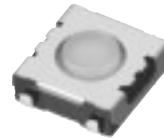


### 6 mm Square SMD Light Touch Switches

Type: **EVQQX**



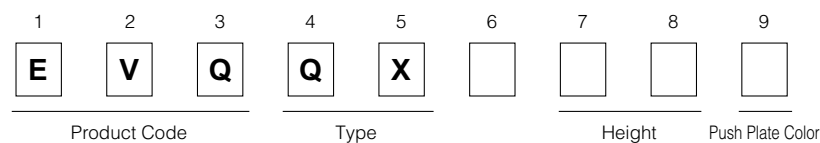
#### ■ Features

- External dimensions: 6.2 mm×6.2 mm, Height 2.0 mm, 2.5 mm, 3.1 mm
- Reflow soldering
- Wide product variety

#### ■ Recommended Applications

- Car electronics equipment

#### ■ Explanation of Part Numbers



#### ■ Product Chart

| Type with Push Plate | Soldering       |       | Reflow soldering             |        |
|----------------------|-----------------|-------|------------------------------|--------|
|                      |                 |       | Without sealing film         |        |
|                      | Packaging       |       | Taping<br>L=2.0, 2.5, 3.1 mm |        |
|                      | Ground terminal |       | Without                      | With   |
| Profile<br>          | Operating Force | 1.3 N | EVQQXP                       | EVQQXM |
|                      |                 | 1.6 N | EVQQXS                       | EVQQXN |
|                      |                 | 2.6 N | EVQQXT                       | EVQQXK |

#### ■ Specifications

| Type                          |                                 | Snap action / Push-on type SPST                      |                                       |
|-------------------------------|---------------------------------|------------------------------------------------------|---------------------------------------|
| Electrical                    | Rating                          | 10 $\mu$ A 2 Vdc to 20 mA 15 Vdc (Resistive load)    |                                       |
|                               | Contact Resistance              | 50 m $\Omega$ max.                                   |                                       |
|                               | Insulation Resistance           | 50 M $\Omega$ min. (at 100 Vdc)                      |                                       |
|                               | Dielectric Withstanding Voltage | 250 Vac for 1 minute                                 |                                       |
|                               | Bouncing                        | 3 ms max. (ON)<br>8 ms max. (OFF)                    |                                       |
| Mechanical                    | Operating Force                 | 1.3 N $\pm$ 0.4 N<br>1.6 N $\pm$ 0.5 N               | 2.6 N $\pm$ 0.6 N                     |
|                               | Travel                          | 0.25 mm $\pm$ 0.10 mm                                |                                       |
| Endurance                     | Operating Life                  | 1000000 cycles min.                                  | 100000 cycles min.                    |
| Operating Temperature         |                                 | -20 °C to +70 °C                                     |                                       |
| Storage Temperature           |                                 | -40 °C to +85 °C (Bulk)<br>-20 °C to +60 °C (Taping) |                                       |
| Minimum Quantity/Packing Unit |                                 | H=2.0 mm                                             | 4000 pcs. Embossed Taping (Reel Pack) |
|                               |                                 | H=2.5 mm, 3.1 mm                                     | 2000 pcs. Embossed Taping (Reel Pack) |
| Quantity/Carton               |                                 | H=2.0 mm                                             | 20000 pcs.                            |
|                               |                                 | H=2.5 mm, 3.1 mm                                     | 10000 pcs.                            |

Note: Non washable

Design and specifications are each subject to change without notice. Ask factory for the current technical specifications before purchase and/or use.  
Should a safety concern arise regarding this product, please be sure to contact us immediately.

Apr. 2008

### ■ Dimensions in mm (not to scale)

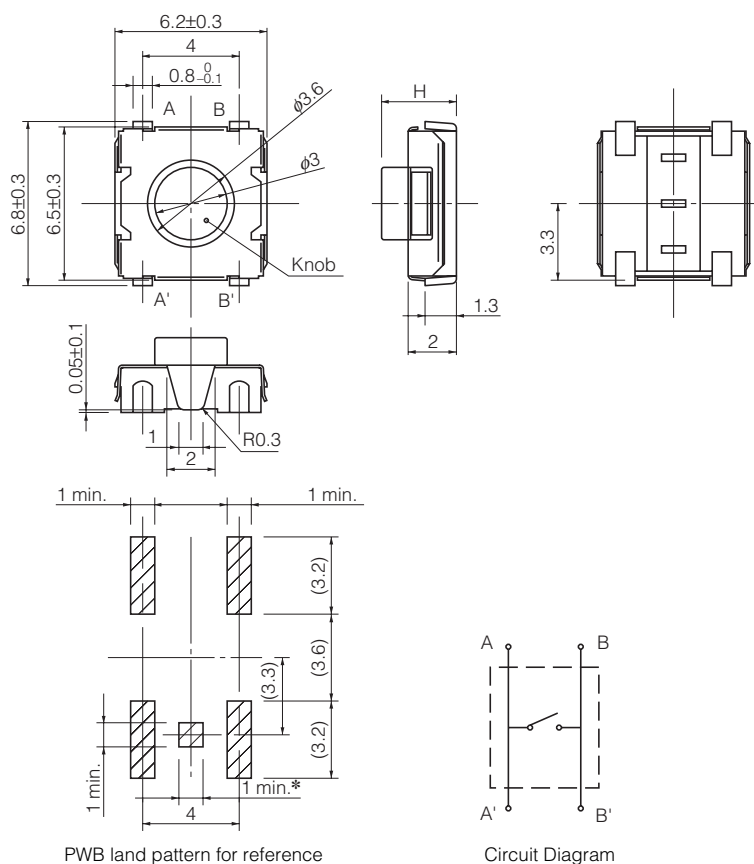
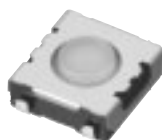
#### EVQQX

(Embossed Taping)

With push plate  
Surface mount  
For reflow soldering  
With ground terminal  
Without ground terminal

#### Notes:

1. Non-washable in solvents
2. Types with ground terminal available



PWB land pattern for reference

Circuit Diagram

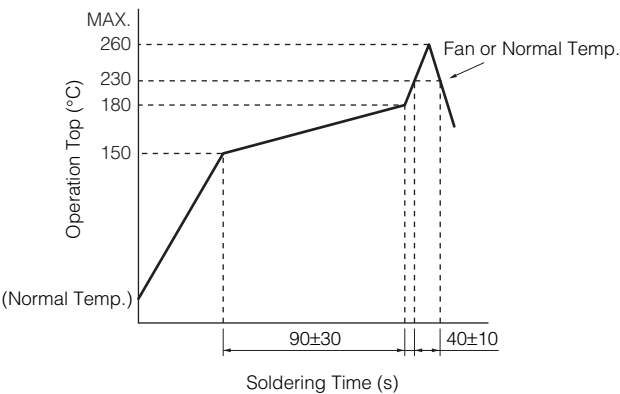
Even though the ground terminal is not soldered the ground effect would be gained.  
However when soldering the ground terminal, do investigation sufficiently beforehand in the invasion of the flux. We recommend to connect the GND land shown in the switch spec with the GND of your P.W.B for withstanding electric static discharge.

\* This land not necessary when a ground terminal is not used.

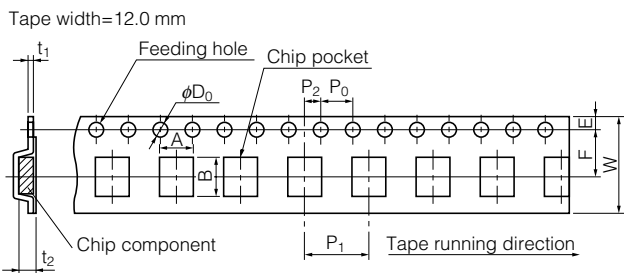
| Height                              |
|-------------------------------------|
| H                                   |
| 2.0±0.2                             |
| 2.5±0.2                             |
| 3.1 <sup>+0.3</sup> <sub>-0.1</sub> |

| Part Numbers | Ground Terminal | Operating Force | H=Height | Push Plate Color | Operating Life |
|--------------|-----------------|-----------------|----------|------------------|----------------|
| EVQQXP01W    | Without         | 1.3 N           | 2.0 mm   | White            | 1000000 cycles |
| EVQQXP02W    | Without         | 1.3 N           | 2.5 mm   | White            | 1000000 cycles |
| EVQQXP03W    | Without         | 1.3 N           | 3.1 mm   | White            | 1000000 cycles |
| EVQQXS01W    | Without         | 1.6 N           | 2.0 mm   | White            | 1000000 cycles |
| EVQQXS02W    | Without         | 1.6 N           | 2.5 mm   | White            | 1000000 cycles |
| EVQQXS03W    | Without         | 1.6 N           | 3.1 mm   | White            | 1000000 cycles |
| EVQQXT01W    | Without         | 2.6 N           | 2.0 mm   | White            | 100000 cycles  |
| EVQQXT02W    | Without         | 2.6 N           | 2.5 mm   | White            | 100000 cycles  |
| EVQQXT03W    | Without         | 2.6 N           | 3.1 mm   | White            | 100000 cycles  |
| EVQQXM01W    | With            | 1.3 N           | 2.0 mm   | White            | 1000000 cycles |
| EVQQXM02W    | With            | 1.3 N           | 2.5 mm   | White            | 1000000 cycles |
| EVQQXM03W    | With            | 1.3 N           | 3.1 mm   | White            | 1000000 cycles |
| EVQQXN01W    | With            | 1.6 N           | 2.0 mm   | White            | 1000000 cycles |
| EVQQXN02W    | With            | 1.6 N           | 2.5 mm   | White            | 1000000 cycles |
| EVQQXN03W    | With            | 1.6 N           | 3.1 mm   | White            | 1000000 cycles |
| EVQQXK01W    | With            | 2.6 N           | 2.0 mm   | White            | 100000 cycles  |
| EVQQXK02W    | With            | 2.6 N           | 2.5 mm   | White            | 100000 cycles  |
| EVQQXK03W    | With            | 2.6 N           | 3.1 mm   | White            | 100000 cycles  |

Recommended Reflow Soldering Conditions

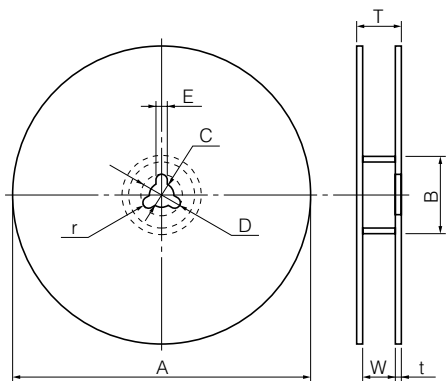


Embossed Carrier Taping



| Unit: mm |         |         |         |          |         |           |         |         |         |                                   |           |
|----------|---------|---------|---------|----------|---------|-----------|---------|---------|---------|-----------------------------------|-----------|
| Part No. | Height  | A       | B       | W        | F       | E         | $P_1$   | $P_2$   | $P_0$   | $D_0$ Dia.                        | $t_1$     |
| EVQQX    | 2.0     | 7.0±0.2 | 7.5±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> | 0.30±0.05 |
|          | 2.5/3.1 |         |         |          |         |           |         |         |         |                                   |           |

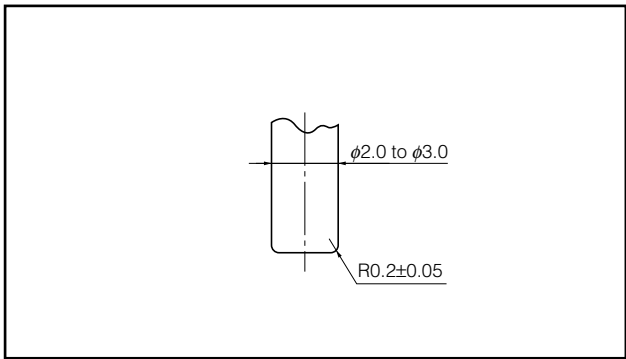
Standard Reel Dimensions in mm (not to scale)



| Item      | A                    | B                | C                   | D                   | E       |
|-----------|----------------------|------------------|---------------------|---------------------|---------|
| Rate (mm) | $\phi 370.0 \pm 2.0$ | $\phi 50.0$ min. | $\phi 13.0 \pm 0.5$ | $\phi 21.0 \pm 1.0$ | 2.0±0.5 |

| Item      | W        | T | t          | r       |
|-----------|----------|---|------------|---------|
| Rate (mm) | 14.0±1.5 | — | 1.0 to 3.0 | 1.0±0.5 |

Recommended Shape of Test Pole



Recommended Operating Conditions

