

# Multi Control Devices Slide Operation Type Stick Switch with 8-contact and Center-push Function

## SSAF Series



1.4mm height low-profile type with 8-contact and center push function.

- Detector
- Push
- Slide
- Rotary
- Encoders
- Power



### Features

- □10.85mm, 3mm stem, 1.4mm height, a low-profile type.
- Slide operation has soft feeling by rubber.
- Available for reflow soldering.

### Applications

- For various portable electronic devices - mobile phones and personal digital assistants

Dual-in-line  
Package Type

Multi Control  
Devices

TACT Switch™

Custom-  
Products

Variable  
Resistor Type

Switch  
Type

### Typical Specifications

Item	Specifications
Slide operating force	0.5 <sup>+0.5</sup> <sub>-0.25</sub> N
Slide ON travel (mm)	0.65±0.25
Push operating force	2.5 <sup>+0.7</sup> <sub>-0.5</sub> N
Push ON travel (mm)	0.2±0.1
Rating (max.) (Resistive load)	20mA 5V DC
Operating life	500,000cycles

### Product Line

Location Lug	Minimun packing unit (pcs.)	Product No.	Drawing No.
Without	1,200	SSAF120100	1
With	1,200	SSAF220100	2

Refer to **P.310** for product specifications.  
Refer to **P.311** for soldering conditions.  
Refer to **P.311** for taping package specifications.

Dimensions (With Center-push Type)

Unit:mm

No.	Style	PC board mounting hole dimensions
1		<p>Example of pattern (Viewed from mounting side)</p> <ul style="list-style-type: none"> <li><span style="border: 1px solid black; padding: 0 2px;">C</span> Common terminal</li> <li><span style="border: 1px solid black; padding: 0 2px;">G</span> Ground terminal</li> <li><span style="border: 1px solid black; padding: 0 2px;">P</span> Center push terminal</li> </ul>
2		<p>Example of pattern (Viewed from mounting side)</p> <ul style="list-style-type: none"> <li><span style="border: 1px solid black; padding: 0 2px;">C</span> Common terminal</li> <li><span style="border: 1px solid black; padding: 0 2px;">G</span> Ground terminal</li> <li><span style="border: 1px solid black; padding: 0 2px;">P</span> Center push terminal</li> </ul>

Detector

Push

Slide

Rotary

Encoders

Power

Dual-in-line  
Package Type

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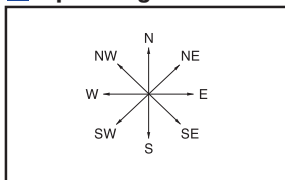
TACT Switch™

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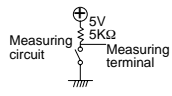
Operating direction



Output code

		Operating direction								
		N	NE	E	SE	S	SW	W	NW	Push
Out put	1	○								
	2		○							
	3			○						
	4				○					
	5					○				
	6						○			
	7							○		
	8								○	
	P									○

## Product Specifications

Items	SKQU		SSAF	SRBE	SLLB ※	SLLB5 ※	SLLQ				
	SKQUAA, SKQUBA	SKQUCA, SKQUDB									
Detector	Operating temperature range		-30°C to +85°C			-10°C to +60°C		-40°C to +85°C			
Push	Rating (max.) (Resistive load)		50mA 12V DC	20mA 5V DC	1mA 5V DC	10mA 5V DC					
Slide	Output voltage		1V max. at 1mA 5V DC (Resistive load)								
Rotary	Directional resolution		4-direction	9-direction	—						
Encoders	Insulation resistance		100MΩ min. 100V DC	10MΩ min. 100V DC	50MΩ min. 50V DC	100MΩ min. 100V DC					
Power	Voltage proof		250V AC for 1minute	100V AC for 1minute	50V AC for 1minute	100V AC for 1minute					
Dual-in-line Package Type	Directional operating force		1.57 <sup>+0.45</sup> <sub>-0.59N</sub>	1.57 <sup>+0.39</sup> <sub>-0.59N</sub>	8-direction 0.5N <sup>+0.5</sup> <sub>-0.35</sub> N	—		0.65±0.3N	1±0.5N		
Multi Control Devices	Push operating force		—	3.14±0.59N	2.5 <sup>+0.7</sup> <sub>-0.5</sub> N	3.5±1.5N	2±1N	2.5±1N	1.6±1N 2.6±1N		
TACT Switch™	Encoder detent torque		—			3±2mN·m					
Custom-Products	Terminal strength		29.4N for 1minute	49N for 1minute	—		3N for 1minute				
Mechanical characteristics	Actuator strength	Pushing direction	—					50N		30N	
		Operating direction	—			50N	—	10N			
Variable Resistor Type	Switch Type	Solder heat resistance	Manual soldering	350°C max. 3s max.		350±10°C 4 <sup>+</sup> <sub>0</sub> s		350±5°C 3s max.			
			Dip soldering	260°C max. 5s max.		—					
			Reflow soldering	Please see P.311							
Endurance	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								
	Operating life	Directional	—		500,000cycles		—				
		Center push	50,000 cycles	100,000 cycles	—		100,000cycles	—			
		Encoder	—		—		—				
Operating life without load		—				100,000cycles		100,000cycles			
Operating life with load (at rated load)		—				—		—			
Environmental test	Cold		-30±2°C for 96h		-40±2°C for 96h		-20±2°C for 96h		-40±2°C for 96h		
	Dry heat		80±2°C for 96h		85±2°C for 96h						
	Damp heat		60±2°C, 90 to 95%RH for 96h		40±2°C, 90 to 95%RH for 96h						

### Notes

1. Shall be in accordance with individual specifications.
2. ※ The operating temperature range for automotive applications can be raised upon request. Please contact us for requirements of this kind.

## Soldering Conditions

### Example of Reflow Soldering Condition

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



Series( Reflow type )	A( ) 3s max.	B( )	C(s)	D( )	E( )	F( s )
SLLB, SLLB5, SLLQ	240	230	20	150	150	120
RKJXS/SKR/V/SKRH/SKQUBA,DB/SSAF/SRBE	260		40	180		

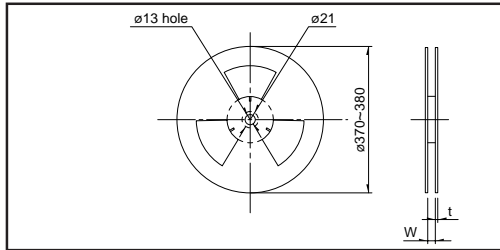
### Notes

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.

## Taping Specifications

### Taping Packaging

Reel Size Unit:mm



Unit:mm

Applicable series	Tape dimensions
SKRH	*1 
SKRV	
SKQUBA	*2 
SKQUBB	

Series	Number of packages( pcs. )			Reel width W( mm )	Reel thickness t( mm )	Tape width ( mm )	Tape dimensions
	1 reel	1 case (shipment within Japan)	1 case (shipment outside of Japan)				
SSAF	1,200	2,400	2,400	24.4	2	24	
SRBE	1,300	2,600	5,200	25.4	2	24	
SLLB	1,350	2,700	5,400	24.4	3	24	
SLLB5	1,500	3,000	6,000	24.4	3	24	
SLLQ11	900	1,800	3,600	24.4	3	24	
SLLQ12	1,400	2,800	5,600	24.4	3	24	
RKJXS	950	3,800	3,800	25.5	1.6 to 2	24	
SKRV	1,500	12,000	12,000	17.5	2	16	*1
SKRH	1,300	10,400	10,400	17.5	2	16	
SKQUBA	750	3,000	3,000	33.5	2	32	*2
SKQUBB	600	2,400	2,400	33.5	2	32	

### Note

Please place purchase orders for taping products per minimum package units (1 reel or 1 case).