## **TACT** Switch<sup>™</sup> 6.45mm Diameter Low contact Resistance with Round Terminals (Radial type)

**SKPL** Series

	RoHS
Car Use	applicable

### Soft feeling, low contact resistance metal contacts and round terminals with excellent PC board mouting performance.



#### Features

- Soft feeling type with metal contacts achieving low contact resistance.
- Supplied with radial taping.
- Round terminals are most suitable for radial auto-insertion/mounting onto the PC board. (reduces switch rise during mounting and also reduces cutter wear outs caused by the insert machine.)
- Better solderability thanks to no rupture plane of the terminal.

#### **Applications**

- For car AV equipment and car navigation systems
- For various operation in audio equipment, communication devices, measuring instruments, in-car components, etc.

Product Line	•							
Product No.	Operating force	Operating direction	Travel (mm)	Rating (max.)	Rating (min.)	Operating life (5mA 5V DC)	Initial contact resistance	Rubber color
SKPLAGD010	1.57N							Gray
SKPLAKD010	1.96N	Vertical	1.3	50mA 16V DC	10 µ A 1V DC	100,000cycles	100mΩ max.	Green
SKPLAFD010	2.45N							Yellow

#### Dimensions



#### Circuit Diagram

### Note

Using a 1.6mm thick PC board is recommended.



Detector

Push

Slide

Rotary

Encoders

Power

Dual-in-line

Package Type

Multi Control Devices TACT Switch™ Custom-**Products** 



# Product Specifications

Items	Series	Sharp feeling type	Soft feeling type	
Operatir	ng temperature range	−20°C to +70°C SKHJ/HL/QJ/RR/QK	−20℃ to +70℃ SKEG	Detector
Operation	ig temperature range	−30°C to +85°C	-40°C to +90°C	Push
Electrical	Insulation resistance	100M Ω mir SKEY/PD : 50M		Slide
performance	Voltage proof	250V AC fo SKRE/SC/RB/RM/RW/RR/EY		Rotary
	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		Encoders
Durability –	Lifetime	Shall be in accordance with individual specifications.		Power
	Cold	-30±2°C	−30±2℃ for 96h	
Environmental performance	Dry heat		80±2℃ for 96h	
	Damp heat	60±2℃, 90 to 9	95%RH for 96h	TACT Switch <sup>™</sup>
Note				Custom- Products

#### Note

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

#### Specifications of LED (SKHJ)

Specificat	tions of LEI	D(SKHJ)								S
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 ∆ λ (nm) IF=10mA	Luminous intensity IV(mcd) IF=10mA	F S F S T
Red					2.7 max.	5 max.	700 TYP	100 TYP	0.4min. 1.0 TYP	S
Pure green				4	2.05TYP		555 TYP	20 TYP	0.8min. 2.0 TYP	F
Amber	40	80	15		2.7 max.	10 max.	590 TYP	30 TYP	0.4min. 1.0 TYP	_
Orange (High brightness)				3	2.0 TYP	io illax.	630 TYP	40 TYP	1.5min. 4.0 TYP	
Green (High brightness)	1			4	2.7 max. 2.05TYP		565 TYP	30 TYP	2.0min. 5.0 TYP	

**ALPS** 

# 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 ¢ CA (K) or CC (T) at solder joints (copper foil surface). A heat resistive tape should be used to fix thermocouple.

#### 3. Temperature profile Push

Slide

Rotary

Detector

Encoders

Power

Dual-in-line Package Type

Multi Control

Devices

TACT Switch<sup>®</sup> Custom-

**Products** 



Time inside soldering equipment

#### Note

- 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.

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

#### 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 flax
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.

#### Manual Soldering (Except SKRT series)

	· ·
ltems	Condition
Soldering temperature	350℃max.
Duration of soldering	3s max.
Capacity of soldering iron	60W max.

#### Notes

- 1. Consult with us for TACT Switch<sup>™</sup> washing conditions.
- 2. Prevent flux penetration from the top side of the TACT Switch<sup>™</sup>.
- 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 min 0.81.
- (EC-19S-8 by TAMURA Corporation, or equivalents.)



# **Specification of Radial Taping Package**

#### Taping Packaging for Auto-insertion

The SKOK, SKON, SKRC, SKRG, SKPD and SKPL series are delivered with taping packaging.

#### **Box Size**



		Detector
		Push
		Slide
		Rotary
		Encoders
		Power
		Dual-in-line Package Type
		Multi Control
		Devices
		Devices TACT Switch™
Quantity Accommo	odated Per Box	
Quantity Accommo	odated Per Box Oty/reel (pcs.) (Minimum packing unit)	TACT Switch™ Custom-
	Oty/reel (pcs.) (Minimum	TACT Switch™ Custom- Products
Series	Qty/reel (pcs.) (Minimum packing unit)	TACT Switch™ Custom- Products Sharp Feeling
Series SKQK	Oty/reel (pcs.) (Minimum packing unit) 1,000	TACT Switch™ Custom- Products Sharp Feeling Soft Feeling
Series SKQK SKPD	Oty/reel (pcs.) (Minimum packing unit)   1,000   800   2,000	TACT Switch™ Custom- Products Sharp Feeling Soft
Series SKQK SKPD SKRG	Oty/reel (pcs.) (Minimum packing unit) 1,000 800	TACT Switch™ Custom- Products Sharp Feeling Soft Feeling Snap-in
Series SKQK SKPD SKRG SKQN	Oty/reel (pcs.) (Minimum packing unit)   1,000   800   2,000	TACT Switch™ Custom- Products Sharp Feeling Soft Feeling Snap-in Type Surface

### ALPS