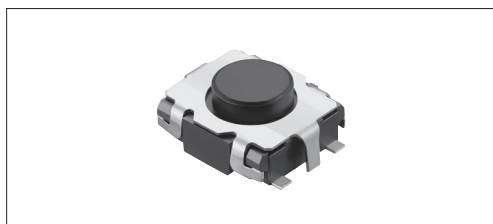




Heavy-operational and equipped with a 1.4mm tall stem and grounding, meeting in-car needs.



## ■ Typical Specifications

| Items                      | Specifications |
|----------------------------|----------------|
| Rating (max.)              | 50mA 12V DC    |
| Rating (min.)              | 10μA 1V DC     |
| Initial contact resistance | 100mΩ max.     |
| Travel (mm)                | 0.12           |

## ■ Product Line

## Toppush Type

| Product No. | Operating force | Operating direction | Operating life<br>(5mA 5V DC) | Stem color | Minimum order unit (pcs.) |        |
|-------------|-----------------|---------------------|-------------------------------|------------|---------------------------|--------|
|             |                 |                     |                               |            | Japan                     | Export |
| SKSGACE010  | 1.6N            | Toppush             | 200,000cycles                 | Natural    | 12,000                    | 12,000 |
| SKSGAAE010  | 4N              |                     |                               | Black      |                           |        |

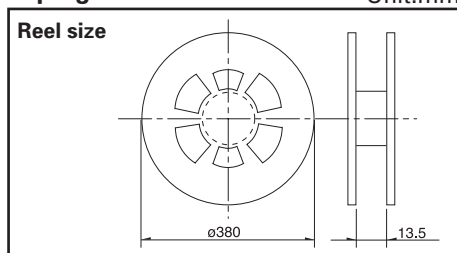
## With Ground Terminal Type

| Product No. | Operating force | Operating direction | Operating life<br>(5mA 5V DC) | Stem color | Minimum order unit (pcs.) |        |
|-------------|-----------------|---------------------|-------------------------------|------------|---------------------------|--------|
|             |                 |                     |                               |            | Japan                     | Export |
| SKSGPCE010  | 1.6N            | Toppush             | 200,000cycles                 | Natural    | 12,000                    | 12,000 |
| SKSGPAE010  | 4N              |                     |                               | Black      |                           |        |

## ■ Packing Specifications

## Taping

Unit:mm



| Number of packages (pcs.) |                   |                            | Tape width<br>(mm) | Export package<br>measurements<br>(mm) |
|---------------------------|-------------------|----------------------------|--------------------|----------------------------------------|
| 1 reel                    | 1 case /<br>Japan | 1 case /<br>export packing |                    |                                        |
| 12,000                    | 120,000           | 120,000                    | 12                 | 401 × 401 × 214                        |

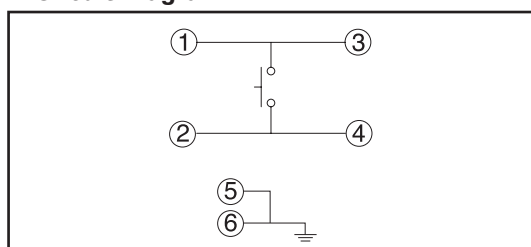
**Note** For reels of 330mm diameter, please inquire.

## ■ Dimensions

Unit:mm

| Style | PC board land dimensions<br>(Viewed from switch mounting face)                    |
|-------|-----------------------------------------------------------------------------------|
|       | <p>※ Ground terminal land pattern is applicable to Ground terminal type only.</p> |

## ■ Circuit Diagram



Detector

Push

Slide

Rotary

Encoders

Power

Dual-in-line  
Package Type

TACT Switch™

Sharp  
FeelingSoft  
FeelingSnap-in  
TypeSurface  
Mount TypeRadial  
Type

## List of Varieties

| Type                              |                          | Sharp Feeling Type                                                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|-----------------------------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                                   |                          | Surface Mount                                                                                                                      |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| Series                            |                          | SKRN                                                                                                                               | SKSE                                                                                | SKSV                                                                                | SKSW                                                                                | SKSF                                                                                | SKSM                                                                                | SKSG                                                                                | SKRK                                                                                  | SKRP                                                                                  | SKQM                                                                                  | SKQY                                                                                  | SKSU                                                                                  |
| Photo                             |                          |                                                   |    |    |    |    |    |   |    |    |    |    |    |
| Features                          |                          | Double action                                                                                                                      |                                                                                     | Compact size<br>Low-profile                                                         |                                                                                     |                                                                                     |                                                                                     | Compact size<br>Low-profile                                                         |                                                                                       | High operation<br>force<br>Compact size                                               | Compact size                                                                          |                                                                                       | Middle<br>travel                                                                      |
| Water-proof                       |                          | —                                                                                                                                  | —                                                                                   | ●                                                                                   | ●                                                                                   | —                                                                                   | ●                                                                                   | —                                                                                   | —                                                                                     | —                                                                                     | —                                                                                     | —                                                                                     | ●                                                                                     |
| Dust-proof                        |                          | —                                                                                                                                  | —                                                                                   | ●                                                                                   | ●                                                                                   | ○                                                                                   | ●                                                                                   | —                                                                                   | —                                                                                     | —                                                                                     | —                                                                                     | ○                                                                                     | ●                                                                                     |
| Operating<br>direction            | Toppush                  | ●                                                                                                                                  | —                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     | ●                                                                                     | ●                                                                                     | ●                                                                                     |
|                                   | Sidepush                 | —                                                                                                                                  | ●                                                                                   | —                                                                                   | —                                                                                   | —                                                                                   | —                                                                                   | —                                                                                   | —                                                                                     | —                                                                                     | —                                                                                     | —                                                                                     | —                                                                                     |
| Dimensions<br>(mm)                | W                        | □ 6                                                                                                                                | 5.9                                                                                 | 2.8                                                                                 | 3.0                                                                                 | 2.8                                                                                 | 3.4                                                                                 | 3                                                                                   | 3.9                                                                                   | 4.2                                                                                   | 6                                                                                     | 6.1                                                                                   | 5.3                                                                                   |
|                                   | D                        |                                                                                                                                    | 2.87                                                                                | 1.9                                                                                 | 2                                                                                   | 2.4                                                                                 | 2.9                                                                                 | 2.7                                                                                 | 2.9                                                                                   | 3.2                                                                                   | 3.5                                                                                   | 3.7                                                                                   | 5.4                                                                                   |
|                                   | H                        |                                                                                                                                    | 0.9                                                                                 | 3                                                                                   | 0.5                                                                                 | 0.58                                                                                | 0.65                                                                                | 0.7                                                                                 | 1.4                                                                                   | 1.5                                                                                   | 2.5                                                                                   | 4.3                                                                                   | 2.5                                                                                   |
| Operation<br>force<br>coverage    | ~1N                      | ※                                                                                                                                  |    |    |    |    |    |  |    |    |    |    |    |
|                                   | 1N~2N                    |                                                                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|                                   | 2N~3N                    |                                                                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|                                   | 3N~4N                    |                                                                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|                                   | 4N~5N                    |                                                                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| Travel (mm)                       |                          | ※                                                                                                                                  | 0.12                                                                                | 0.13                                                                                | 0.1                                                                                 |                                                                                     | 0.12                                                                                | 0.13                                                                                | 0.2                                                                                   | 0.25                                                                                  |                                                                                       | 0.7                                                                                   |                                                                                       |
| Ground terminal                   |                          | ●                                                                                                                                  | ●                                                                                   | —                                                                                   | —                                                                                   | —                                                                                   | —                                                                                   | ●                                                                                   | —                                                                                     | —                                                                                     | —                                                                                     | ●                                                                                     | —                                                                                     |
| Operating temperature<br>range    |                          | - 30℃ to + 85℃                                                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| Automotive use                    |                          | —                                                                                                                                  | —                                                                                   | —                                                                                   | —                                                                                   | —                                                                                   | —                                                                                   | ○                                                                                   | —                                                                                     | ●                                                                                     | ●                                                                                     | ●                                                                                     | ●                                                                                     |
| Life Cycle                        |                          |                                                 |  |  |  |  |  |  |  |  |  |  |  |
| Rating (max.)<br>(Resistive load) |                          | 50mA 12V DC                                                                                                                        |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       | 50mA<br>16V DC                                                                        | 50mA 12V DC                                                                           |                                                                                       | 50mA<br>16V DC                                                                        |
| Rating (min.)<br>(Resistive load) |                          | 10 μA 1V DC                                                                                                                        |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| Electrical<br>performance         | Insulation<br>resistance | 100MΩ min. 100V DC for 1min.                                                                                                       |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|                                   | Voltage proof            | 250V AC<br>for 1min.                                                                                                               | 100V AC for 1min.                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 250V AC for 1min.                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| Durability                        | Vibration                | 10 to 55 to 10Hz/min., the amplitude is 1.5mm for all the frequencies,<br>in the 3 direction of X, Y and Z for 2hours respectively |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|                                   | Lifetime                 | Shall be in accordance with individual specifications.                                                                             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| Environmental<br>performance      | Cold                     | - 30±2℃ for 96h                                                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|                                   | Dry heat                 | 80±2℃ for 96h                                                                                                                      |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|                                   | Damp heat                | 60±2℃ , 90 to 95%RH for 96h                                                                                                        |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| Page                              |                          | 255                                                                                                                                | 256                                                                                 | 257                                                                                 | 258                                                                                 | 259                                                                                 | 260                                                                                 | 261                                                                                 | 262                                                                                   | 263                                                                                   | 264                                                                                   | 265                                                                                   | 266                                                                                   |

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.

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- TACT Switch™ Cautions . . . . . 289

### Notes

- The automotive operating temperature range to be individually discussed upon request.
- indicates applicability to all products in the series, while ○ indicates applicability to some products in the series.
- ※ See the relevant pages for respective product descriptions

## TACT Switch™ Soldering Conditions

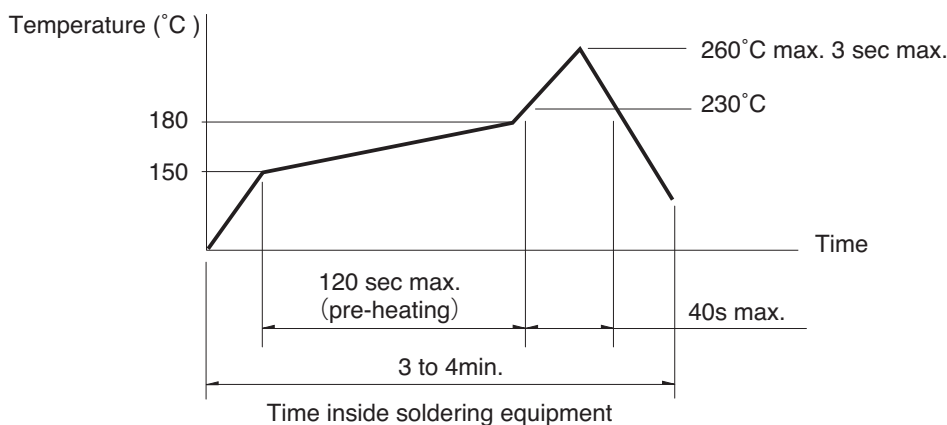
### Condition for Reflow

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

Detector  
Push  
Slide  
Rotary  
Encoders  
Power  
Dual-in-line  
Package Type



### Notes

1. The above temperature shall be measured of the top of switch. 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

| 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°C max. |
| Preheating time        | 60s max.                                                            |
| Soldering temperature  | 260°C max.                                                          |
| Duration of immersion  | 5s max.                                                             |
| Number of soldering    | 2times max.                                                         |

#### SKHH、SKPD 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. 110°C max. |
| Preheating time        | 60s max.                                                            |
| Soldering temperature  | 260°C max.                                                          |
| Duration of immersion  | 5s max.                                                             |
| Number of soldering    | 2times max.                                                         |

#### 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°C max. |
| Preheating time        | 45s max.                                                            |
| Soldering temperature  | 255°C max.                                                          |
| Duration of immersion  | 5s max.                                                             |
| Number of soldering    | 2times max.                                                         |

### Notes

1. Consult with us for availability of TACT Switch™ washing.
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 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.)

### Manual Soldering (Except SKRT Series)

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

#### SKHH、SKHW、SKRG、SKPD Series

| Items                      | Condition  |
|----------------------------|------------|
| Soldering temperature      | 360°C max. |
| Duration of soldering      | 3s max.    |
| Capacity of soldering iron | 60W max.   |

#### SKQJ、SKQK、SKEG Series

| Items                      | Condition  |
|----------------------------|------------|
| Soldering temperature      | 350°C max. |
| Duration of soldering      | 3s max.    |
| Capacity of soldering iron | 20W max.   |

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