

# General Specifications

Toggles

Rockers

Pushbuttons

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

Touch

Indicators

Accessories

Supplement

## Electrical Capacity (Resistive Load)

|                              |   |
|------------------------------|---|
| <b>Power Level (silver):</b> | 3VA maximum @ 28V DC maximum<br>(Applicable Range 10mA ~ 125mA @ 0.1V ~ 28V)      |
| <b>Logic Level (gold):</b>   | 0.4VA maximum @ 28V AC/DC maximum<br>(Applicable Range 0.1mA ~ 0.1A @ 20mV ~ 28V) |
|                              | Note: See Supplement for further explanation of operating range.                  |

## Other Ratings

|                                 |   |
|---------------------------------|---|
| <b>Contact Resistance:</b>      | 100 milliohms maximum   |
| <b>Insulation Resistance:</b>   | 100 megohms minimum @ 100V DC   |
| <b>Dielectric Strength:</b>     | 250V AC minimum for 1 minute minimum between contacts & between contacts & case |
| <b>Mechanical Life:</b>         | 500,000 operations minimum  |
| <b>Electrical Life:</b>         | 500,000 operations minimum  |
| <b>Nominal Operating Force:</b> | 1.60N   |
| <b>Total Travel:</b>            | .008" (0.2mm)   |

## Materials & Finishes

|                             |   |
|-----------------------------|---|
| <b>Actuator:</b>            | Glass fiber reinforced polyamide (UL94V-0)  |
| <b>Case:</b>                | Stainless steel                             |
| <b>Base:</b>                | Glass fiber reinforced polyamide (UL94V-0)  |
| <b>Movable Contacts:</b>    | Stainless steel with silver or gold plating |
| <b>Stationary Contacts:</b> | Brass with silver or gold plating           |
| <b>Terminals:</b>           | Brass with silver or gold plating           |

## Environmental Data

|                                     |  |
|-------------------------------------|--|
| <b>Operating Temperature Range:</b> | -20°C through +70°C (-4°F through +158°F)  |
| <b>Humidity:</b>                    | 90 ~ 95% humidity for 240 hours @ 40°C (104°F)   |
| <b>Vibration:</b>                   | 10 ~ 55Hz with peak-to-peak amplitude of 1.5mm traversing the frequency range & returning in 1 minute; 3 right angled directions for 2 hours |
| <b>Shock:</b>                       | 100G (981m/s <sup>2</sup> ) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)                              |

## PCB Processing

|                   |  |
|-------------------|--|
| <b>Soldering:</b> | Wave Soldering Recommended. See Profile A in Supplement section.<br>Manual Soldering: See Profile A in Supplement section. |
| <b>Cleaning:</b>  | These devices are not process sealed. Hand clean locally using alcohol based solution.                                     |

## Standards & Certifications

|                                |  |
|--------------------------------|--|
| <b>Flammability Standards:</b> | UL94V-0 actuator and base<br>These switches are designed for use in a low-voltage, low-current circuit.<br>When used as intended, the results do not produce hazardous energy. |
|--------------------------------|--|

# Distinctive Characteristics

.244" (6.2mm) square body allows compact mounting.

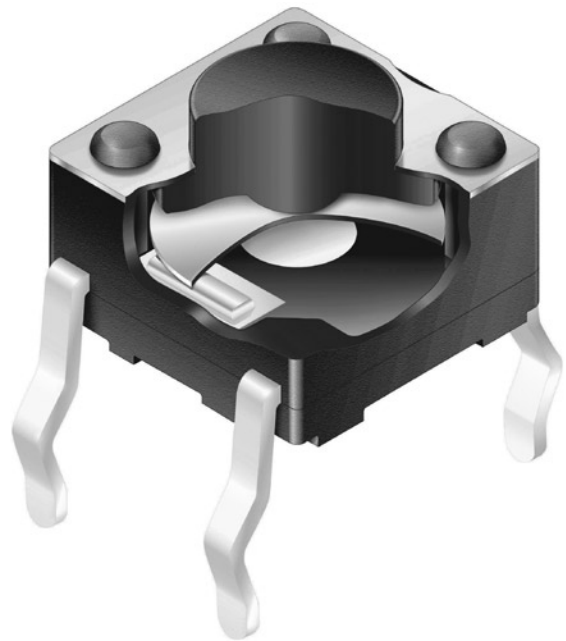
Heat resistant resin body meets lead-free solder processing requirements and UL flammability rating of 94V-0.

Stick-tube packaging allows rapid automated placement of devices.

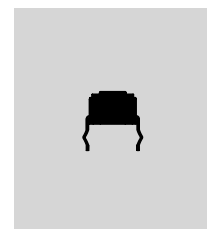
Gold plated contacts available for very low voltage/current applications offer advantages of little or no oxidization or sulfurization and stable contact resistance.

Crimped terminals provide a spring type action which ensures secure mounting and prevents dislodging during automated soldering.

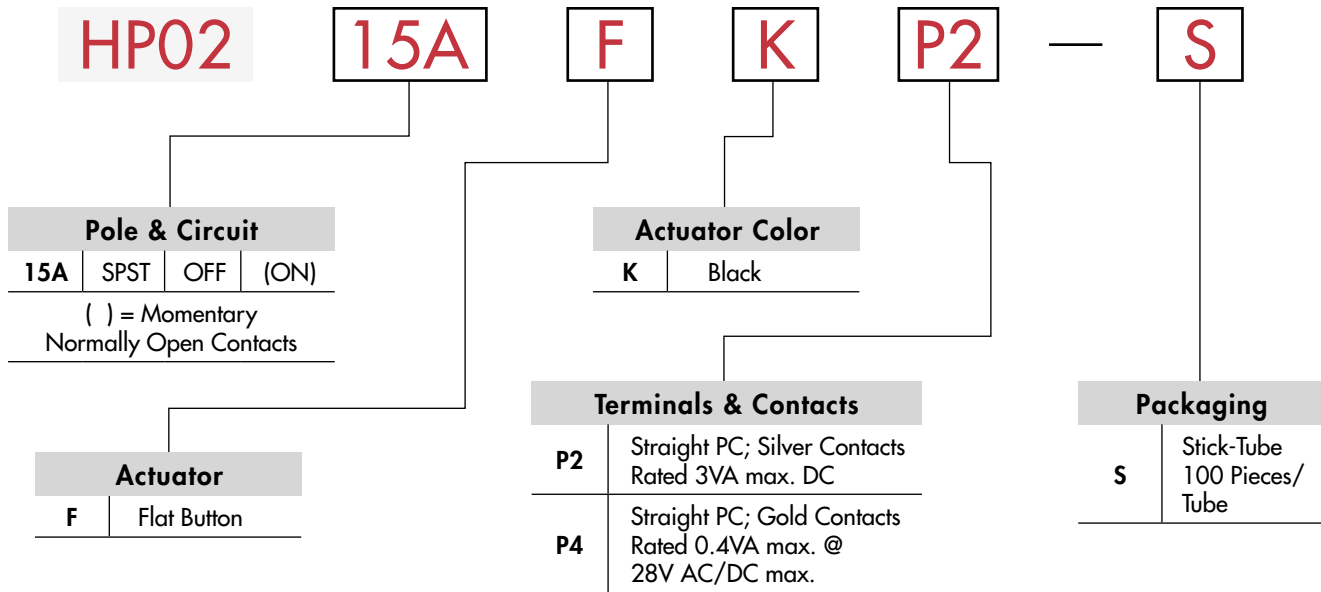
Insert molded terminals lock out flux, solvents, and other contaminants and allow automated soldering.



Actual Size

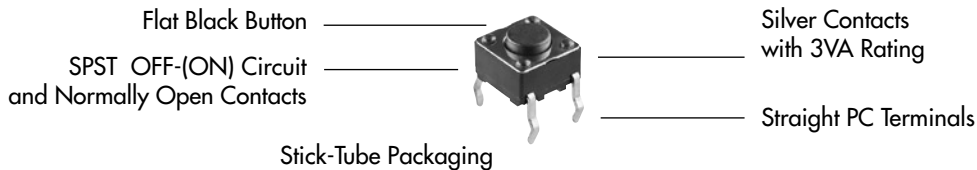


### TYPICAL SWITCH ORDERING EXAMPLE



### DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

#### HP0215AFKP2-S



### POLE & CIRCUIT

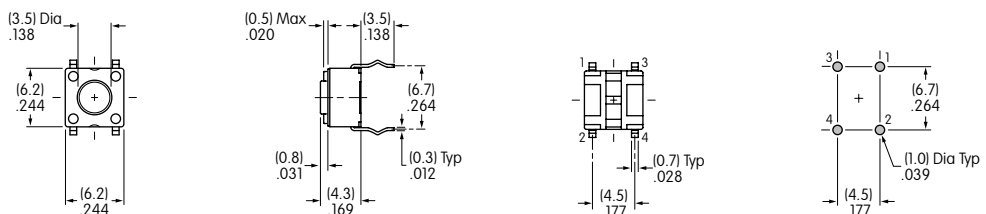
|      |         | Actuator Position<br>( ) = Momentary |      | Switch Throw & Schematic | Note: Terminal numbers are not actually on the switch. |
|------|---------|--------------------------------------|------|--------------------------|--|
| Pole | Model   | Normal                               | Down | SPST                     |  |
| SP   | HP0215A | OFF                                  | (ON) |                          |  |

### TYPICAL SWITCH DIMENSIONS

#### Straight PC



HP0215AFKP2



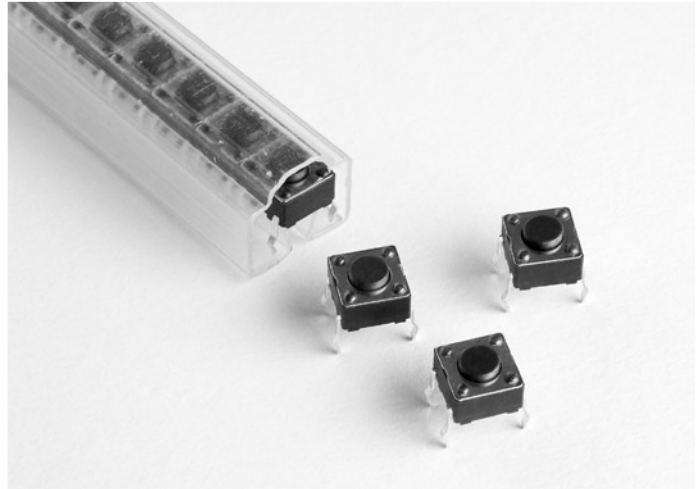
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PACKAGING

S

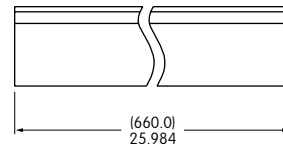
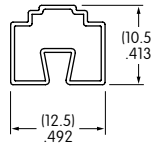
Stick-Tube

Switches must be ordered in 100-piece increments.



Stick-Tube Dimensions

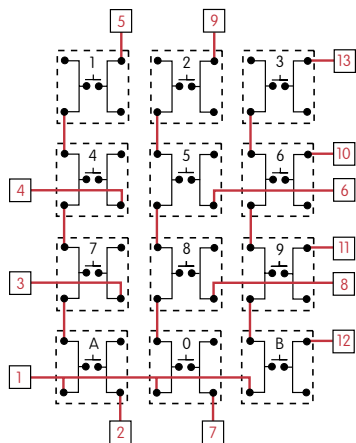
Each stick-tube contains 100 switches.



KEYBOARD MATRIX

Common Bus Matrix

These single pole, single throw switches can be used in a keyboard matrix and, using strapped terminals, achieve a common bus electrical configuration on a single-sided PC board.

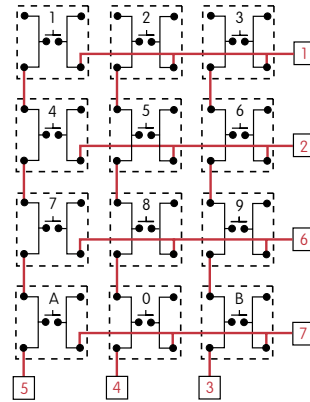


|                 |   | PC Terminations |   |   |   |   |   |   |   |   |    |    |    |    |
|-----------------|---|-----------------|---|---|---|---|---|---|---|---|----|----|----|----|
|                 |   | 1               | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Keys (Switches) | 1 |                 |   |   |   | ● |   |   |   |   |    |    |    |    |
|                 | 2 |                 |   |   |   |   |   |   |   | ● |    |    |    |    |
|                 | 3 |                 |   |   |   |   |   |   |   |   |    |    |    | ●  |
|                 | 4 |                 |   |   |   |   |   |   |   |   |    |    |    |    |
|                 | 5 |                 |   |   |   |   |   |   |   |   |    |    |    |    |
|                 | 6 |                 |   |   |   |   |   |   |   |   |    |    |    |    |
|                 | 7 |                 |   |   |   |   |   |   |   |   |    |    |    |    |
|                 | 8 |                 |   |   |   |   |   |   |   |   |    |    |    |    |
|                 | 9 |                 |   |   |   |   |   |   |   |   |    |    |    |    |
|                 | 0 |                 |   |   |   |   |   |   |   |   |    |    |    |    |
|                 | A |                 |   |   |   |   |   |   |   |   |    |    |    |    |
|                 | B |                 |   |   |   |   |   |   |   |   |    |    |    |    |

● = ON

X-Y Matrix

These single pole, single throw switches can be arranged on a single-sided PC board matrix with strapped terminals to achieve an X-Y type electrical interconnection.



|                 |   | PC Terminations |   |   |   |   |   |   |
|-----------------|---|-----------------|---|---|---|---|---|---|
|                 |   | 1               | 2 | 3 | 4 | 5 | 6 | 7 |
| Keys (Switches) | 1 |                 |   |   |   | ● |   |   |
|                 | 2 |                 |   |   |   |   |   |   |
|                 | 3 |                 |   |   |   |   |   |   |
|                 | 4 |                 |   |   |   |   |   |   |
|                 | 5 |                 |   |   |   |   |   |   |
|                 | 6 |                 |   |   |   |   |   |   |
|                 | 7 |                 |   |   |   |   |   |   |

● = ON

Red = PCB Trace    Black = Switch Circuit

## 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

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