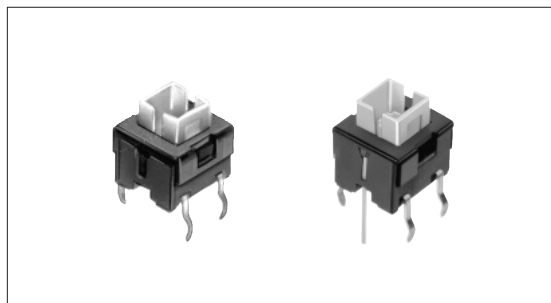


TACT Switch™ 8mm Square LED Built-in (Snap-in Type)

SKHJ Series



LED built-in type with a good reputation for wider color varieties.



Product Line

Without LED Type

Product No.	Operating force	Operating direction	Travel (mm)	Rating (max.)	Rating (min.)	Operating life (5mA 5V DC)	Initial contact resistance	Frame color	Minimum order unit (pcs.)	Drawing No.
SKHJAAA010	0.98N	Vertical	0.25	50mA 12V DC	10μA 1V DC	1,000,000cycles	100mΩ max.	Black	1,000	1
SKHJABA010	1.57N					500,000cycles		Gray		
SKHJACA010	2.55N					200,000cycles		Brown		

With LED Type

Product No.	Operating force	Operating direction	Travel (mm)	Rating (max.)	Rating (min.)	Operating life (5mA 5V DC)	Initial contact resistance	Frame color	LED color	Minimum order unit (pcs.)	Drawing No.
SKHJFAA010	0.98N	Vertical	0.25	50mA 12V DC	10μA 1V DC	1,000,000 cycles	100mΩ max.	Black	Red	1,000	2
SKHJFBA010									Pure green		
SKHJFCA010									Amber		
SKHJFGA010									Orange (High brightness)		
SKHJFHA010									Green (High brightness)		
SKHJFDA010	1.57N	Vertical	0.25	50mA 12V DC	10μA 1V DC	500,000 cycles	100mΩ max.	Gray	Red	1,000	2
SKHJFEA010									Pure green		
SKHJFFA010									Amber		
SKHJGRA010									Green (High brightness)		
SKHJGSA010	2.55N	Vertical	0.25	50mA 12V DC	10μA 1V DC	200,000 cycles	100mΩ max.	Brown	Orange (High brightness)	1,000	2
SKHJGEA010									Red		
SKHJGFA010									Pure green		
SKHJGGA010									Amber		

Packing Specifications

Bulk

Series	Number of packages (pcs.)		Export package measurements (mm)
	1 case /Japan	1 case /export packing	
SKHJAA,SKHJAB SKHJAC	4,000	12,000	309×476×347
Other	2,000	8,000	

Specifications of LED (SKHJ)

Color of illumination	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 (μA) VR=4V	Peak emission wave length λ peak (nm) IF=10mA	Spectral line half width Δλ (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					10 max.	555 TYP	20 TYP	0.8min. 2.0 TYP	
Amber						590 TYP	30 TYP	0.4min. 1.0 TYP	
Orange (High brightness)						630 TYP	40 TYP	1.5min. 4.0 TYP	
Green (High brightness)						565 TYP	30 TYP	2.0min. 5.0 TYP	

Note

Please place purchase orders per minimum order unit N (integer).

Refer to P.328 for soldering conditions.
Refer to P.330 for standard knobs.

ALPS

Detector

Push

Slide

Rotary

Encoders

Power

Dual-in-line
Package Type

TACT Switch™

Custom-
Products

Sharp
Feeling

Soft
Feeling


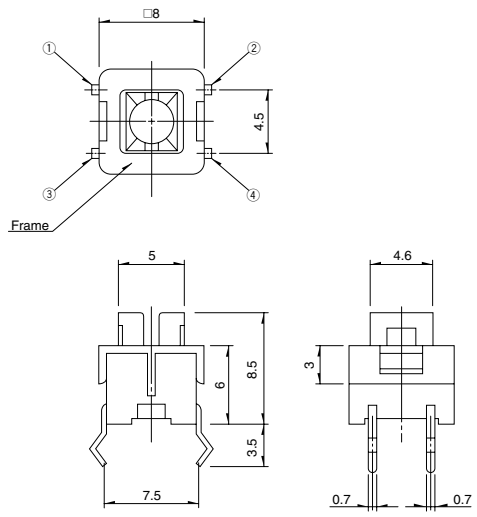
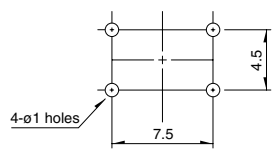
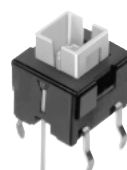
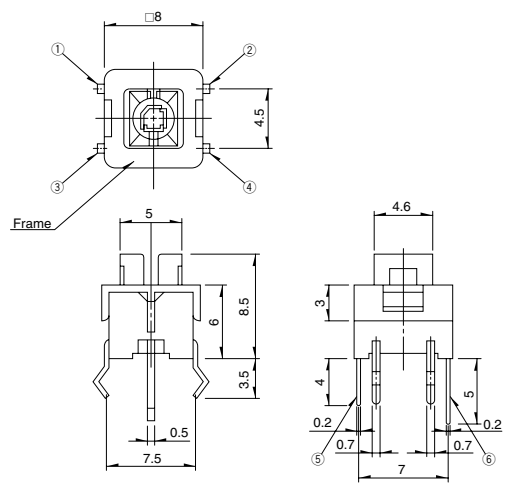
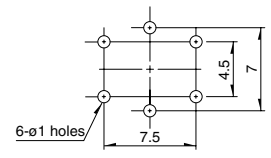
Snap-in
Type

Surface
Mount Type

Radial
Type

Dimensions

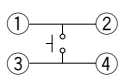
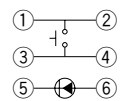
Unit:mm

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

Note












Please use 1.6mm thick PC boards.

Circuit Diagram

Without LED type	With LED type
	

List of Varieties

Sharp Feeling Type

Series		SKHR	SKHL	SKHH	SKHW	SKRD	SKQJ	SKHL	SKHH	SKQJ	SKHJ	SKQB
Photo												
Type		Snap-in										
Features		—			Dust-proof type	Horizontal type	—	Horizontal type			With LED	Water-proof
Operating direction	Vertical	●	●	●	●	—	●	—			●	●
	Horizontal	—				●	—	●	●	●	—	
Dimensions (mm)	W	□4.5	6	□6		6.2	□6.6	7.3	7.5		□8	□10
	D		3.5			7.15		7.22	7.85			
	H	3.8	4.3			7.4	5	4.3	7.4	7.3	8.5	5
Operation force coverage		1N	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕
		5N		↕							↕	↕
Ground terminal		—		●	—			●	—			
Operating temperature range		-20°C to +70°C SKHJ/HL(Vertical Type) /QJ										
		-30°C to +85°C										
Electrical performance	Insulation resistance	100MΩ min. 100V DC										
	Voltage proof	250V 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°C for 96h										
	Dry heat	80±2°C for 96h										
	Damp heat	60±2°C, 90 to 95%RH for 96h										
Page		275	276	278	282	283	284	276	278	284	286	288

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.

- TACT Switch™ Soldering Conditions328
- TACT Switch™ Cautions329
- Product Line of Knob for TACT Switch™330

Note

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

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

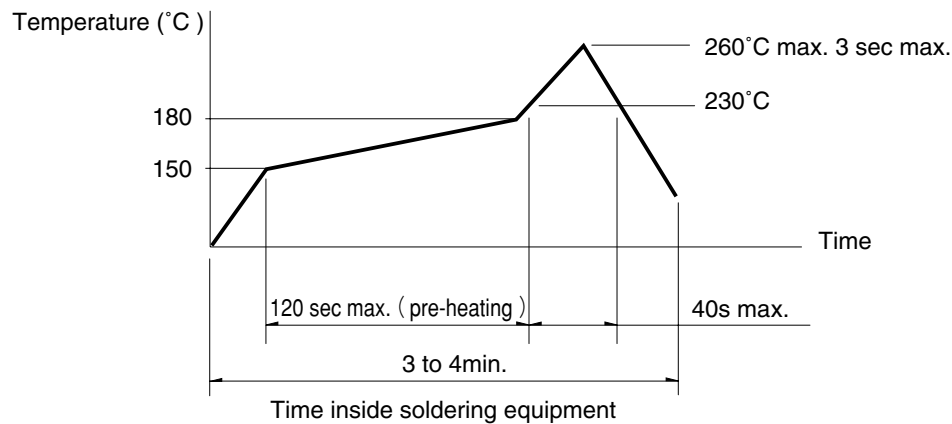
- Sharp Feeling
- Soft Feeling
- Snap-in Type
- Surface Mount Type
- Radial Type

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



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
(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. 100°C max.
Preheating time	60s max.
Soldering temperature	260°C max.
Duration of immersion	5s max.
Number of soldering	2times max.

Notes

1. Consult with us for 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.

Detector

Push

Slide

Rotary

Encoders

Power


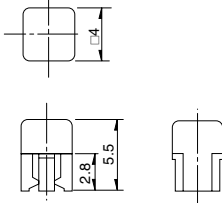

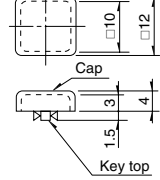


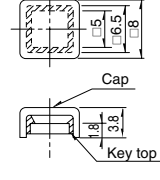
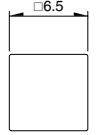

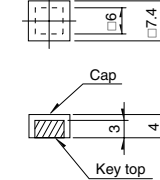
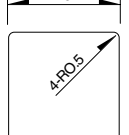
Dual-in-line
Package Type

TACT Switch™

Custom-
ProductsSharp
FeelingSoft
FeelingSnap-in
TypeSurface
Mount TypeRadial
Type

Product Line of Knobs

Unit:mm

Applicable model	Dimensions		Variety		Label dimensions (Unit:mm)	
			Color	Model		
SKHH Applicable to joint stem type			Keytop			
			Red Blue Ivory Black Yellow	SK2AA00410 SK2AA00420 SK2AA00430 SK2AA00440 SK2AA00450		
SKHC SKQE Applicable to joint stem type			Cap			
			Clear	SK2AA00510		
			Keytop		Keytop + Cap	
			Red Blue Ivory Black	SK2AA00010 SK2AA00020 SK2AA00030 SK2AA00040	SK2AA00060 SK2AA00070 SK2AA00080 SK2AA00090	Thickness 0.1
SKHJ			Cap			
			Clear	SK2AA00520		
			Keytop		Keytop + Cap	
			Red Blue Ivory Black Yellow	SK2AA00210 SK2AA00220 SK2AA00230 SK2AA00240 SK2AA00250	SK2AA00260 SK2AA00270 SK2AA00280 SK2AA00290 SK2AA00300	Thickness 0.1
SKEG Applicable to joint stem type			Cap			
			Clear	SK2AA00540		
			Keytop		Keytop + Cap	
			Red Blue Ivory Black Yellow	SK2AA00310 SK2AA00320 SK2AA00330 SK2AA00340 SK2AA00350	SK2AA00360 SK2AA00370 SK2AA00380 SK2AA00390 SK2AA00400	Thickness 0.1

- 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

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.

