	• General Purpose Snap Action Switch • High capacity switch handles loads with large inrush currents	• DC switch • Magnetic blowout to extinguish arc	• DPDT basic switch • Incorporates two completely independent built-in switches • Can switch two independent circuits operating on different voltages
Contact Rating(s)				
Resistive load	0.1A @ 125VAC 15A @ 250VAC*	20A @ 250VAC	10A @ 125VDC 3 A @ 250VDC	10A @ 250VAC
Contact form	SPDT	SPDT	SPDT	DPDT
Operating force (OF)*	250g to 350g	400g to 625g	510g	570g
Mechanical service life	Refer to "SPECIFICATIONS" section of data sheet for detailed service life information	1,000,000 ops. min. (at rated OT load)	1,000,000 operations min.	1,000,000 operations min.
Electrical service life	Refer to "SPECIFICATIONS" section of data sheet for detailed service life information	500,000 ops. min. (at rated OT load)	100,000 operations min.	500,000 operations min.
Mounting pitch mm (in)	25.4 (1.0)	25.4 (1.0)	25.4 (1.0)	25.4 (1.0)
Actuator types	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
Terminal choices	Solder, Screw	Solder, Screw, or Quick connect (#250)	Solder, Screw	Solder, Screw
Approved standards	UL, CSA, SEV	UL, CSA, SEV	UL, CSA	UL, CSA

*Values are for pin plunger type only

Switches - Snap Action

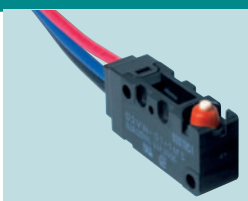
	TZ	**D3V**	**V**	**VX**
Dimensions mm (in)	32 H x 17.45 D x 49.2 W (1.26 x 0.69 x 1.93)	15.9 H x 10.3 D x 27.8 W (0.63 x 0.41 x 1.09)	15.9 H x 10.3 D x 27.8 W (0.63 x 0.41 x 1.09)	18.8 H x 10.3 D x 27.8 W (0.74 x 0.41 x 1.09)
Features	• Stable operation at 400°C ambient temperature • High contact reliability • Smooth operation	• Miniature Snap Action Switch • Environmentally friendly: free of beryllium copper & lead • Maximum operating temperature of 105°C (standard versions) • Internally or externally fitted levers • 200°C versions available (D3V-T)	• Miniature Snap Action Switch • Industry standard design with 15 A (V-15G) or 10 A (V-10G) rating • Cadmium-free contacts • Internal lever options	• Miniature Snap Action • Low operating force • High contact reliability • 0.1 A to 5 A
Contact Rating(s) **Resistive load**	1A @ 250VAC	21/16/11/6A @ 125/250VAC 0.1A @ 125VAC	15A @ 250VAC (V-15G) 10A @ 250VAC (V-10G)	5A @ 250VAC 0.1A @ 125VAC
Contact form	SPST	SPDT, SPST-NC, SPST-NO	SPDT, SPST-NC, SPST-NO	SPDT, SPST-NO, SPST-NC
Operating force (OF)*	500g	50g, 100g, or 200g	100g, 200g, or 400g (V-15G) 100g or 200g (V-10G)	25g, 50g
Mechanical service life	100,000 operations min.	10,000,000 operations min.	50,000,000 operations min.	50,000,000 (5A) 10,000,000 (0.A)
Electrical service life	50,000 operations min.	100,000 operations min. (D3V-16) 200,000 operations min. (D3V-11) 500,000 operations min. (D3V-6 / D3V-01)	100,000 operations min. (V-15G) 300,000 operations min. (V-10G)	500,000 (5A) 1,000,000 (0.1A)
Mounting pitch mm (in)	25.4 (1.0)	–	10.3 x 22.2 (0.41 x 0.87)	22.2
Actuator types	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
Terminal choices	Bolt	Solder/Quick connect (#187) Quick connect (#187) Quick connect (#250)	Solder/Quick connect (#187) Quick connect (#187), Quick connect (#250), Short solder, Screw	Solder, Quick-connect (#187)
Approved standards	–	UL, CSA, VDE, SEMKO	UL, CSA, SEV, VDE, SEMKO, DENMARK	UL, CSA, VDE

* Values are for pin plunger type only

Switches - Snap Action

		NEW!	NEW!	
	SS-P/SS	**SSG**	**D3M**	**D2F**
Dimensions mm (in)	10.2 H x 6.4 D x 19.8 W (0.40 x 0.25 x 0.78)	10.2 H x 6.4 D x 19.8 W (0.40 x 0.25 x 0.78)	10 H x 7 D x 31.6 W (0.39 x 0.28 x 1.24)	6.5 H x 5.8 D x 12.8 W (0.26 x 0.23 x 0.50)
Features	• Subminiature Snap Action Switch • SS-01: Switches microcurrent/ microvoltage load with crossbar contacts • SS-3: Single-leaf moveable spring • SS-5: Split double spring mechanism for a long life of up to 30 million operations • SS-10: Split double spring mechanism for a long life of up to 10 million operations • Internal lever options	• Subminiature Snap Action Switch • SS-01: Switches microcurrent/ microvoltage load with crossbar contacts • SS-5: Split double spring mechanism for a long life of up to 30 million operations • Wide operating temp. range of -25 to + 125°C • Internal lever options • Global switch conforming to EN, UL & CSA	• External actuators • Easy wiring through connector terminals	• Subminiature Snap Action Switch • Switches microvoltage/ micro-current loads • Long lifespan assured by high-precision dual spring reverse-action mechanism
Contact Rating(s)				
Resistive load	0.1A @ 125VAC (SS-01) 3A @ 125VAC (SS-3) 5A @ 125VAC (SS-5) 10.1A @ 125/250VAC (SS-10)	3A @ 250VAC 0.1A @ 250VAC	0.1A @ 30VDC	0.1A @ 30VDC (D2F-01) 3A @ 125VAC (D2F) 1A @ 125VAC (D2F-F)
Contact form	SPDT (SPST-NC, SPST-NO per request)	SPDT, SPST-NO, SPST-NC	SPST-NC, SPST-NO	SPDT
Operating force (OF)*	25g, 50g, or 150g (SS-01) 150g (SS-3) 50g or 150g (SS-5) 150g (SS-10)	25g, 51g, 153g	153g	75g (D2F-01) 150g (D2F) 75g (D2F-F)
Mechanical service life	30,000,000 ops. min. (SS-01, SS-5)* 1,000,000 ops. min. (SS-01P, SS-3) 10,000,000 ops. min. (SS-10)*	10,000,000 operations min.	500,000 operations min.	1,000,000 operations min.
Electrical service life	200,000 operations min. (SS-01, SS-5)** 70,000 operations min. (SS-3) 50,000 operations min. (SS-10)**	200,000 operations min.	200,000 operations min.	30,000 operations min. (OT: full stroke)
Mounting pitch mm (in)	9.5 (0.37)	9.5	9.5	6.5 (0.26)
Actuator types	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
Terminal choices	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
Approved standards	UL, CSA, EN	UL, CSA, EN	UL, CSA	UL, CSA
* Values are for pin plunger type only	*at rated OT value **at rated load			

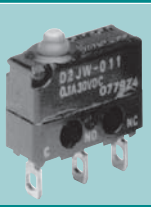
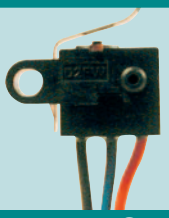
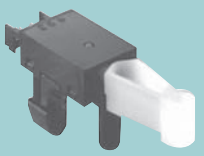
Switches - Sealed Snap Action

		NEW!		
	D2VW	**D2RW**	**D2SW**	**D2SW-P**
Dimensions mm (in)	15.9 H x 10.3 D x 33 W (0.63 x 0.41 x 1.29)	15.9 H x 10.3 D x 35.9 W (0.63 x 0.41 x 1.41)	10.1 H x 6.4 D x 19.8 W (0.40 x 0.25 x 0.78)	7.7 H x 6.4 D x 19.8 W (0.30 x 0.25 x 0.78)
Features	• Miniature Snap Action Switch • Sealed water-tight switch conforms to IP67 & IP68	• Suitable for microloads to 1 million operations minimum • Internal Reed Switch sealed to IP67 ensures stable operation • Extended humidity operating range, up to 95% RH • Available with internally fitted levers	• Subminiature snap action switch • Small sealed switch conforms to IP67 & IP68	• Sealed basic switch (IP67) • Single leaf movable spring construction • Microload versions available
Contact Rating(s)				
Resistive load	0.1A @ 125VAC or 5A @125/250VAC	0.25A @ 100VDC	0.1A @ 125VAC or 3A @ 125VAC	2A @ 250VAC or 0.1A @ 125VAC
Contact form	SPDT (SPST-NC, SPST-NO per request)	SPST-NO	SPDT (SPST-NC, SPST-NO per request)	SPDT, SPST-NO, SPST-NC
Operating force (OF)*	200g	153g	180g	183g
Mechanical service life	10,000,000 operations min.	1,000,000 operations min.	5,000,000 operations min.	1,000,000 operations min.
Electrical service life	1,000,000 operations min. (0.1A, 125VAC) 100,000 operations min. (3A, 125/250VAC)	1,000,000 operations min.	200,000 operations min. (0.1 or 3A, 125VAC) 100,000 operations min. (2A, 250VAC)	50,000 (2 A) or 200,000 (0.1A) operations min.
Mounting pitch mm (in)	10.3 x 22.2 (0.41 x 0.87)	22.2mm	9.5 (0.37)	9.5mm
Actuator types	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
Terminal choices	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
Approved standards	UL, CSA (refer to "Ratings" section of data sheet)	–	UL, CSA	UL, CSA

*Values are for pin plunger type only

**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.

Switches - Sealed Snap Action

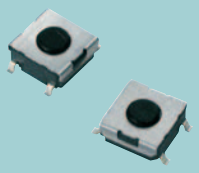
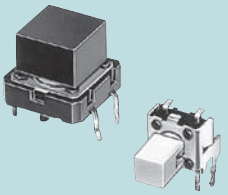
	NEW!			
	D2HW	**D2JW**	**D2FW-G**	**D2X**
Dimensions mm (in)	7 H x 5.3 D x 13.3/18.5 W (0.28 x 0.21 x 0.52/0.73)	9.4 H x 5.3 D x 12.7 W (0.37 x 0.21 x 0.50)	13.5 H x 8.0 D x 23.5 W (0.53 x 0.31 x 0.93)	28.1 H x 8.4 D x 5.3 W (1.11 x 0.33 x 0.21)
Features	• Subminiature Snap Action Switch • Small sealed switch with long stroke for reliable ON/OFF action • Conforms to IP67	• Small size • Gold crossbar contact and coil-spring for long life • IP67 rating for molded lead wire versions	• Subminiature Snap Action Switch • Small sealed switch with lead wires • Conforms to IP67	• High contact force • Wiping action for greater contact reliability
Contact Rating(s)				
Resistive load	2A @ 12VDC/ 1A @ 24VDC/ 0.5A @ 42VDC	0.1A @ 30VDC	0.5A @ 30VDC or 50mA @ 30VDC	0.1A @ 30VDC
Contact form	SPDT, SPST-NC, SPST-NO	SPDT	SPDT, SPST-NC, SPST-NO	SPST-NC
Operating force (OF)*	76g	250g	120g	50g
Mechanical service life	1,000,000 operations min.	1,000,000 operations min.	300,000 operations min.	1,000,000 operations min.
Electrical service life	100,000 operations min.	500,000 operations min.	100,000 operations min.	50,000 operations min.
Mounting pitch mm (in)	8 (0.32) posts, 13 (0.51) screw	4.8	16 (0.63)	12.2
Actuator types	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
Terminal choices	PCB (straight, angled), Solder, Lead wire (bottom, right side, left side)	Solder, molded lead wire	Lead wires	Crimp connector
Approved standards	–	UL, CSA, VDE	–	–

*Values are for pin plunger type only

Switches - Snap Action

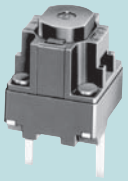
		NEW!	NEW!	
	D3C	**D3K**	**D3D**	**D2T**
Dimensions mm (in)	6 H x 4.2 D x 8 W (0.24 x 0.17 x 0.31)	13.7 H x 5.6 D x 18.9 W (0.54 x 0.22 x 0.74)	30.7 H x 15 D x 36.4 W (1.21 x 0.59 x 1.43)	24.65 H x 11.5 D x 28.8 W (0.97 x 0.45 x 1.13)
Features	• Low torque built-in slide mechanism for selecting shorting or non-shorting timing	• Very low operating force • Detects cards & paper sheet	• Miniature door switch • Low-noise • Disconnectable crimp connector • Gold crossbar contacts	• Compact door switch • Incorporates two circuits for power loads & micro loads
Contact Rating(s) **Resistive load**	0.1A @ 30VDC	10mA @ 12VDC	1A @ 125VAC or 0.5A @ 250VAC	5A @ 250VAC 0.1A @ 25VAC
Contact form	SPDT	SPST-NO	SPDT, SPST-NC, SPST-NO	DPST-NO
Operating force (OF)*	40g, 130g	3g	204g	330g
Mechanical service life	50,000 operations min.	2,000,000 operations min.	300,000 operations min.	100,000 operations min.
Electrical service life	50,000 operations min.	2,000,000 operations min.	100,000 operations min.	100,000 operations min.
Mounting pitch mm (in)	5.7	17.3	Panel-mount	26.4
Actuator types	Rotary lever	Paddle lever	Pin plunger, lever	Pin plunger, hinge lever
Terminal choices	PCB	Connector	Connector	Solder
Approved standards	–	–	UL, CSA	UL, CSA, VDE, SEMKO

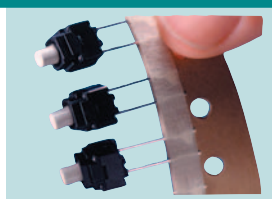
* Values are for pin plunger type only

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

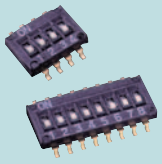
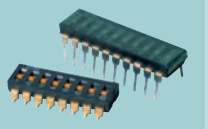
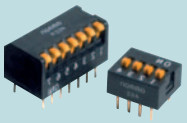
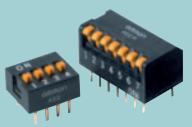
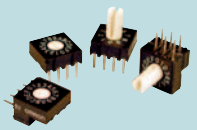
IMPORTANT NOTE: None of the Tactile switch models listed within this catalog are water-washable.

Switches - Tactile

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

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

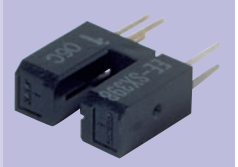
Switches - DIP

					NEW! 
	A6H	**A6T/A6S**	**A6D/A6DR**	**A6E/A6ER**	**A6R/A6RV**
Dimensions mm (in)	Varies by type	Varies by type	Varies by type	Varies by type	Varies by type
Features	• Half-pitch Surface Mount DIP Switch • Low profile of 1.55mm • Seal tape models available	• Straight PCB/ Surface Mount DIP Switch • Flat actuated types with or without seal tape, & tape seal versions in embossed tape packaging • Raised actuator types also available	• Dustproof construction • Top, raised & side actuators • Smooth switching action	• Available in a variety of model types: A6E: Flat/Raised actuator A6ER: Side actuator	• Economical rotary DIP switch • Top, side &d extended shaft models • O-ring sealed construction to prevent ingress of dust and dirt
Contact Rating(s) **Resistive load**	25mA @ 24VDC	25mA @ 24VDC	30mA @ 30VDC	25mA @ 24VDC	25mA @ 24VDC
Switching positions	–	–	–	–	10-BCD 16-Hexidecimal
Number of poles	4, 8	A6T: 1, 2, 4, 6, 8, 10 A6S: 2, 3, 4, 5, 6, 7, 8, 9, 10 A6S (embossed tape): 4, 6, 8	4, 6, 8, 10	2, 3, 4, 5, 6, 7, 8, 9, 10	–
Operating force (OF)*	30gf	30gf	500gf	30gf	200g-cm max.
Mechanical service life,	1,000 operations min.	1,000 operations min.	5,000 operations min.	1,000 operations min.	5,000 detent operations min.
Electrical service life	1,000 operations min.	1,000 operations min.	2,000 operations min.	1,000 operations min.	5,000 detent operations min.
Actuator types	Top	Top, raised	Top, raised, side	Top, raised, side	Rotary
Terminal choices	Surface mount	PCB terminal; Surface mount	PCB terminal	PCB terminal	PCB terminal
Washable	Yes (seal tape only)	Yes (seal tape only)	Yes	No	No

	A6A	**A6C**
Dimensions mm (in)	Varies by type	Varies by type
Features	• Subminiature Rotary DIP Switch • Small housing for high-density mounting & sealed construction for immersion cleaning	• Subminiature Rotary DIP Switch Internal sealed construction eliminates the need for tape sealing, & automatic, high-density mounting is possible
Contact Rating(s)		
Resistive load	1~100mA @ 5~28VDC	100mA @ 30VDC
Switching positions	10-BCD 16-Hexadecimal	10-BCD 16-Hexidecimal
Number of poles	–	–
Operating force (OF)*	120 to 250g-cm	15 to 100g-cm
Mechanical service life	10,000 detent ops. min.	10,000 operations min.
Electrical service life	2,000 detent ops. min.	2,000 operations min.
Actuator types	Rotary	Rotary
Terminal choices	PCB terminal	PCB terminal
Washable	Yes	Yes

Photomicrosensors

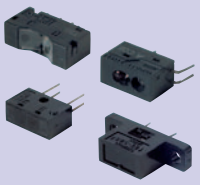
Photo IC - Slotted



	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	• Unique snap-in mounting mechanism eliminates screws & nuts • Compatible with 1.0, 1.2, & 1.6 mm PCBs	• Built-in Schmitt trigger circuit • Directly compatible with TTL and CMOS
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

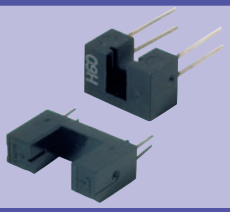
Phototransistor - Reflective



	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	• Ideal for office automation and computer peripheral equipment • Infrared LED & photo-transistor assure long life	• Sensor housing reduces external light's influence • High resolution sensing
Sensing distance mm (in)	5 (0.2)	5 (0.2)
Max. forward current (mA)	50mA (40 mA: EE-SY169, EE-SY169B)	50mA
Supply voltage (VDC)	5 to 30V	5 to 30V
Light current (mA)	EE-SY169(A)(B): 160µA to 2,000µA; EE-SB5/EE-SF5-B: 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 or contact your local Omron representative.

Phototransistors - Slotted

				
	Non-Amplified	**Non-Amplified**	**Non-Amplified**	**Non-Amplified**
Sub-category	Slotted phototransistor with connector	Miniature PCB mount transmissive	Slotted surface mount phototransistor output	Slotted actuator adaptable phototransistor output
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	• Electrical connections using AMP connector • Compact and high-resolution	• Infrared LED & phototransistor for long life • Narrow aperture slit for high resolution sensing • Compact size	• Ultra-compact • High-resolution sensing with phototransistor output • Ideal for restricted space applications	• High resolution sensing • Non-contact, noiseless sensing
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. (10µS typ.: EE-SX1103, EE-SX1105, EE-SX1106)	10µS typ.	8µS typ.
Falling time (high to low)	8µS typ.	4 µS typ. (10µS typ.: EE-SX1103, EE-SX1105, EE-SX1106)	10µS typ.	8µS typ.
	*Applicable Mating Connector AMP 175778-3 AMP 173977-3			*Applicable Mating Connector AMP 175778-3 AMP 173977-3

NOTE: The above specifications do not apply to all models listed.
For specific model information and additional product variations,
visit www.components.omron.com or contact your local Omron representative.

Micro Sensors - MEMS

Mass Air Flow 1~5L

	D6F
Dimensions mm (in)	15H x 20D x 66W (0.60 x 0.79 x 2.60)
Features	Detects – • Breath rate in respiratory equipment • Natural gas flow rate • Gas in fuel cells • Flow in ventilation systems
Applicable gases	Air, Natural gas, LP gas, O_2, and N_2O *
Supply voltage	12 to 24VDC
Operating temp. range	-10° to +60°C
Ordering information	*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
Dimensions mm (in)	30H x 30D x 78L (1.18 x 1.18 x 3.07)
Features	• Precision unidirectional mass airflow up to 50LPM • Stable output • Horizontal mounting with NBR 'O' ring • Low power consumption
Applicable gases	Air, Natural gas, LP gas, O_2, & N_2O*
Supply voltage	12 to 24VDC
Operating temp. range	-10° to +60°C
Ordering information	*Flow range* / *Part number* 0-10LPM / D6F10A600 0-20LPM / D6F20A600 0-50LPM / D6F50A600

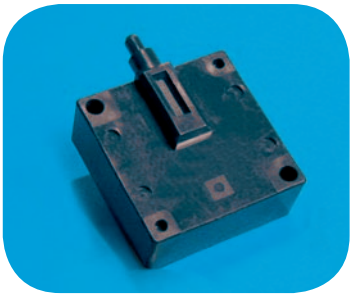
*Contact Omron regarding other gases.

Air Velocity Sensor

	D6F-W	D6F-V
Dimensions mm (in)	9H x 20Dx 39L (0.35 x 0.79 x 1.53	8H x 13D x 24L (0.31 x 0.51 x 0.94)
Features	• Clogged filter detection • Compact size • Integral passive Dust Segregation System (DSS) • Fast fit for easy installation	• Value engineered version of D6F-W • Smaller package • Lower Supply Voltage • Built for OEM designs • Internal passive Dust Segregation System (DSS)
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	*Flow range* / *Part number* 0~1 m/sec flow range / D6F-W01A 0~4 m/sec flow range / D6F-W04A	*Flow range* / *Part number* 0~3 m/sec flow range / D6F-V03A1

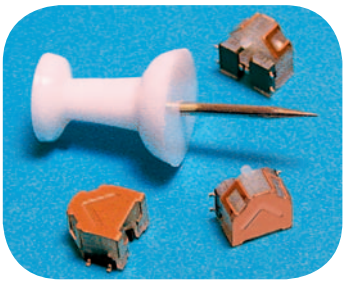
*Contact Omron regarding other gases.

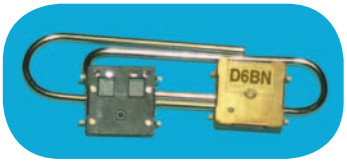
Pressure / Blood Pressure



	D8M-R	Blood Pressure 2SMCP-10
Dimensions mm (in)	30 H x 25.8 D x 30 W (1.18 x 1.02 x 1.18)	6.2 x 4.8 x 8.3 (0.27 x 0.21 x 0.37)
Features	• Solid state MEMS pressure sensor with frequency output	• For applications using a minimum of 100,000 pieces per year only • For pulse rate detection • Electrostatic capacity style suitable for microcomputer input
Applicable gases	Air, please inquire about other gases.	Air
Pressure range	0 - 0.78" of H_2O	0-280mm Hg (600mm Hg max.)
Output	80 – 300kHz (1kHz/9.81 Pa)	-
Supply voltage	4.2 – 5.5VDC	5VDC
Current consumption	10 mA max.	–
Operating temp. range	-20° to +70°C	0° to +50°C

Tilt



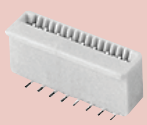
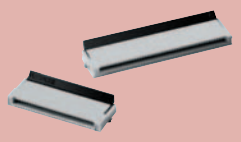


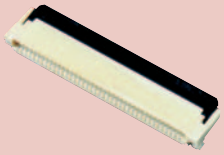
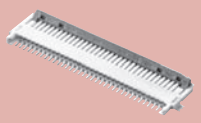
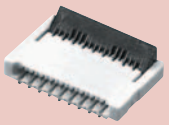
	D6B	D6BN
Dimensions mm (in)	5.50 H x 3.75 D x 5.50 W (0.22 x 0.15 x 0.22)	2 H x 7 D x 7 W (0.08 X 0.28 x 0.28)
Features	• Utilizes Hall Effect technology • For space-constrained applications • Surface mount • No EMC bounce	• Utilizes Hall Effect technology • Low profile less than 1mm • Surface mount • No EMC bounce
Operating angle	45~75° (output from high to low)	40~80° (left & right)
Return angle	50~20° (output from low to high)	50~10° (left & right)
Operating voltage (Vdd)	2.7~3.3VDC	2.4 ~ 3.6VDC
Output voltage		
Low	0.5VDC max.	0.4VDC max.
High	Vdd – 0.5VDC min.	Vdd – 0.4VDC max.
Current consumption	20μA max.; 10μA typ (Vcc = 3VDC)	1mA max., 1μ standby
Operating temp. range	-10° to +60°C	-10° to +60°C
Ordering information	D6B-2	D6BN-1

Shock/ Vibration/Tilt

	D7E
Dimensions mm (in)	23.1 H x 23.6 D x 36.4 W (0.91 x 0.93 x 1.43)
Features	• Compact tilt sensor • Responds to gradual tilting of 1degree/sec • Self-resetting • Quick-connect terminals • PCB version available (D7A)
Operating angle	50~80°
Return angle (reset)	25° or more
Contact capacity	0.1mA @ 5VDC to 100mA at 30VDC resistive load
Contact form	SPST-NC
Operating temp. range	-25° to +60°C
Service life	5000 operations min.

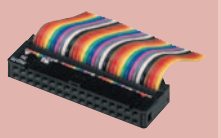
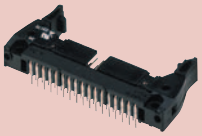
Connectors - FPC (Flexible Printed Circuit)

				
	XF2G	**XF2U**	**XF2J**	**XF2L**
Pitch mm	0.3mm	0.5mm	0.5mm	0.5mm
Insertion type	non-ZIF	ZIF	ZIF	ZIF
Cable lock type	Rear rotary lock	Rear rotary lock	Slide Lock	Slide Lock
PCB mounting	SMT	SMT	SMT	SMT
Cable insertion	Horizontal	Horizontal	Vertical	Horizontal
Contact type(s)	Top	Double sided	Vertical	Top & Bottom
Dimensions mm (in)	9.1W x 3.8D x 0.9H (0.4 x 0.15 x 0.04) for 29 circuits	12.6W x 3.5D x 0.9H (0.5 x 0.14 x 0.04) for 24 circuits	19.5 W x 3.4 D x 4.15 H (0.77 x 0.13 x 0.16) for 30 circuits	18.9 W x 3.5 D x 1.2 H (0.74 x 0.14 x 0.05) for 30 circuits
Available circuits	17, 21, 25, 29, 35, 39, & 51	4, 11, 14, 20, 24, 27, 30, 32, & 40	6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30	4, 5, 6, 7, 8, 10, 12, 13, 15, 18, 19, 20, 21, 22, 24, 26, 30
Packaging	Tape & reel	Tape & reel	Tape & reel	Tape & reel
Features	• Low 4.15mm on-board profile • Applicable FPC thickness of t=0.3mm • Top-entry • Upper contacts • Wide molding wall on bottom allows greater board design freedom	• Low on-board profile of 0.9mm • Ultra-slim with 3.5mm depth • Wide molding wall on bottom allows greater board design freedom	• Low profile, top entry • 0.3mm FPC thickness	• Low profile, small size • 0.3mm FPC thickness
Specifications **Rated current**	0.2A	0.5A	0.5A	0.5A
Rated voltage	50VDC	50VDC	50VDC	50VDC
Contact resistance (@ 20mV, 100mA)	80mΩ max.	60mΩ max.	30mΩ max.	30mΩ max.
Insulation resistance (min.)	100MΩ @ 250VAC	100MΩ @ 250VAC	100MΩ @ 250VDC	100MΩ @ 250VDC
Withstand voltage	250VAC 1 min. (leakage current: 1mA max.)	250VAC 1 min. (leakage current: 1mA max.)	250VAC 1min. (leakage current: 1mA max.)	250VAC 1min. (leakage current: 1mA max.)
Circuit insertion or service life	10 times	20 times	20 times	20 times
Ambient operating temperature	–30°C to + 85°C	-30°C to + 85°C	–30°C to + 85°C	–30°C to + 85°C

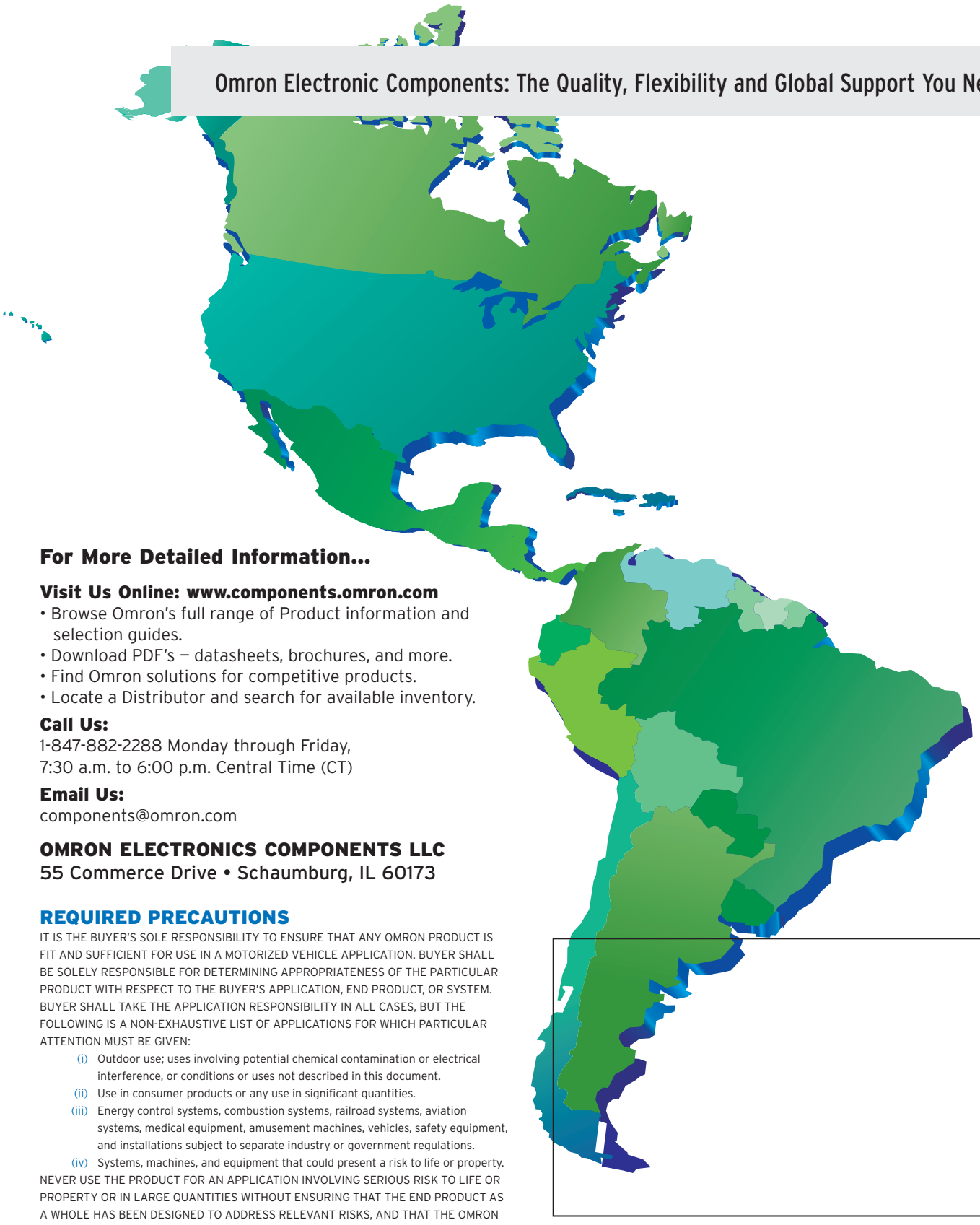




	XF2M	XF2R	XF2B
Pitch mm	0.5mm	0.5mm	0.3mm
Insertion type	ZIF	ZIF	ZIF
Cable lock type	Rear rotary lock	Rear rotary lock	Rear rotary lock
PCB mounting	SMT	SMT	SMT
Cable insertion	Horizontal	Horizontal	Horizontal
Contact type(s)	Double Sided	Double Sided	Double Sided
Dimensions mm (in)	18.5 W x 4.9 D x 2.0 H (0.73 x 0.19 x 0.08) for 30 circuits	19 W x 4.95 D x 0.9 H (0.75 x 0.18 x 0.04) for 34 circuits	8.8 W x 5.2 D x 1.2 H (0.35 x 0.2 x 0.05) for 23 circuits
Available circuits	10, 12, 14,18, 20, 22, 24, 26, 30, 32, 33, 34, 35, 36, 38, 40, 42, 45, 50	6, 9, 18, 24, 34, 40	17, 21, 23, 25, 27, 31, 33, 35, 39, 41, 45, & 51
Packaging	Tape & reel	Tape & reel	Tape & reel
Features	• Low profile (2mm H) • Short body • 0.3mm FPC thickness	• Low profile (0.9mm H) • 0.12mm FPC thickness	• Low profile (1 .2mm H) • Ultra-fine pitch • 0.2mm FPC thickness
Specifications			
Rated current	0.2A	0.3A	0.2A
Rated voltage	50VDC	50VDC	50VDC
Contact resistance (@ 20mV, 100mA)	50mΩ max.	40mΩ max.	50mΩ max.
Insulation resistance (min.)	100MΩ @ 250VDC	100MΩ @ 250VDC	100MΩ @ 250VDC
Withstand voltage	250VAC 1min. (leakage current: 1mA max.)	250 AC 1min. (leakage current: 1mA max.)	250VAC 1min. (leakage current: 1mA max.)
Circuit insertion or service life	20 times	20 times	20 times
Ambient operating temperature	-30°C to +85°C	-30°C to +85°C	-30°C to +85°C

Connectors FFC (Flat Flexible Cable)

	NEW!	NEW! 	NEW! 	NEW!	NEW!
	XG4U	**XG4M**	**XG4A**	**XG4E**	**XG4C**
Description	Strain relief	MIL-type socket	MIL-type socket	IDC plug	Box type plug
Pitch mm	2.54	2.54	2.54	2.54	2.54
Socket / Plug	Socket	Socket	Plug	Plug	Plug
Plating on contacts	Au plating	Au plating	Au plating	Au plating	Au plating
PCB mounting	Thru-hole	Thru-hole	Thru-hole	Thru-hole	Thru-hole
Cable insertion	Vertical or horizontal	Vertical or horizontal	Vertical or horizontal	Vertical or horizontal	Vertical or horizontal
Contact type(s)	IDC flat ribbon cable	IDC flat ribbon cable	IDC flat ribbon cable	IDC flat ribbon cable	IDC flat ribbon cable
Dimensions mm (in)	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
Available circuits	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
Packaging	Bag	Bag	Bag	Bag	Bag
Features	• Can connect & disconnect with one hand • Save board space • Reduced mounting height • High-reliability, low cost	• Can connect & disconnect with one hand • Save board space • Reduced mounting height • High-reliability, low cost	• Can connect & disconnect with one hand • Save board space • Reduced mounting height • High-reliability, low cost • Available in short lock, long lock and dual port models	• Solderless plug • Can connect & disconnect with one hand • Save board space • Reduced mounting height • High-reliability, low cost	• Available in straight DIP & right-angle DIP terminals • Can connect & disconnect with one hand • Save board space • Reduced mounting height • High-reliability, low cost
Specifications					
Rated current	1A	1A	1A	1A	1A
Rated voltage	250VAC	250VAC	250VAC	250VAC	250VAC
Contact resistance	20mΩ max.	20mΩ max.	20mΩ max.	20mΩ max.	20mΩ max.
Insulation resistance	100MΩ @ 500VDC	100MΩ @ 500VDC	100MΩ @ 500VDC	100MΩ @ 500VDC	100MΩ @ 500VDC
Withstand voltage (leakage current: 1mA max.)	500VAC for 1 minute	500VAC for 1 minute	500VAC for 1 minute	500VAC for 1 minute	500VAC for 1 minute
Circuit insertion or service life	50 times	50 times	50 times	50 times	50 times
Ambient operating temperature	-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

Omron Electronic Components: The Quality, Flexibility and Global Support You Need



For More Detailed Information...

Visit Us Online: www.components.omron.com
- Browse Omron's full range of Product information and selection guides.
- Download PDF's – datasheets, brochures, and more.
- Find Omron solutions for competitive products.
- Locate a Distributor and search for available inventory.

Call Us:
1-847-882-2288 Monday through Friday,
7:30 a.m. to 6:00 p.m. Central Time (CT)

Email Us:
components@omron.com

OMRON ELECTRONICS COMPONENTS LLC
55 Commerce Drive • Schaumburg, IL 60173

REQUIRED PRECAUTIONS

IT IS THE BUYER'S SOLE RESPONSIBILITY TO ENSURE THAT ANY OMRON PRODUCT IS FIT AND SUFFICIENT FOR USE IN A MOTORIZED VEHICLE APPLICATION. BUYER SHALL BE SOLELY RESPONSIBLE FOR DETERMINING APPROPRIATENESS OF THE PARTICULAR PRODUCT WITH RESPECT TO THE BUYER'S APPLICATION, END PRODUCT, OR SYSTEM. BUYER SHALL TAKE THE APPLICATION RESPONSIBILITY IN ALL CASES, BUT THE FOLLOWING IS A NON-EXHAUSTIVE LIST OF APPLICATIONS FOR WHICH PARTICULAR ATTENTION MUST BE GIVEN:

(i) Outdoor use; uses involving potential chemical contamination or electrical interference, or conditions or uses not described in this document.
(ii) Use in consumer products or any use in significant quantities.
(iii) Energy control systems, combustion systems, railroad systems, aviation systems, medical equipment, amusement machines, vehicles, safety equipment, and installations subject to separate industry or government regulations.
(iv) Systems, machines, and equipment that could present a risk to life or property.

NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY OR IN LARGE QUANTITIES WITHOUT ENSURING THAT THE END PRODUCT AS A WHOLE HAS BEEN DESIGNED TO ADDRESS RELEVANT RISKS, AND THAT THE OMRON PRODUCT IS PROPERLY RATED AND INSTALLED FOR ITS INTENDED USE.

www.components.omron.com

YOI-E-03
© 2006 Omron Electronic Componenets
Printed in the U.S.A. 06/2006

OMRON®
ELECTRONIC COMPONENTS

Общество с ограниченной ответственностью «МосЧип» ИНН 7719860671 / КПП 771901001
Адрес: 105318, г.Москва, ул.Щербаковская д.3, офис 1107

Данный компонент на территории Российской Федерации

Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

http://moschip.ru/get-element

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

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

Skype отдела продаж:
moschip.ru
moschip.ru_4
moschip.ru_6
moschip.ru_9