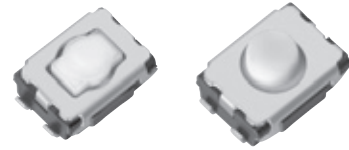


### 4.7 mm×3.5 mm SMD Light Touch Switches

Type: **EVQP2/EVQP9/EVQ3P2**



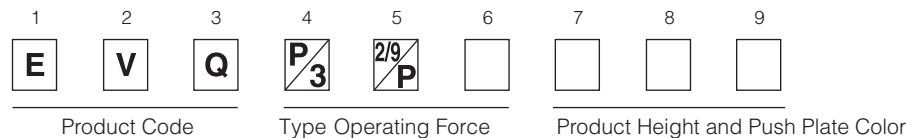
#### ■ Features

- External dimensions : 4.7 mm×3.5 mm,  
Height : Middle Push Travel 2.5 mm  
Short Push Travel 2.1 mm, 2.5 mm
- High operating force and long operational life
- High mountability with J-bent (4 terminals)

#### ■ Recommended Applications

- Operation switches for portable electronic equipment  
(Mobile phones, Digital still cameras, Camcorders,  
Portable audio players, etc.)
- Keyless entry systems (automotive)
- Car audio equipment

#### ■ Explanation of Part Numbers



#### ■ Specifications

| Travel Type                   |                                 | Middle Push Travel   | Short Push Travel   |
|-------------------------------|---------------------------------|--|---|
| Type                          |                                 | Snap action / Push-on V DC type SPST   |   |
| Electrical                    | Rating                          | 10 μA 2 V DC to 20 mA 15 V DC (Resistive load)   |   |
|                               | Contact Resistance              | 100 mΩ max.  |   |
|                               | Insulation Resistance           | 100 MΩ min. (at 100 V DC)  |   |
|                               | Dielectric Withstanding Voltage | 250 V AC (1 minute)  |   |
|                               | Bouncing                        | 10 ms max. (ON, OFF)   |   |
| Mechanical                    | Operating Force                 | 2.5 N, 3.5 N, 5.0 N  | 1.0 N, 1.6 N, 2.4 N, 3.5 N, 4.0 N, 5.0 N  |
|                               | Travel                          | 0.70 mm±0.20 mm  | 0.25 mm <sup>+0.05</sup> <sub>-0.15</sub> mm  |
| Endurance                     | Operating Life                  | 2.5 N: 1,000,000 cycles min.<br>3.5 N: 500,000 cycles min.<br>5.0 N: 200,000 cycles min. | 1.0 N, 1.6 N: 1,000,000 cycles min.<br>2.4 N: 500,000 cycles min.<br>3.5 N: 200,000 cycles min.<br>4.0 N: 200,000 cycles min.<br>5.0 N: 200,000 cycles min. |
| Operating Temperature         |                                 | -40 °C to +85 °C   |   |
| Storage Temperature           |                                 | -40 °C to +85 °C (Bulk)<br>-20 °C to +60 °C (Taping)                                     |   |
| Minimum Quantity/Packing Unit |                                 | 4,000 pcs. Embossed Taping (Reel Pack)   |   |
| Quantity/Carton               |                                 | 20,000 pcs.  |   |

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Should a safety concern arise regarding this product, please be sure to contact us immediately.


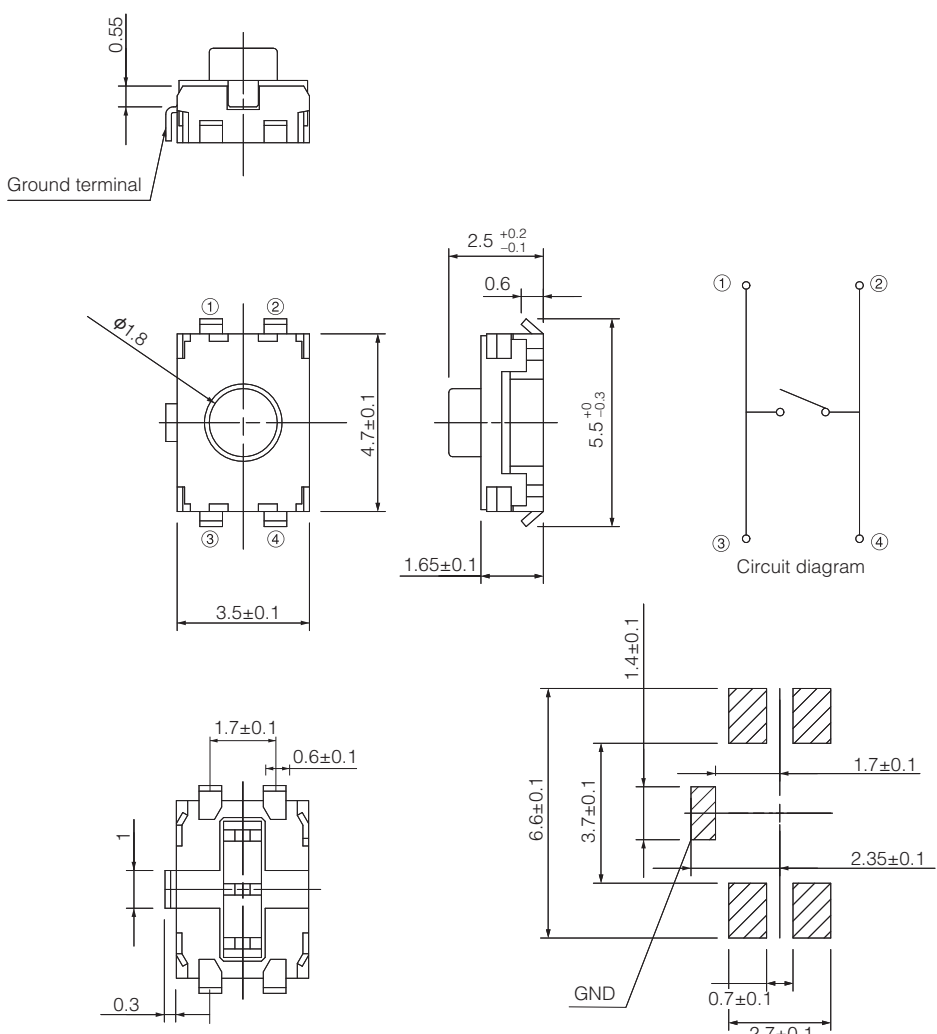
■ Dimensions in mm (not to scale)

|  |  |
|--|--|
| <p>No. 1</p> <p>EVQP2<br/>EVQ3P2</p> <p>Middle push travel<br/>With J-bent terminals<br/>Without<br/>Ground Terminal</p> | <p>(General dimension tolerance±0.2)</p> |
|--|--|

| Part Numbers | Ground Terminal | Operating Force | Height | Push Plate Color | Operating Life   |
|--------------|-----------------|-----------------|--------|------------------|------------------|
| EVQP2H02B    | Without         | 2.5 N           | 2.5 mm | Blue             | 1,000,000 cycles |
| EVQP2K02Q    | Without         | 3.5 N           | 2.5 mm | Gray             | 500,000 cycles   |
| EVQ3P202K    | Without         | 5.0 N           | 2.5 mm | Black            | 200,000 cycles   |

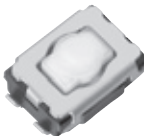
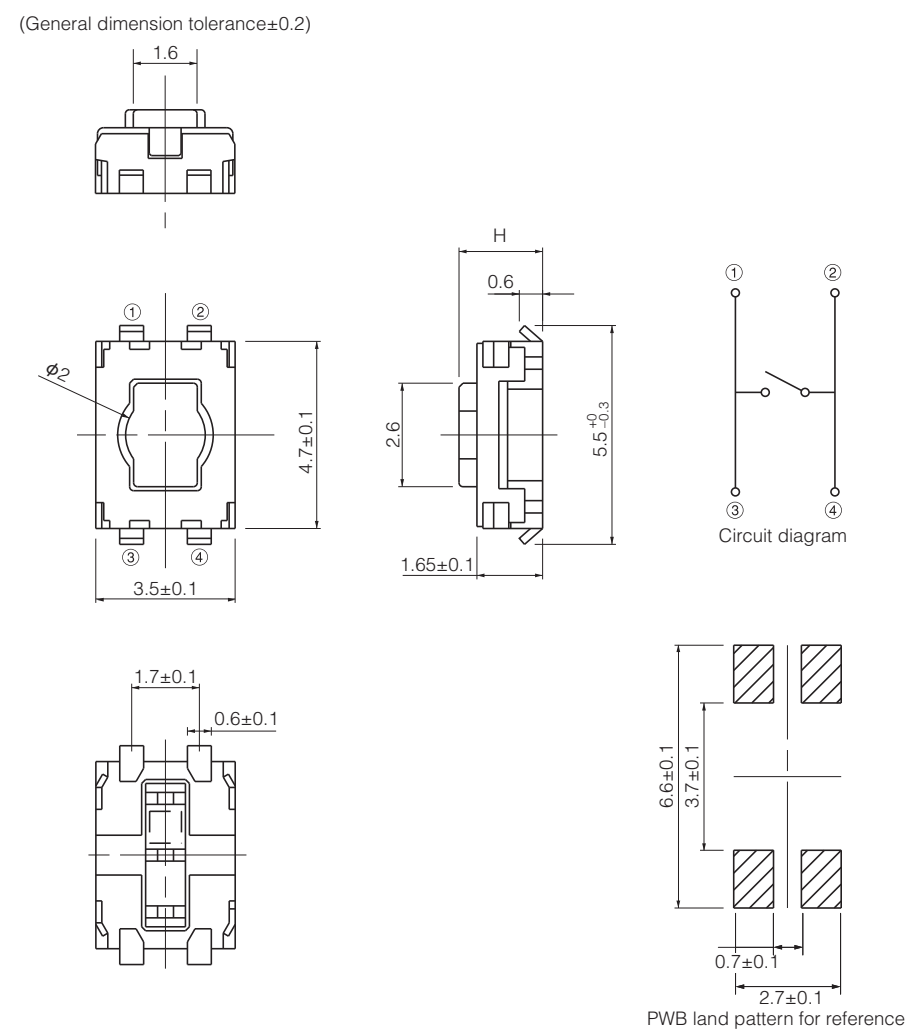
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Should a safety concern arise regarding this product, please be sure to contact us immediately.

### ■ Dimensions in mm (not to scale)

|  |  |                        |               |                         |                         |
|--|--|------------------------|---------------|-------------------------|-------------------------|
| <p>No. 2</p> <p>EVQP2<br/>EVQ3P2</p> <p>Middle push travel<br/>With J-bent terminals<br/>With<br/>Ground Terminal</p>  | <p>(General dimension tolerance : ± 0.2)</p>  <p>Ground terminal</p> <p>① ②<br/>③ ④<br/>Circuit diagram</p> <p>Land pattern plan</p> <p>We recommend to connect the GND land shown in the switch spec. with the GND of your P.C.B for withstanding electric-static discharge.</p> |                        |               |                         |                         |
| <p>Part Numbers</p>  | <p>Ground Terminal</p>   | <p>Operating Force</p> | <p>Height</p> | <p>Push Plate Color</p> | <p>Operating Life</p>   |
| <p>EVQP2B02B</p>   | <p>With</p>  | <p>2.5 N</p>           | <p>2.5 mm</p> | <p>Blue</p>             | <p>1,000,000 cycles</p> |
| <p>EVQP2D02Q</p>   | <p>With</p>  | <p>3.5 N</p>           | <p>2.5 mm</p> | <p>Gray</p>             | <p>500,000 cycles</p>   |
| <p>EVQP2F02K</p>   | <p>With</p>  | <p>5.0 N</p>           | <p>2.5 mm</p> | <p>Black</p>            | <p>200,000 cycles</p>   |

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### ■ Dimensions in mm (not to scale)

| No. 3  |                 |   |          |                  |                  |
|--|-----------------|---|----------|------------------|------------------|
| EVQP2<br>EVQP9<br><br>Short push travel<br>With J-bent terminals<br>Without<br>Ground Terminal |                 | (General dimension tolerance±0.2)   |          |                  |                  |
|               |                 |  |          |                  |                  |
| Part Numbers   | Ground Terminal | Operating Force   | H=Height | Push Plate Color | Operating Life   |
| EVQP2002M  | Without         | 1.0 N   | 2.1 mm   | White            | 1,000,000 cycles |
| EVQP2002W  | Without         | 1.0 N   | 2.5 mm   | White            | 1,000,000 cycles |
| EVQP2202M  | Without         | 1.6 N   | 2.1 mm   | White            | 1,000,000 cycles |
| EVQP2202W  | Without         | 1.6 N   | 2.5 mm   | White            | 1,000,000 cycles |
| EVQP2402M  | Without         | 2.4 N   | 2.1 mm   | White            | 500,000 cycles   |
| EVQP2402W  | Without         | 2.4 N   | 2.5 mm   | White            | 500,000 cycles   |
| EVQP2602M  | Without         | 3.5 N   | 2.1 mm   | White            | 200,000 cycles   |
| EVQP2602W  | Without         | 3.5 N   | 2.5 mm   | White            | 200,000 cycles   |
| EVQP9W02W  | Without         | 4.0 N   | 2.5 mm   | White            | 200,000 cycles   |
| EVQP9P02M  | Without         | 5.0 N   | 2.1 mm   | White            | 200,000 cycles   |
| EVQP9P02W  | Without         | 5.0 N   | 2.5 mm   | White            | 200,000 cycles   |


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■ Dimensions in mm (not to scale)

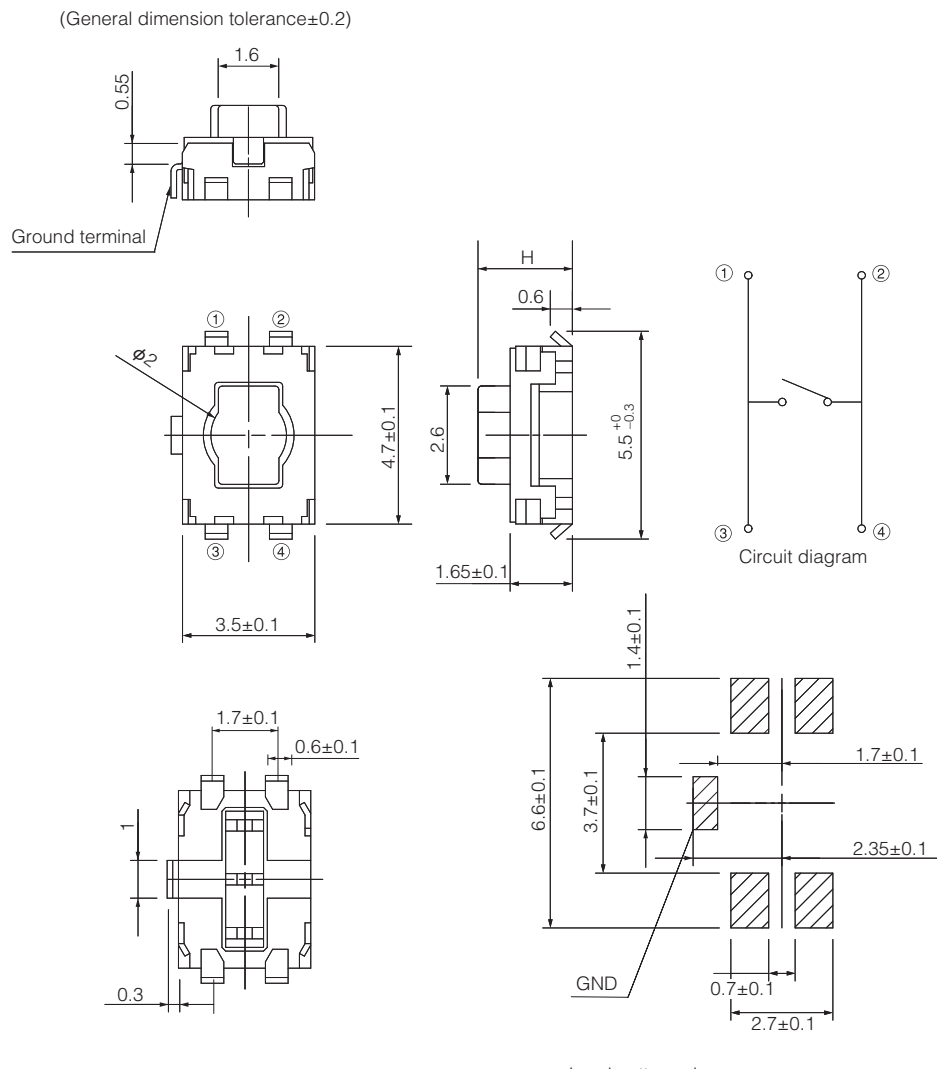
No. 4

EVQP2  
EVQP9

Short push travel  
With J-bent terminals  
With  
Ground Terminal



(General dimension tolerance±0.2)



Ground terminal

1.6

0.55

1.7±0.1

0.6±0.1

4.7±0.1

3.5±0.1

2.6

5.5<sup>+0</sup><sub>-0.3</sub>

1.65±0.1

H

0.61

1.4±0.1

6.6±0.1

3.7±0.1

1.7±0.1

2.35±0.1

0.7±0.1

2.7±0.1

GND

① ②

③ ④

Circuit diagram

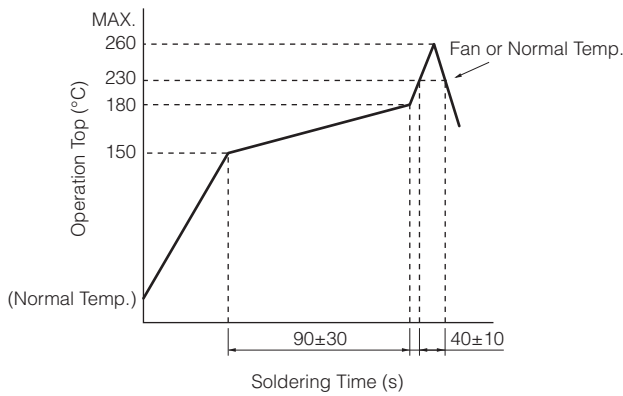
Land pattern plan

We recommend to connect the GND land shown in the switch spec. with the GND of your P.C.B for withstanding electric-static discharge.

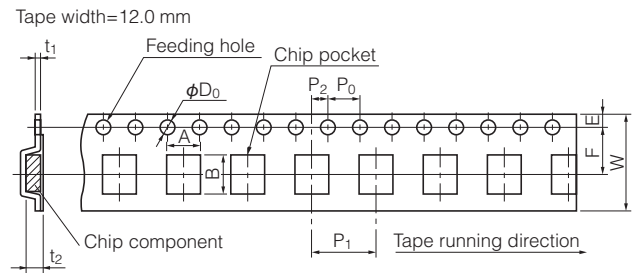
| Part Numbers | Ground Terminal | Operating Force | H=Height | Push Plate Color | Operating Life   |
|--------------|-----------------|-----------------|----------|------------------|------------------|
| EVQP2P02M    | With            | 1.0 N           | 2.1 mm   | White            | 1,000,000 cycles |
| EVQP2P02W    | With            | 1.0 N           | 2.5 mm   | White            | 1,000,000 cycles |
| EVQP2R02M    | With            | 1.6 N           | 2.1 mm   | White            | 1,000,000 cycles |
| EVQP2R02W    | With            | 1.6 N           | 2.5 mm   | White            | 1,000,000 cycles |
| EVQP2T02M    | With            | 2.4 N           | 2.1 mm   | White            | 500,000 cycles   |
| EVQP2T02W    | With            | 2.4 N           | 2.5 mm   | White            | 500,000 cycles   |
| EVQP2V02M    | With            | 3.5 N           | 2.1 mm   | White            | 200,000 cycles   |
| EVQP2V02W    | With            | 3.5 N           | 2.5 mm   | White            | 200,000 cycles   |
| EVQP9H02M    | With            | 5.0 N           | 2.1 mm   | White            | 200,000 cycles   |
| EVQP9H02W    | With            | 5.0 N           | 2.5 mm   | White            | 200,000 cycles   |

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### Recommended Reflow Soldering Conditions



### Embossed Carrier Taping



Taping condition : Lack of products in the middle of taping should be one MAX, but total quantity specified in the specifications should be secured.

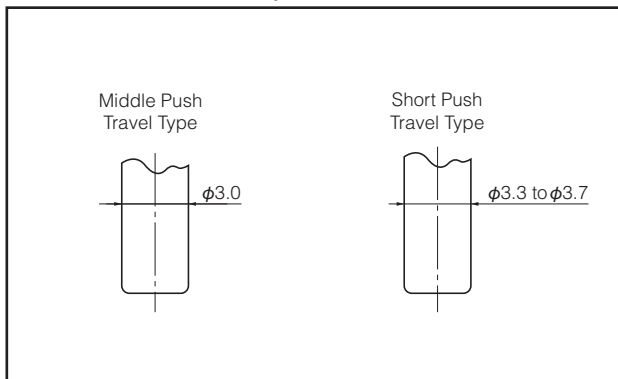
Peeling off strength of top tape : It should be within 0.2N to 1.0N at 165 degree in peeling off angle.

Joint of carrier tape : One joint per one reel may exist.

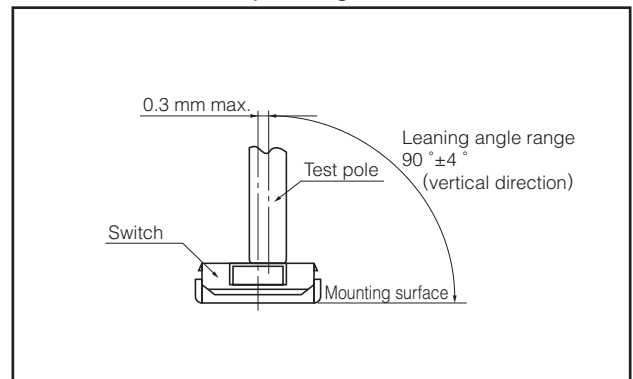
Unit: mm

| Part No. | Height | A       | B       | W        | F       | E         | P <sub>1</sub> | P <sub>2</sub> | P <sub>0</sub> | D <sub>0</sub> Dia.              | t <sub>1</sub> | t <sub>2</sub> |
|----------|--------|---------|---------|----------|---------|-----------|----------------|----------------|----------------|----------------------------------|----------------|----------------|
| EVQP2    | 2.1    | 6.0±0.2 | 4.7±0.2 | 12.0±0.3 | 5.5±0.1 | 1.75±0.10 | 8.0±0.1        | 2.0±0.1        | 4.0±0.1        | 1.5 <sup>+0.1</sup> <sub>0</sub> | 0.3±0.1        | 2.7±0.2        |
| EVQP9    | 2.5    |         |         |          |         |           |                |                |                |                                  |                |                |
| EVQ3P2   |        |         |         |          |         |           |                |                |                |                                  |                |                |

### Recommended Shape of Test Pole



### Recommended Operating Conditions



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# Mouser Electronics

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## Panasonic:

[EVQ-P2002W](#) [EVQ-P2202W](#) [EVQ-3P2F02K](#) [EVQ-P2402M](#) [EVQ-P2T02M](#) [EVQ-P2K02Q](#) [EVQ-P2402W](#) [EVQ-P2B02B](#) [EVQ-P2202M](#) [EVQ-P2V02M](#) [EVQ-3P202K](#) [EVQ-P2002M](#) [EVQ-P2602M](#) [EVQ-P2602W](#) [EVQ-P2D02Q](#) [EVQ-P2F02K](#) [EVQ-P2H02B](#) [EVQ-P2P02M](#) [EVQ-P2P02W](#) [EVQ-P2R02M](#) [EVQ-P2R02W](#) [EVQ-P2T02W](#) [EVQ-P2V02W](#) [EVQ-P9P02M](#) [EVQ-P9H02W](#) [EVQ-P9P02W](#) [EVQ-P9H02M](#) [EVQ-P9W02W](#) [EVQ-P9102M](#) [EVQ-P9102W](#) [EVQ-P9W02M](#)

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