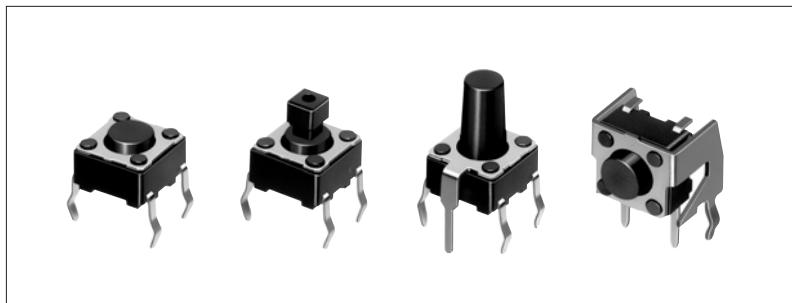


# 6×6mm TACT Switch (Snap-in)

SKHH Series

6mm square type, which is easy to use and available in wide varieties.



Car Use

## Features

- Snap-in type, which can be directly mounted on PC board.
- Some of output terminals can be also used as jumper leads, thus making circuit design easy.
- Available with anti-ESD ground terminal.
- Standard knobs are available.

## Applications

- Operating switches in all types of electronic equipment such as audio equipment, office equipment, communication devices, measuring instruments, TV sets, video recorders, automotive sets, etc.

## Products Line

Vertical Type

Products No.	Operating force	Operating direction	Travel (mm)	Rating (max.)	Operating life (5mA 5V DC)	Initial contact resistance	Stem color	Stem height	Minimum packing unit(pcs.)	Drawing No.		
SKHHAJA010	0.98N	Vertical	0.25	50mA 12V DC	1,000,000 cycles	100mΩ max.	Black	h=4.3mm	1,000	1		
SKHHAL010	1.57N				500,000 cycles		Dark gray					
SKHHAQA010	2.55N				200,000 cycles		Red					
SKHHAKA010	0.98N				1,000,000 cycles		Black	h=5mm				
SKHHAMA010	1.57N				500,000 cycles		Dark gray					
SKHHARA010	2.55N				200,000 cycles		Red					
SKHHCQA010	3.53N				1,000,000 cycles		Orange					
SKHHCRA010	5.10N				500,000 cycles		Yellow					
SKHHBVA010	0.98N				200,000 cycles		Black	h=7mm				
SKHHBWA010	1.57N				1,000,000 cycles		Dark gray					
SKHHBYA010	2.55N				500,000 cycles		Red					
SKHHANA010	0.98N				200,000 cycles		Black	h=9.5mm				
SKHHAPA010	1.57N				1,000,000 cycles		Dark gray					
SKHHBSA010	2.55N				500,000 cycles		Red					
SKHHDTA010	0.98N				200,000 cycles		Black	h=13mm				
SKHHDUA010	1.57N				1,000,000 cycles		Dark gray					
SKHHDHA010	0.98N				500,000 cycles		Black	h=17mm				
SKHHDJA010	1.57N				300,000 cycles		Dark gray					

Power

Push

Slide

Rotary

Encoders

Detector

Dual-in-line  
Package Type

Multi Control  
Devices

TACT

Custom-  
Products

Sharp  
Feeling

Soft  
Feeling

**Snap-in  
Type**

Surface  
Mount Type

Radial  
Type

For detailed specifications, see P.415

For soldering conditions, see P.416

For standard knobs, see P.420

## Products Line

### Joint Stem Type

	Products No.	Operating force	Operating direction	Travel (mm)	Rating (max.)	Operating life (5mA 5V DC)	Initial contact resistance	Stem color	Stem height	Minimum packing unit(pcs.)	Drawing No.
Power	SKHHCWA010	0.98N	Vertical	0.25	50mA 12V DC	1,000,000 cycles	100m Ω max.	Black	h=7.3mm	1,000	2
	SKHHDA010	1.57N				500,000 cycles		Dark gray			
	SKHHDGA010	2.55N				200,000 cycles		Red			

Slide

Rotary

Encoders

Detector

Dual-in-line  
Package Type

Multi Control  
Devices

**TACT**

Custom-  
Products

Sharp  
Feeling

Soft  
Feeling

Snap-in  
Type

Surface  
Mount Type

Radial  
Type

### With Ground Terminal Type

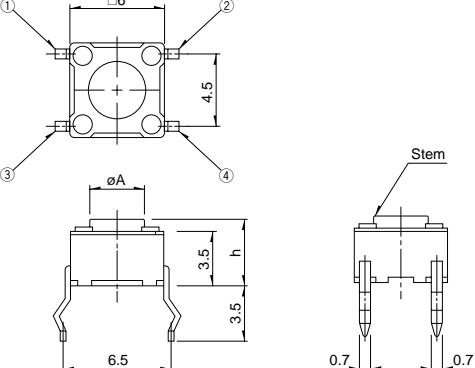
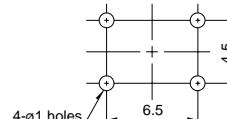
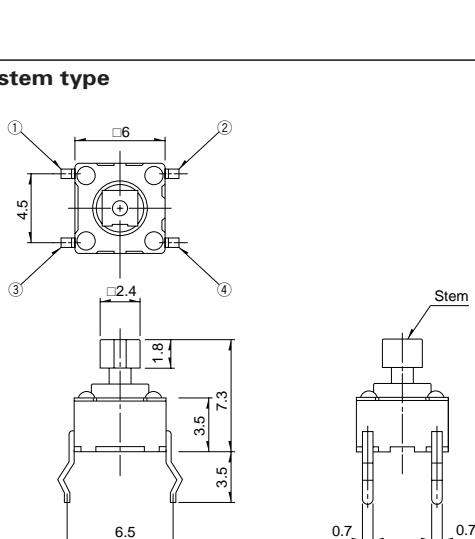
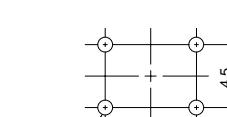
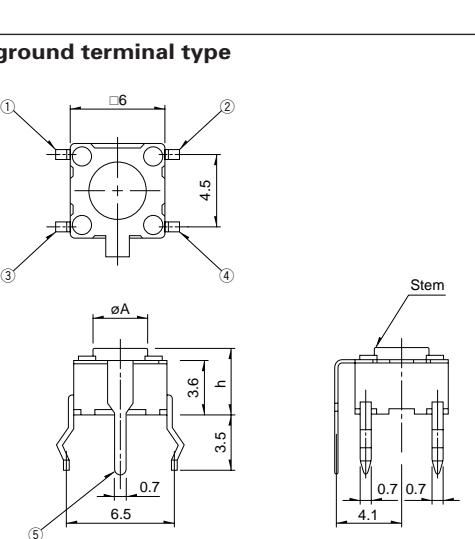
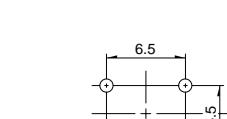
	Products No.	Operating force	Operating direction	Travel (mm)	Rating (max.)	Operating life (5mA 5V DC)	Initial contact resistance	Stem color	Stem height	Minimum packing unit(pcs.)	Drawing No.		
TACT	SKHHPJA010	0.98N	Vertical	0.25	50mA 12V DC	1,000,000 cycles	100m Ω max.	Black	h=4.3mm	1,000	3		
	SKHHPLA010	1.57N				500,000 cycles		Dark gray					
	SKHHPQA010	2.55N				200,000 cycles		Red					
	SKHHPKA010	0.98N				1,000,000 cycles		Black	h=5mm				
	SKHHPMA010	1.57N				500,000 cycles		Dark gray					
	SKHHPRA010	2.55N				200,000 cycles		Red					
	SKHHQVA010	0.98N				1,000,000 cycles		Black	h=7mm				
	SKHHQWA010	1.57N				500,000 cycles		Dark gray					
	SKHHQYA010	2.55N				200,000 cycles		Red					
	SKHHPNA010	0.98N				1,000,000 cycles		Black	h=9.5mm				
	SKHPPA010	1.57N				500,000 cycles		Dark gray					
	SKHHQNA010	2.55N				200,000 cycles		Red					

### Horizontal Type

	Products No.	Operating force	Operating direction	Travel (mm)	Rating (max.)	Operating life (5mA 5V DC)	Initial contact resistance	Stem color	Stem length	Minimum packing unit(pcs.)	Drawing No.		
Radial Type	SKHHLMA010	0.98N	Horizontal	0.25	50mA 12V DC	1,000,000 cycles	100m Ω max.	Black	ℓ = 3.85mm	1,000	4		
	SKHHLNA010	1.57N				500,000 cycles		Dark gray					
	SKHHLPA010	2.55N				200,000 cycles		Red					
	SKHHLQA010	0.98N				1,000,000 cycles		Black	ℓ = 8.35mm				
	SKHHLRA010	1.57N				500,000 cycles		Dark gray					
	SKHHLSA010	2.55N				200,000 cycles		Red					
	SKHHLUA010	0.98N				1,000,000 cycles		Black	ℓ = 5.85mm				
	SKHHLVA010	1.57N				500,000 cycles		Dark gray					
	SKHHLWA010	2.55N				200,000 cycles		Red					
	SKHHNHA010	0.98N				500,000 cycles		Black	ℓ = 15.85mm				
	SKHHNJA010	1.57N				300,000 cycles		Dark gray					
	SKHHNKA010	2.55N				200,000 cycles		Red					

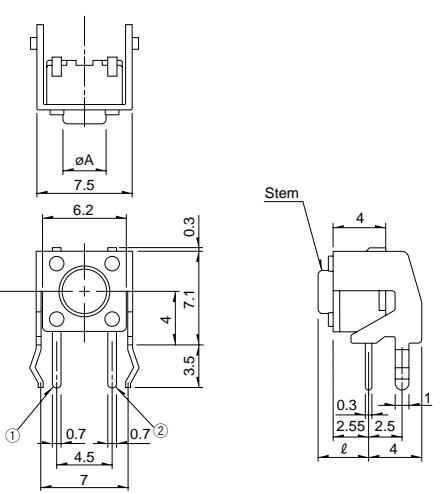
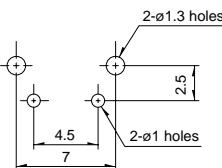
## Dimensions

Unit:mm

No.	Style	PC board mounting hole dimensions (Viewed from switch mounting face)													
1	<b>Vertical type</b>  <table border="1"> <thead> <tr> <th>h</th> <th>A</th> </tr> </thead> <tbody> <tr> <td>4.3</td> <td>3.5</td> </tr> <tr> <td>5</td> <td>3.5</td> </tr> <tr> <td>7</td> <td>3.3</td> </tr> <tr> <td>9.5</td> <td>3</td> </tr> <tr> <td>13</td> <td>3</td> </tr> <tr> <td>17</td> <td>3</td> </tr> </tbody> </table> 	h	A	4.3	3.5	5	3.5	7	3.3	9.5	3	13	3	17	3
h	A														
4.3	3.5														
5	3.5														
7	3.3														
9.5	3														
13	3														
17	3														
2	<b>Joint stem type</b>  <table border="1"> <thead> <tr> <th>h</th> <th>A</th> </tr> </thead> <tbody> <tr> <td>4.3</td> <td>3.5</td> </tr> <tr> <td>5</td> <td>3.5</td> </tr> <tr> <td>7</td> <td>3.3</td> </tr> <tr> <td>9.5</td> <td>3</td> </tr> </tbody> </table> 	h	A	4.3	3.5	5	3.5	7	3.3	9.5	3				
h	A														
4.3	3.5														
5	3.5														
7	3.3														
9.5	3														
3	<b>With ground terminal type</b>  <table border="1"> <thead> <tr> <th>h</th> <th>A</th> </tr> </thead> <tbody> <tr> <td>4.3</td> <td>3.5</td> </tr> <tr> <td>5</td> <td>3.5</td> </tr> <tr> <td>7</td> <td>3.3</td> </tr> <tr> <td>9.5</td> <td>3</td> </tr> </tbody> </table> 	h	A	4.3	3.5	5	3.5	7	3.3	9.5	3				
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5	3.5														
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9.5	3														

## Dimensions

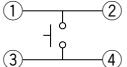
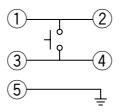
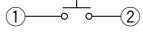
Unit:mm

No.	Style	PC board mounting hole dimensions (Viewed from switch mounting face)	
Power	<b>Horizontal type</b> 	$l$	A
		3.85	3.5
		5.85	3.3
		8.35	3
		15.85	3
			

## Note

1. Using a 1.6mm thick PC board is recommended.
2. The models which can be mounted on PC boards of thickness 0.8 to 1mm are also available upon request.

## Circuit Diagram

Vertical type/Joint stem type	With ground terminal type	Horizontal type
		

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

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

## Products Specifications

Items	Series	Sharp feeling type	Soft feeling type
Operating temperature range	-20°C to +70°C		
	-30°C to +85°C SKRM/RW		-30°C to +80°C SKPG
	-30°C to +90°C SKRA/RG/RP		-40°C to +90°C SKPF/PL/PM/PN
Rating (max.)		50mA 12V DC SKRP : 50mA 16V DC	5mA 12V DC SKPL/PM/PN : 50mA 16V DC
Rating (min.)		10 $\mu$ A 1V DC	
Electrical performance	Insulation resistance	100M $\Omega$ min. 100V DC SKEY/PD : 50M $\Omega$ min. 100V DC	
	Voltage proof	250V AC for 1 min. SKRB/RH/RM/RW/RR/EY/PD : 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 2 hours respectively	
	Lifetime	Shall be in accordance with individual specifications.	
Environmental performance	Cold	-30±2°C for 96h	
	Dry heat	80±2°C for 96h	
	Damp heat	60±2°C, 90 to 95%RH for 96h	

### Note

We can raise the working temperature range for in-vehicle applications upon request. Contact us if you have any requirements of this kind.

### Specifications of LED (SKHJ)

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

Power

Push

Slide

Rotary

Encoders

Detector

Dual-in-line  
Package TypeMulti Control  
Devices

TACT

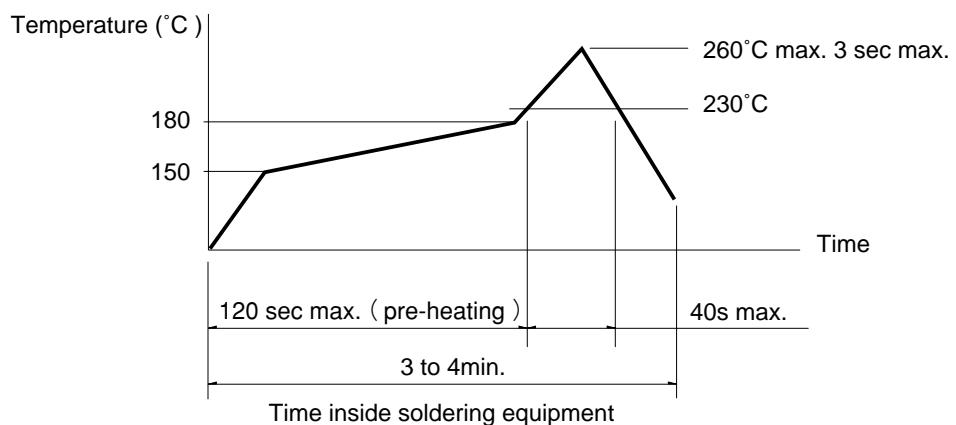
Custom-  
ProductsSharp  
FeelingSoft  
FeelingSnap-in  
TypeSurface  
Mount TypeRadial  
Type

## Soldering Conditions

### Condition for Reflow

Available for Surface Mount Type. (Except SKHM, SKHU, SKRM, SKRR Series)

1. Heating method: Double heating method with infrared heater.
2. Temperature measurement: Thermocouple 0.1 to 0.2  $\phi$  CA (K) or CC (T) at soldering portion (copper foil surface). A heat resisting tape should be used for fixed measurement.
3. Temperature profile



### Notes

1. The condition mentioned above is the temperature 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 PC board's material, size, thickness, etc. The above-stated conditions shall also apply to switch surface temperatures.
2. Soldering conditions differ depending on reflow soldering machines. You are requested to verify the soldering conditions thoroughly beforehand.

### Conditions for Auto-dip

Available for Snap-in Type and Radial Type

(Except SKHJ, SKHL, SKQC, SKQJ, SKQK, SKEG series)

Items	Condition
Flux built-up	Mounting surface should not be coated with flux
Preheating temperature	Ambient temperature of the soldered surface of PC board. 100°C max.
Preheating time	60s max.
Soldering temperature	260°C max.
Continuous dipping time	5s max.
Number of soldering	2times max.

### Manual Soldering

Available for Manual Soldering Type

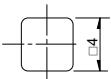
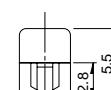
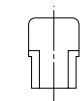
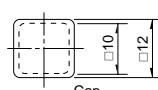
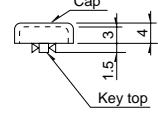
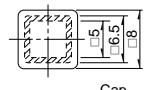
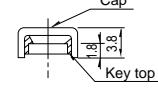
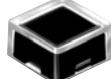
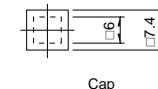
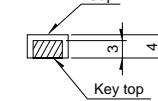
Items	Condition
Soldering temperature	350°C max.
Continuous soldering time	3s max.

### Notes

1. Consult with us for TACT switch washing conditions.
2. Prevent flux penetration from the top side of the TACT switch.
3. Switch terminals and a PC board should not be coated with flux prior to soldering.
4. The second soldering should be done after the switch returns to normal temperature.
5. Use the flux with a specific gravity of at least 0.82.  
(EC-19s-8 by TAMURA Corporation, or their equivalents.)

## Products Line of Knob

Unit:mm

Applicable model	Dimensions	Variety		Label dimensions (Unit:mm)
		Color	Model	
Power				
Push				
Slide				
Rotary				
Encoders				
Detector				
Dual-in-line Package Type				
Multi Control Devices				
<b>TACT</b>				
Custom-Products				
Sharp Feeling				
Soft Feeling				
Snap-in Type				
Surface Mount Type				
Radial Type				
<b>SKHH</b>		  	<b>Keytop</b> Red Blue Ivory Black Yellow	SK2AA00410 SK2AA00420 SK2AA00430 SK2AA00440 SK2AA00450
<b>SKHC SKQE</b>		  	<b>Cap</b> Clear	SK2AA00510
<b>SKHJ</b>		  	<b>Keytop</b> Red Blue Ivory Black Yellow	SK2AA00060 SK2AA00070 SK2AA00080 SK2AA00090
<b>SKEG</b>		  	<b>Cap</b> Clear	SK2AA00540
<b>Applicable to joint stem type</b>			<b>Keytop</b> Red Blue Ivory Black Yellow	SK2AA00360 SK2AA00370 SK2AA00380 SK2AA00390 SK2AA00400

### Notes

1. The knob will be delivered with the switch, unmounted.
2. The label is not included.
3. For SK2AA00010 to SK2AA00100 type, check its mounting direction.

