

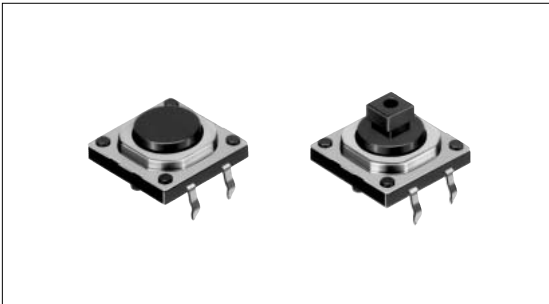
TACT Switch™

12mm Square Long-life (Snap-in Type)

SKQE Series



Long-life type with unique dust-proof structure and highly reliable metal contacts.



Product Line

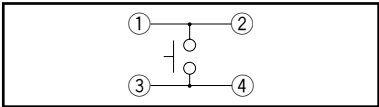
| Product No. | Operating force | Operating direction | Travel (mm) | Rating (max.) | Rating (min.) | Operating life (5mA 5V DC) | Initial contact resistance | Stem color | Variety    | Minimum order unit (pcs.) | Drawing No. |
|-------------|-----------------|---------------------|-------------|---------------|---------------|----------------------------|----------------------------|------------|------------|---------------------------|-------------|
| SKQEAAA010  | 1.57N           | Vertical            | 0.3         | 50mA 12V DC   | 10μ A 1V DC   | 10,000,000 cycles          | 100mΩ max.                 | Dark gray  | Joint stem | 1,000                     | 1           |
| SKQEACA010  | 2.55N           |                     |             |               |               |                            |                            | Red        |            |                           |             |
| SKQEABA010  | 1.57N           |                     |             |               |               |                            |                            | Dark gray  | Flat stem  |                           | 2           |
| SKQEADA010  | 2.55N           |                     |             |               |               |                            |                            | Red        |            |                           |             |

Dimensions

Unit:mm

| No. | Photo | Style | PC board mounting hole dimensions (Viewed from switch mounting face) |
|-----|-------|-------|----------------------------------------------------------------------|
| 1   |       |       |                                                                      |
| 2   |       |       |                                                                      |

Circuit Diagram



Note

Please use 1.6mm thick PC boards.

Refer to P.306 for soldering conditions.  
Refer to P.308 for standard knobs.

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

## List of Varieties

### Sharp Feeling Type

| Series                      |                       | SKQU                                                                                                                            | SKQB                                                                              | SKQE                                                                              | SKHC                                                                              | SKHK                                                                              | SKRW                                                                              | SKRM                                                                               | SKQR                                                                                | SKRB                                                                                | SKRR                                                                                | SKQG                                                                                |
|-----------------------------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Photo                       |                       |                                                |  |  |  |  |  |  |  |  |  |  |
| Type                        |                       | Snap-in                                                                                                                         |                                                                                   |                                                                                   |                                                                                   |                                                                                   | Surface mount                                                                     |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Features                    |                       | 4-direction switch+push switch                                                                                                  | Water-proof Horizontal type                                                       | Long Life                                                                         | —                                                                                 | Long Stem                                                                         | Low-profile                                                                       |                                                                                    |                                                                                     |                                                                                     | Low-profile and long life                                                           | Low-profile                                                                         |
| Operating direction         | Vertical              | ●                                                                                                                               | —                                                                                 | ●                                                                                 | ●                                                                                 | ●                                                                                 | ●                                                                                 | ●                                                                                  | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   |
|                             | Horizontal            | —                                                                                                                               | ●                                                                                 | —                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Dimensions (mm)             |                       | W                                                                                                                               | 11.5                                                                              | □12                                                                               |                                                                                   |                                                                                   | □3.7                                                                              | □4.5                                                                               | □4.8                                                                                |                                                                                     | 7.5                                                                                 | □5.2                                                                                |
|                             |                       | D                                                                                                                               | □10                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 11.9                                                                                |                                                                                     |
|                             |                       | H                                                                                                                               | 7.1                                                                               | 11.3                                                                              | 4.3                                                                               |                                                                                   | 12                                                                                | 0.35                                                                               | 0.4                                                                                 | 0.5                                                                                 | 0.55                                                                                | 0.6                                                                                 |
| Operation force coverage    |                       | 1N                                                                                                                              | See the relevant pages for respective product descriptions                        | ●                                                                                 | ↕                                                                                 | ↕                                                                                 | ●                                                                                 | ↕                                                                                  | ↕                                                                                   | ↕                                                                                   | ↕                                                                                   | ↕                                                                                   |
|                             |                       | 5N                                                                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Ground terminal             |                       | —                                                                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Operating temperature range |                       | -30℃ to +85℃                                                                                                                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Electrical performance      | Insulation resistance | 100MΩ min. 100V DC                                                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|                             | Voltage proof         | 250V AC for 1min.<br>SKRW/RM/RB/RR : 100V AC for 1min.                                                                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| 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℃ for 96h                                                                                                                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|                             | Dry heat              | 80±2℃ for 96h                                                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|                             | Damp heat             | 60±2℃, 90 to 95%RH for 96h                                                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Page                        |                       | 482                                                                                                                             | 265                                                                               | 267                                                                               | 268                                                                               | 270                                                                               | 271                                                                               | 272                                                                                | 273                                                                                 | 274                                                                                 | 275                                                                                 | 276                                                                                 |

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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### Note

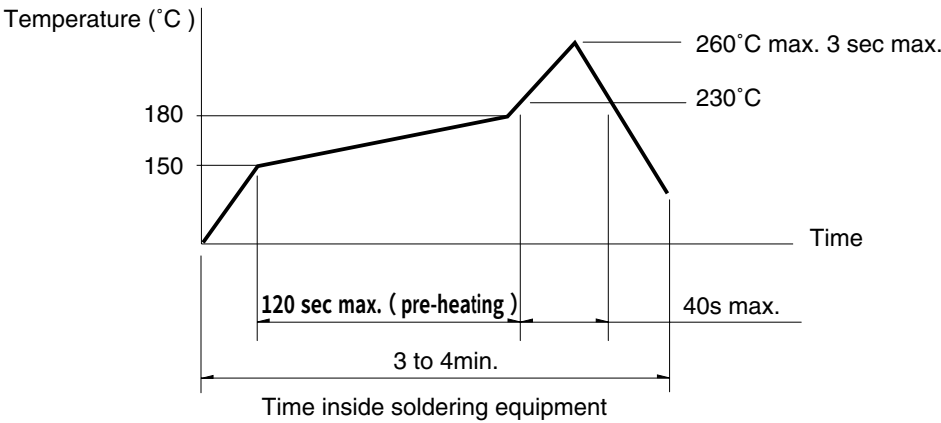
The automotive operating temperature range to be individually discussed upon request.

## 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 0.2ϕ 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.                                                            |

### Manual Soldering (Except SKRT Series)

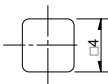
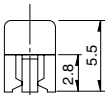
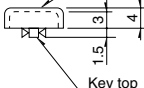
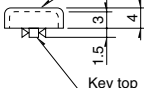
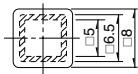
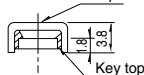
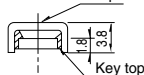
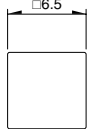
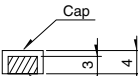
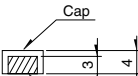
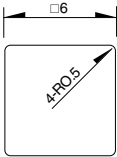
| Items                      | Condition |
|----------------------------|-----------|
| Soldering temperature      | 350°Cmax. |
| Duration of soldering      | 3s max.   |
| Capacity of soldering iron | 60W max.  |

### Notes

1. Consult with us for availability of TACT Switch™ washing.
2. Prevent flux penetration from the top side of the TACT 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.)

## Product Line of Knobs

Unit:mm

|                              |              | Applicable model                                                                    | Dimensions                                                                                                                                                                                                                                                        |                                         | Variety                                                            |                                                                                       |               | Label dimensions<br>(Unit:mm)                                      |  |  |
|------------------------------|--------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|--------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------|--------------------------------------------------------------------|--|--|
|                              |              |                                                                                     |                                                                                                                                                                                                                                                                   |                                         | Color                                                              | Model                                                                                 |               |                                                                    |  |  |
| Detector                     | SKHH         |    | <br><br>       | Keytop                                  |                                                                    |    |               |                                                                    |  |  |
| Push                         |              |                                                                                     |                                                                                                                                                                                                                                                                   | Red<br>Blue<br>Ivory<br>Black<br>Yellow | SK2AA00410<br>SK2AA00420<br>SK2AA00430<br>SK2AA00440<br>SK2AA00450 |                                                                                       |               |                                                                    |  |  |
| Slide                        |              |                                                                                     |                                                                                                                                                                                                                                                                   |                                         |                                                                    |                                                                                       |               |                                                                    |  |  |
| Rotary                       |              |                                                                                     |                                                                                                                                                                                                                                                                   |                                         |                                                                    |                                                                                       |               |                                                                    |  |  |
| Encoders                     |              |                                                                                     |                                                                                                                                                                                                                                                                   |                                         |                                                                    |                                                                                       |               |                                                                    |  |  |
| Power                        | SKHC<br>SKQE |    | <br><br>       | Cap                                     |                                                                    |    | Thickness 0.1 |                                                                    |  |  |
| Dual-in-line<br>Package Type |              |                                                                                     |                                                                                                                                                                                                                                                                   | Clear                                   | SK2AA00510                                                         |                                                                                       |               |                                                                    |  |  |
| TACT Switch™                 |              |                                                                                     |                                                                                                                                                                                                                                                                   | Keytop                                  |                                                                    |                                                                                       |               | Keytop + Cap                                                       |  |  |
| Custom-Products              |              |                                                                                     |                                                                                                                                                                                                                                                                   | Red<br>Blue<br>Ivory<br>Black           | SK2AA00010<br>SK2AA00020<br>SK2AA00030<br>SK2AA00040               |                                                                                       |               | SK2AA00060<br>SK2AA00070<br>SK2AA00080<br>SK2AA00090               |  |  |
|                              |              |                                                                                     |                                                                                                                                                                                                                                                                   |                                         |                                                                    |                                                                                       |               |                                                                    |  |  |
| Sharp<br>Feeling             | SKHJ         |  | <br><br> | Cap                                     |                                                                    |  | Thickness 0.1 |                                                                    |  |  |
|                              |              |                                                                                     |                                                                                                                                                                                                                                                                   | Clear                                   | SK2AA00520                                                         |                                                                                       |               |                                                                    |  |  |
|                              |              |                                                                                     |                                                                                                                                                                                                                                                                   | Keytop                                  |                                                                    |                                                                                       |               | Keytop + Cap                                                       |  |  |
|                              |              |                                                                                     |                                                                                                                                                                                                                                                                   | Red<br>Blue<br>Ivory<br>Black<br>Yellow | SK2AA00210<br>SK2AA00220<br>SK2AA00230<br>SK2AA00240<br>SK2AA00250 |                                                                                       |               | SK2AA00260<br>SK2AA00270<br>SK2AA00280<br>SK2AA00290<br>SK2AA00300 |  |  |
|                              |              |                                                                                     |                                                                                                                                                                                                                                                                   |                                         |                                                                    |                                                                                       |               |                                                                    |  |  |
| Soft<br>Feeling              | SKEG         |  | <br><br> | Cap                                     |                                                                    |  | Thickness 0.1 |                                                                    |  |  |
|                              |              |                                                                                     |                                                                                                                                                                                                                                                                   | Clear                                   | SK2AA00540                                                         |                                                                                       |               |                                                                    |  |  |
|                              |              |                                                                                     |                                                                                                                                                                                                                                                                   | Keytop                                  |                                                                    |                                                                                       |               | Keytop + Cap                                                       |  |  |
|                              |              |                                                                                     |                                                                                                                                                                                                                                                                   | Red<br>Blue<br>Ivory<br>Black<br>Yellow | SK2AA00310<br>SK2AA00320<br>SK2AA00330<br>SK2AA00340<br>SK2AA00350 |                                                                                       |               | SK2AA00360<br>SK2AA00370<br>SK2AA00380<br>SK2AA00390<br>SK2AA00400 |  |  |
|                              |              |                                                                                     |                                                                                                                                                                                                                                                                   |                                         |                                                                    |                                                                                       |               |                                                                    |  |  |
| Surface<br>Mount Type        |              |                                                                                     |                                                                                                                                                                                                                                                                   | Keytop + Cap                            |                                                                    |                                                                                       |               |                                                                    |  |  |
| Radial<br>Type               |              |                                                                                     |                                                                                                                                                                                                                                                                   | Keytop + Cap                            |                                                                    |                                                                                       |               |                                                                    |  |  |

## Notes

1. The knob will be delivered together with the switch but packed separately.
2. The label is not included.
3. For SK2AA00010 to SK2AA00090 types, please check the mounting direction.

