

4.2×3.2 mm Compact High Operating Force TACT Switch (SMD)

SKRP Series

High operation force type prevent malfunction and meet automotive application requirements.

- Power
- Push
- Slide
- Rotary
- Encoders



Car Use

- Jog Shuttle
- Telephone-hook
- Detector
- Vibration Sensors
- Dual-in-line Package Type
- Multi Control Devices

TACT

Sharp Feeling

Soft Feeling

Snap-in Type

Surface Mount Type

Radial Type

Features

- 4.2×3.2mm outer dimension suites high density mounting.
- Its compact size contributes to make application units to be smaller and lighter.
- Large stem top surface. Excellence in operability and mountability.
- Packaged with 12mm wide embossed taping.

Applications

- Car audio, car navigation systems
- Keyless entry systems
- For operating various electronic devices such as audio devices, automotive units, communication devices, measuring instruments, etc.

Products Line

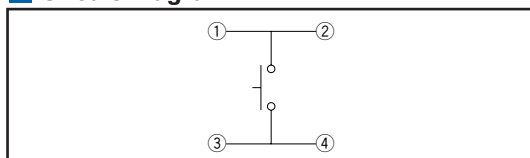
Products No.	Operating force	Operating direction	Travel (mm)	Rating (max.)	Operating life (5mA 5V DC)	Initial contact resistance	Stem color
SKRPABE010	1.57N	Vertical	0.2	50mA 16V DC	100,000cycles	500mΩ max.	Natural
SKRPAE010	2.55N				50,000cycles		Black
SKRPADE010	4N				100,000cycles		Black

Dimensions

Unit : mm

Style	PC board land dimensions (Viewed from switch mounting face)

Circuit Diagram



For detailed specifications, see P.413
 For soldering conditions, see P.414
 For specifications for the taping package, see P.416

Products Specifications

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 μ A 1V DC	
Electrical performance	Insulation resistance	100M Ω SKEY/PD : 50M Ω	
	Voltage proof	250V AC for 1 min. SKRB/RH/RM/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 \pm 2°C for 96h	
	Dry heat	80 \pm 2°C for 96h	
	Damp heat	60 \pm 2°C, 90 to 95%RH for 96h	

Power

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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)

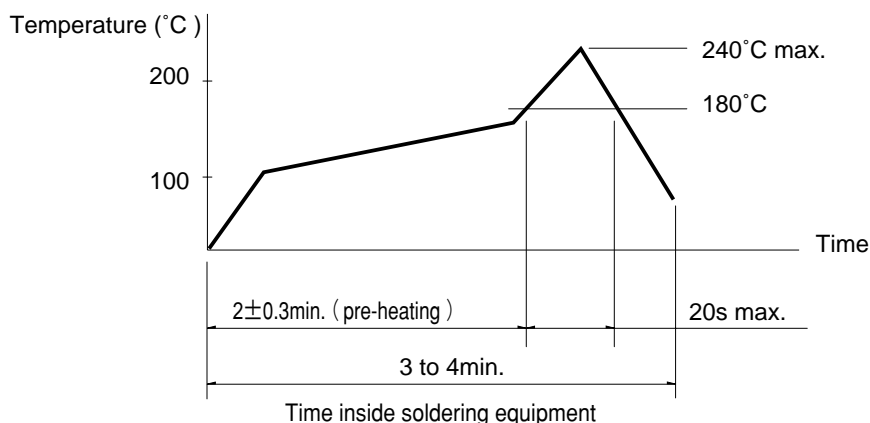
Color of light	Power dissipation P (mW)	Forward pulse peak current IFP (mA)	Forward current IFDC (mA)	Reverse voltage VR (V)	Forward voltage VF (V) IF=10mA	Reverse current IR (μ A) VR=4V	Peak emission wave length λ peak (nm) IF=10mA	Spectral line half width $\Delta \lambda$ (nm) IF=10mA	Luminous intensity 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)						4	2.7 max. 2.05TYP		565 TYP	30 TYP	2.0min. 5.0 TYP

Soldering Conditions

Condition for Reflow

Available for Surface Mount Type. (Except SKHM Series)

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 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. (Except a part of Variety SKRM, SKRR Series)
2. Soldering conditions differ depending on reflow soldering machines. You are requested to verify the soldering conditions thoroughly beforehand.
3. Ask us for the specifications of lead-free products.

Conditions for Auto-dip

Available for Snap-in Type and Radial Type

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	45s max.
Soldering temperature	255°C max.
Continuous dipping time	5s max.
Number of soldering	2times 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 0.83. (MH-820V or CF220V by TAMURA Corporation, or their equivalents.)

Manual Soldering

Available for Manual Soldering Type

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

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Specification of Embossed Taping Package

Taping Packaging for Auto-insertion

Reel Size Unit : mm

Paper Reel	Applicable Series	W
	SKHM, SKHU, SKQG SKQL, SKQM, SKQR SKQY, SKRB, SKRE SKRAAA, SKRAAB	12.4
	SKQT, SKRH SKRAAC, SKRAAF SKPG, SKPN	16.4
	SKQUBA, SKQUBB	32.4

Unit : mm

Plastic Reel	Applicable Series	W
	SKRK, SKRM SKRN, SKRP SKRT, SKPM SKRW	13.5
	SKRR	17.5

Unit : mm

Applicable series	Qty / reel (pcs.) (Minimum packing unit)	Tape dimensions	
SKQM, SKPMAM SKPMAN, SKPMAP SKPMAQ	2,000		
SKPMAR, SKPMAS SKPMAT	2,500		
SKHM, SKHU SKQY, SKRT SKRAAA, SKRAAB	3,000		
SKQG	5,000 (Without stem type) 4,000 (With stem type)		
SKRP	4,000		
SKRKA, SKRKAH	4,500		
SKQR, SKRB SKRM, SKRW	10,000		
SKRE, SKRN, SKRKAG	5,000		
SKQL	3,000		
SKPG	1,200		
SKRH	1,300		
SKRAAC, SKRAAF	1,400		
SKQT	3,000		
SKRR	7,000		
SKPN	1,100		
SKQUBA	750		
SKQUBB	600		

Note

Consult with us for a ϕ 330 mm diameter reel.