

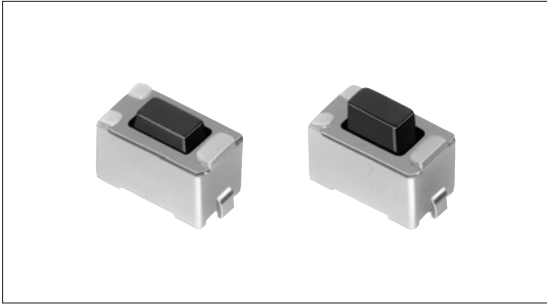
# TACT Switch™ 6×3.5mm Compact (Surface mount type)

SKQM Series



Tall height (4.3mm and 5.0mm) and surface mount type.

- Detector
- Push
- Slide
- Rotary
- Encoders
- Power



### Features

- Compatible dimensions with the conventional SKHL series.
- Reflow solderable.
- Supplied in 12mm width embossed taping.

### Applications

- For various operation in audio equipment, TVs, video recorders, communication devices, measuring devices and in-car components

- Dual-in-line Package Type
- Multi Control Devices
- TACT Switch™
- Custom-Products

- Sharp Feeling
- Soft Feeling
- Snap-in Type
- Surface Mount Type
- Radial Type

### Product Line

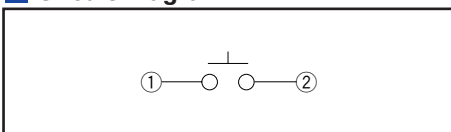
| Product No. | Operating force | Operating direction | Travel (mm) | Rating (max.)  | Rating (min.) | Operating life (5mA 5V DC) | Initial contact resistance | Stem color | Stem height |
|-------------|-----------------|---------------------|-------------|----------------|---------------|----------------------------|----------------------------|------------|-------------|
| SKQMBAE010  | 0.98N           | Vertical            | 0.25        | 50mA<br>12V DC | 10μA<br>1V DC | 50,000cycles               | 500mΩ<br>max.              | Black      | h=4.3mm     |
| SKQMASE010  | 1.57N           |                     |             |                |               |                            |                            | Red        |             |
| SKQMAQE010  | 2.55N           |                     |             |                |               | 50,000cycles               |                            | Black      | h=5mm       |
| SKQMATE010  | 0.98N           |                     |             |                |               |                            |                            | Red        |             |
| SKQMBBE010  | 1.57N           |                     |             |                |               |                            |                            |            |             |
| SKQMARE010  | 2.55N           |                     |             |                |               |                            |                            |            |             |

### Dimensions

Unit:mm

| Style | PC board land dimensions (Viewed from switch mounting face)  |   |     |   |
|-------|--|---|-----|---|
|       | <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>h</td></tr> <tr><td>4.3</td></tr> <tr><td>5</td></tr> </table> | h | 4.3 | 5 |
| h     |  |   |     |   |
| 4.3   |  |   |     |   |
| 5     |  |   |     |   |

### Circuit Diagram



Refer to P.373 for product specifications.  
Refer to P.374 for soldering conditions.  
Refer to P.376 for taping package specifications.

## Product Specifications

| Items                     |                       | Series  | Sharp feeling type | Soft feeling type |
|---------------------------|-----------------------|---|--------------------|-------------------|
|                           |                       | Operating temperature range   |                    |                   |
|                           | -30°C to +85°C        |   |                    | -40°C to +90°C    |
| Electrical performance    | Insulation resistance | 100MΩ min. 100V DC<br>SKEY/PD : 50MΩ min. 100V DC   |                    |                   |
|                           | Voltage proof         | 250V AC for 1minute<br>SKRE/SC/RB/RM/RW/RR/EY/PD : 100V AC for 1minute  |                    |                   |
| Durability                | Vibration             | 10 to 55 to 10Hz/min., the amplitude is 1.5mm for all the frequencies, in the 3 direction of X, Y and Z for 2hours respectively |                    |                   |
|                           | Lifetime              | Shall be in accordance with individual specifications.  |                    |                   |
| Environmental performance | Cold                  | -30±2°C for 96h   |                    |                   |
|                           | Dry heat              | 80±2°C for 96h  |                    |                   |
|                           | Damp heat             | 60±2°C, 90 to 95%RH for 96h   |                    |                   |

Detector

Push

Slide

Rotary

Encoders

Power

Dual-in-line  
Package TypeMulti Control  
Devices

TACT Switch™

Custom-  
Products

### Note

The automotive operating temperature range to be individually discussed upon request.

### Specifications of LED (SKHJ)

| Color of illumination       | Power dissipation<br>P (mW) | Forward pulse peak current<br>IFP (mA) | Forward current<br>IFDC (mA) | Reverse voltage<br>VR (V) | Forward voltage<br>VF (V)<br>IF=10mA | Reverse current<br>IR (μA)<br>VR=4V | Peak emission wave length<br>λ peak (nm)<br>IF=10mA | Spectral line half width<br>Δλ (nm)<br>IF=10mA | Luminous intensity<br>IV (mcd)<br>IF=10mA |        |                    |
|-----------------------------|-----------------------------|--|------------------------------|---------------------------|--------------------------------------|-------------------------------------|---|--|---|--------|--------------------|
| Red                         | 40                          | 80                                     | 15                           | 4                         | 2.7 max.<br>2.05TYP                  | 5 max.                              | 700 TYP   | 100 TYP  | 0.4min.<br>1.0 TYP                        |        |                    |
| Pure green                  |                             |  |                              |                           |                                      |                                     | 555 TYP   | 20 TYP   | 0.8min.<br>2.0 TYP                        |        |                    |
| Amber                       |                             |  |                              |                           |                                      |                                     | 590 TYP   | 30 TYP   | 0.4min.<br>1.0 TYP                        |        |                    |
| Orange<br>(High brightness) |                             |  |                              |                           |                                      | 3                                   | 2.7 max.<br>2.0 TYP                                 | 10 max.  | 630 TYP                                   | 40 TYP | 1.5min.<br>4.0 TYP |
| Green<br>(High brightness)  |                             |  |                              |                           |                                      | 4                                   | 2.7 max.<br>2.05TYP                                 |  | 565 TYP                                   | 30 TYP | 2.0min.<br>5.0 TYP |

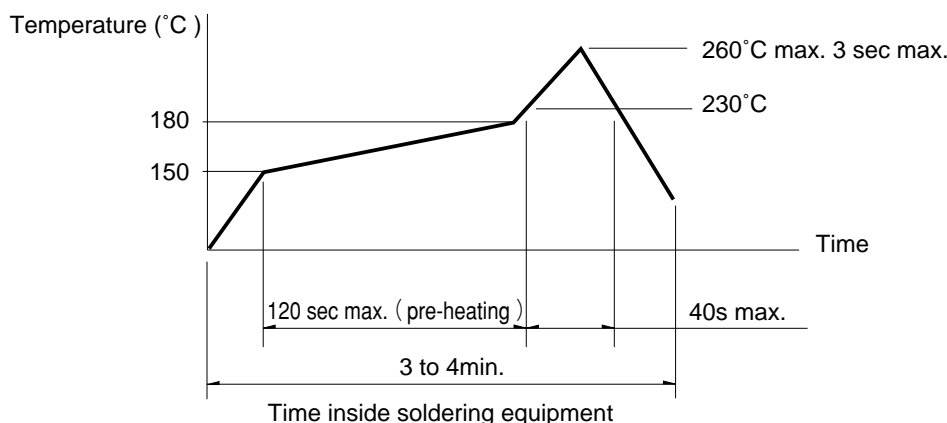
Sharp  
FeelingSoft  
FeelingSnap-in  
TypeSurface  
Mount TypeRadial  
Type

## Soldering Conditions

### Condition for Reflow

Available for Surface Mount Type.

1. Heating method: Double heating method with infrared heater.
2. Temperature measurement: Thermocouple 0.1 to 0.2 φ CA (K) or CC (T) at solder joints (copper foil surface). A heat resistive tape should be used to fix thermocouple.
3. Temperature profile



### Note

1. The above temperature shall be measured on the mounting surface of a PC board. There are cases where the PC board's temperature greatly differs from that of the switch, depending on the material, size, thickness of PC boards and others. The above-stated conditions shall also apply to switch surface temperatures.
2. Soldering conditions differ depending on reflow soldering machines. Prior verification of soldering condition is highly recommended.

### Conditions for Auto-dip

Available for Snap-in Type and Radial Type  
(Except SKHJ, SKHL, SKQJ, SKQK, SKEG series)

| Items                  | Condition  |
|------------------------|--|
| Flux built-up          | Mounting surface should not be exposed to flux                         |
| Preheating temperature | Ambient temperature of the soldered surface of PC board.<br>100°C max. |
| Preheating time        | 60s max.   |
| Soldering temperature  | 260°C max.   |
| Duration of immersion  | 5s max.  |
| Number of soldering    | 2times max.  |

### Notes

1. Consult with us for TACT Switch™ washing conditions.
2. Prevent flux penetration from the top side of the TACT Switch™.
3. Switch terminals and a PC board should not be coated with flux prior to soldering.
4. The second soldering should be done after the switch returns to normal temperature.
5. Use the flux with a specific gravity of min 0.81.  
(EC-19S-8 by TAMURA Corporation, or equivalents.)

### Manual Soldering (Except SKRT series)

| Items                      | Condition  |
|----------------------------|------------|
| Soldering temperature      | 350°C max. |
| Duration of soldering      | 3s max.    |
| Capacity of soldering iron | 60W max.   |

Detector  
Push  
Slide  
Rotary  
Encoders  
Power  
Dual-in-line Package Type  
Multi Control Devices  
TACT Switch™  
Custom-Products

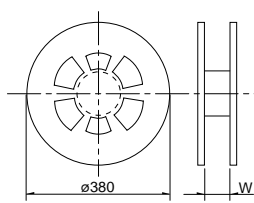
Sharp Feeling  
Soft Feeling  
Snap-in Type  
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Radial Type

# Specification of Embossed Taping Package

## Taping Packaging for Auto-insertion

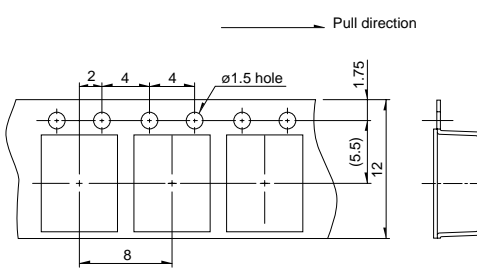
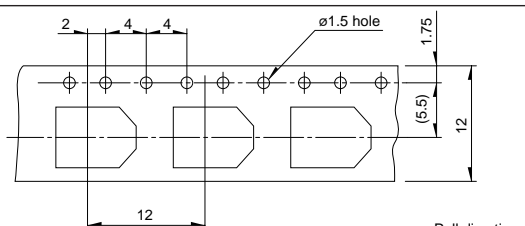
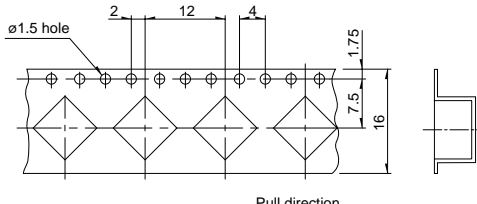
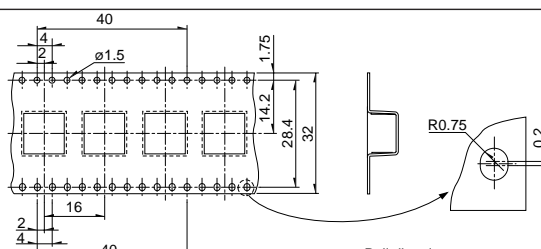
Reel Size

Unit:mm

| Plastic Reel<br> | Applicable series  | W    |
|---|--|------|
|   | SKHM, SKHU, SKQG, SKQL, SKQM, SKOR, SKOY, SKRAAK, SKRAAL, SKRB, SKRE, SKRK, SKRM, SKRN, SKRP, SKRT, SKRW, SKPM, SKSC, SKSD | 13.5 |
|   | SKQT, SKRAAM, SKRAAQ, SKRR, SKPG, SKPN   | 17.5 |
|   | SKQUBA, SKQUBB   | 33.5 |

- Detector
- Push
- Slide
- Rotary

Unit:mm

| Applicable series                      | Qty/reel (pcs.)<br>(Minimum packing unit)           | Tape dimensions  |
|--|---|--|
| SKQM, SKPM                             | 2,000   |   |
| SKHM, SKHU, SKOY, SKRT, SKRAAK, SKRAAL | 3,000   |  |
| SKQG                                   | 5,000 (Without stem type)<br>4,000 (With stem type) |  |
| SKRP                                   | 4,000   |  |
| SKRKAE, SKRKAH                         | 4,500   |  |
| SKQR, SKRB<br>SKRM, SKRW               | 10,000  |  |
| SKRE, SKRN,<br>SKRKAG, SKSC, SKSD      | 5,000   |  |
| SKQL                                   | 3,000   |  |
| SKRH                                   | 1,300   |  |
| SKRV                                   | 1,500   |  |
| SKPG                                   | 1,200   |  |
| SKRAAM, SKRAAQ                         | 1,400   |  |
| SKQT                                   | 3,000   |  |
| SKRR                                   | 7,000   |  |
| SKPN                                   | 1,100   |  |
| SKQUBA                                 | 750   |  |
| SKQUBB                                 | 600   |  |

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- Multi Control Devices
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**Note**

For φ 330mm diameter reel requirements, please contact us.