## 6.2 × 6.5mm (Surface Mount Type)

**SKHM** Series



## Total hight of 3.1mm. Surface mount package with ground terminal.

Detector

Push

Slide

Rotary

**Encoders** 

Power

Dual-in-line Package Type

TACT Switch™

Custom-Products

Sharp Feeling Soft Feeling Snap-in Type Surface

Mount Type Radial Type

|--|

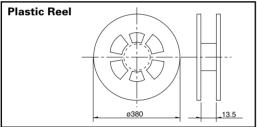
#### Product Line

| Product No. | Operating force | Operating direction | Travel (mm) | Rating (max.)  | Rating (min.)          | Operating life<br>(5mA 12V DC) | Initial contact resistance | Stem<br>color | Minimum order unit (pcs.) |
|-------------|-----------------|---------------------|-------------|----------------|------------------------|--------------------------------|----------------------------|---------------|---------------------------|
| SKHMQKE010  | 0.98N           |                     |             |                |                        | 500,000cycles                  |                            | Black         |                           |
| SKHMQLE010  | 1.57N           | Vertical            | 0.25        | 50mA<br>12V DC | 10 <i>μ</i> A<br>1V DC | 300,000cycles                  | 100m<br>max.               | Green         | 3,000                     |
| SKHMQME010  | 2.35N           |                     |             |                |                        | 200,000cycles                  |                            | Red           |                           |

#### ■ Specification of Embossed Taping Package (Taping Packaging for Auto-insertion)

Reel Size

Unit:mm



| Numi   |                  |                           |                    |  |  |
|--------|------------------|---------------------------|--------------------|--|--|
| 1 reel | 1 case<br>/Japan | 1 case<br>/export packing | Tape width<br>(mm) |  |  |
| 3,000  | 30,000           | 30,000                    | 12                 |  |  |

#### Dimensions

Unit:mm

| Style  | PC board land dimensions ( Viewed from switch mounting face ) |
|--|---|
| 8 6.2 5 Stem 5 7 7 8 8 8 9 7 7 8 9 7 7 8 9 7 7 8 9 7 7 8 9 7 7 8 9 7 7 8 9 7 7 8 9 7 7 8 9 9 7 8 9 9 7 8 9 9 7 8 9 9 9 7 8 9 9 9 9 | Ground terminal land 5-1.4 x 1.6 land                         |

#### Circuit Diagram

#### Note

- 1. Please place purchase orders for taping products per minimum order unit (1 reel or a case).
- 2. For 330mm diameter reel requirements, please contact us.

Refer to P.306 for soldering conditions.

## **List of Varieties**

#### Sharp Feeling Type

| Sharp reening Type                |                       |  |   |   |  |                                 |   |                  |      |                                    |      |      |     |  |
|-----------------------------------|-----------------------|--|---|---|--|---------------------------------|---|------------------|------|------------------------------------|------|------|-----|--|
| Series                            |                       | SKSD   | SKRN  | SKSE  | SPEE   | SKRK                            | SKRP  | SKQM             | SKQY | SKRA                               | SKHM | SKHU |     |  |
| Photo                             |                       |  | <b>\rightarrow</b>  | 100   | -  |                                 |   |                  |      |                                    |      |      |     |  |
| Туре                              |                       |  |   |   |  |                                 | Su  | rface mou        | unt  |                                    |      |      |     |  |
| Features                          |                       | Double action Horizon<br>Double                        |   | ital type<br>action                                 | Compact size   High operation force   Compact size |                                 | act size  | Middle<br>stroke |      | Dust-proof<br>type<br>is available |      |      |     |  |
| o O Vertical                      |                       | tical  |   |   |  |                                 |   |                  |      |                                    |      |      |     |  |
| Operating direction               | Horiz                 | ontal  |   |   |  |                                 |   |                  |      |                                    |      |      |     |  |
| 1                                 |                       | w  | 4.1   | 6   | 5.9  | 4                               | 3.9   | 4.2              | 6    | 6.1                                |      | 6.2  |     |  |
|                                   | nsions<br>m )         | D  | 3.9   | 6   | 2.87   | 5                               | 2.9   | 3.2              | 3.5  | 3.7                                | 6.2  | 6    | 6.5 |  |
|                                   |                       | н  | 0.6   | 0.9   | 3  | 1.22                            | 1.5   | 2.5              | 4.3  | 2.5                                | 3.4  | 3.1  | 2.5 |  |
| Operation<br>force<br>coverage    |                       | See the relevant pages for respec product descriptions |   |   | pective  | <b>‡</b>                        | <b>1</b>  | 1                | 1    | 1                                  | 1    | 1    |     |  |
| Ground terminal                   |                       |  |   |   |  |                                 |   |                  |      |                                    |      |      |     |  |
| Operating<br>temperature<br>range |                       |  | -30 to +85  |   |  |                                 |   |                  | I    | I                                  |      |      |     |  |
| Electrical performance            | Insulation resistance |  | 100M  | 00M min. 100V DC 10M min. 100V DC 100M min. 100V DC |  |                                 |   |                  |      |                                    |      |      |     |  |
| rrical Voltage proof              |                       |  | V AC for 1i<br>: 100V AC  |   | 100V AC for<br>1min.                               | 250V AC for Imin.               |   |                  |      |                                    |      |      |     |  |
| Vibration  Lifetime               |                       |  | 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 |   |  |                                 |   |                  |      |                                    |      |      |     |  |
| bility                            | Lifet                 | time   |   |   | Sh   | all be in a                     | e in accordance with individual specifications. |                  |      |                                    |      |      |     |  |
| Envi<br>per                       | Co                    | old  | -30   | ±2 for  | 96h  | -40 ± 2<br>for 96h              | -30 ± 2 for 96h                                 |                  |      |                                    |      |      |     |  |
| Environmental performance         | Dry                   | heat   | 80  | ±2 for 96h  |  | 85 ± 2<br>for 96h               | 80 ± 2 for 96h                                  |                  |      |                                    |      |      |     |  |
| Damp hea                          |                       | heat   | 60 ± 2  | , 90 to 95°<br>96h                                  | %RH for  | 40 ± 2 , 90 to<br>95%RH for 96h |   |                  |      |                                    |      |      |     |  |
|                                   | Page                  |  | 278   | 279   | 280  | 84                              | 281   | 282              | 283  | 284                                | 285  | 286  | 287 |  |
|                                   |                       |  |   |   |  |                                 |   | A / ! ! . T !    |      |                                    |      |      |     |  |

W : Width. The most outer dimension excluding terminal portion.

D: Depth. The most outer dimension excluding terminal portion.
 H: Height. The minimum dimension if there are variances.

#### Note

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

Detector

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Surface Mount Type

Radial Type **Detector** 

Push

Slide

**Rotary** 

**Encoders** 

Power

Dual-in-line Package Type

TACT Switch<sup>11</sup>

Custom-

**Products** 

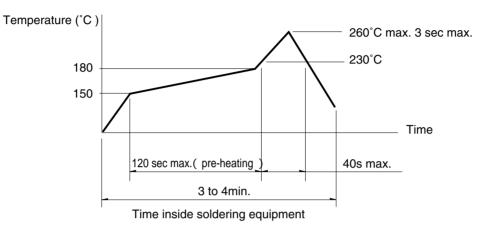
Snap-in Type Surface Mount Type Radial Type

## **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 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.

# Sharp Feeling 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 fluk                    |
| Preheating temperature | Ambient temperature of the soldered surface of PC board. 100 max. |
| Preheating time        | 60s max.  |
| Soldering temperature  | 260 max.  |
| Duration of immersion  | 5s max.   |
| Number of soldering    | 2times max.   |

### Manual Soldering (Except SKRT Series)

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

#### Notes

- 1. Consult with us for availability of TACT Switch™ washing.
- 2. Prevent flux penetration from the top side of the TACT  $\widetilde{Switch}^{TM}$ .
- 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 is stable with normal temperature.
- 5. Use the flux with a specific gravity of min 0.81. (EC-19S-8 by TAMURA Corporation, or equivalents.)