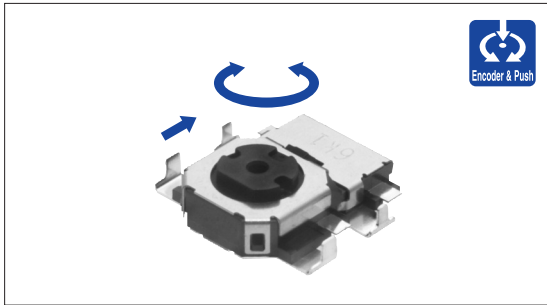


Multi Control Device sidejog Encoder and Push Operation Type Switch

SRBE Series



A compact multifunctional operating device that can be utilized on the side of the set device.



Multi Control Devices

Typical Specifications

Items		Specifications
Ratings (max.) / (min.) (Resistive load)		1mA 5V DC / 50μA 3V DC
Output voltage	Jog portion	1V max. at 1mA 5V DC (Resistive load)
	Push portion	
Operating force (Push portion)		3.5±1.5N
Travel (Push operation)		0.2mm
Operating life	Jog portion	100,000cycles
	Push portion	

Product Line

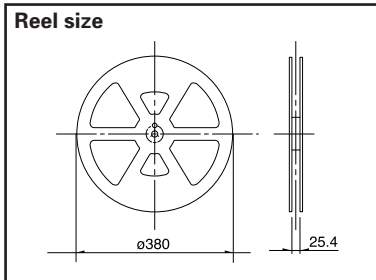
Number of detent	Number of pulse	Operating direction	Mounting method	Rotational torque (Jog portion)	Minimum order unit (pcs.)	Product No.	Drawing No.
12	6	Horizontal	Standard	3±2mN·m	6,000	SRBE110301	1
			Low-profile		5,200	SRBE210200	2

Variable Resistor Type

Switch Type

Packing Specifications

Taping Unit:mm



Product No.	Number of packages (pcs.)			Tape width (mm)	Export package measurements (mm)
	1 reel	1 case / Japan	1 case / export packing		
SRBE110301	1,500	3,000	6,000	24	428×413×172
SRBE210200	1,300	2,600	5,200		

Note

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

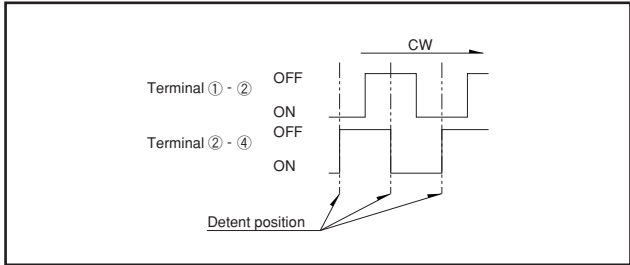
Refer to P.495 for soldering conditions.

Dimensions

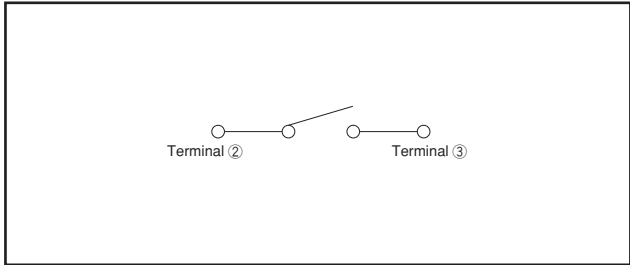
Unit:mm

No	Style	PC board mounting hole dimensions (Viewed from direction A)
1	<p>Technical drawing of Style 1 switch. Top view shows a circular push button with a diameter of 7.4 mm. The overall width is 9.4 mm and height is 7.5 mm. Terminals are labeled: Terminal No. ①, Terminal No. ② (Common), Terminal No. ③ (Push switch), Terminal No. ④, Ground terminal No. ⑤, and Ground terminal No. ⑥. A CW (Clockwise) rotation arrow is shown. Side view shows a height of 1.5 mm and a mounting hole diameter of 0.82 mm. Front view shows a width of 8.05 mm.</p>	<p>PC board mounting hole dimensions for Style 1, viewed from direction A. The mounting holes are arranged in a 2x2 grid. The distance between the centers of the holes is 10 mm horizontally and 6.65 mm vertically. Individual hole dimensions are 2.4 mm by 1.8 mm.</p>
2	<p>Technical drawing of Style 2 switch. Top view shows a circular push button with a diameter of 9 mm. The overall width is 10 mm and height is 7.5 mm. Terminals are labeled: Terminal No. ①, Terminal No. ② (Common), Terminal No. ③ (Push switch), and Terminal No. ④. A CW rotation arrow is shown. Side view shows a height of 1.05 mm and a mounting hole diameter of 0.82 mm. Front view shows a width of 11.6 mm and a depth of 0.9 mm.</p>	<p>PC board mounting hole dimensions for Style 2, viewed from direction A. The mounting holes are arranged in a 2x2 grid. The distance between the centers of the holes is 10.6 mm horizontally and 6.65 mm vertically. Individual hole dimensions are 2.4 mm by 1.8 mm. A 4-Through hole is indicated with dimensions 1 mm by 1.7 mm.</p>









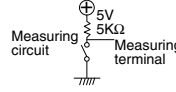
Output Signal (Encoder)



Circuit Diagram



List of Varieties

Series		Switch type						
		SKQU			SSAF	SRBE	SLLB	SLLB5 Small type
Items	SKQUAA/SKQUBA	SKQUCA	SKQUDB					
	Photo							
Function								
Dimensions (typical value) (mm)	W	10			10.85	8.05	11.8	9.5
	D					11	11.4	8.8
	H	7.1	10	8.6	3	3.17	3	2.2
Outlined specifications	Number of operating shafts	Single-shaft						
	Shaft material	Resin						
	Directional resolution	4-direction			8-contact	—	2-direction	
	Directional operating feeling	With			Without	With	Without	
	Lever return mechanism	With			Without	Without	With	
	Center-push switch	With/Without			With		With/Without	With
Encoder	Without			With		Without		
Operating temperature range		-30°C to +85°C			-10°C to +60°C			
Automotive use		—						
Rating (max.) (Resistive load)		50mA 12V DC			20mA 5V DC	1mA 5V DC	10mA 5V DC	
Electrical performance	Output voltage	—			1V max. at 1mA 5V DC (Resistive load)			
	Directional resolution	4-direction			8-contact	—	2-direction	
	Insulation resistance	100MΩ min. 100V DC			10MΩ min. 100V DC	50MΩ min. 50V DC	100MΩ min. 100V DC	
	Voltage proof	250V AC for 1min.			100V AC for 1min.	50V AC for 1min.	100V AC for 1min.	
	Directional operating force	1.57 ^{+0.49} _{-0.59} N	1.57 ^{+0.39} _{-0.69} N		0.5N ^{+0.5} _{-0.95} N	—	0.65±0.3N	
Mechanical performance	Push operating force	—	3.14±0.59N		2.5 ^{+0.7} _{-0.6} N	3.5±1.5N	2±1N	2.5±1N
	Encoder detent torque	—			3±2mN·m		—	
	Terminal strength	—						3N for 1min.
	Actuator strength	Pushing direction	—			50N		
Operating direction		—			50N	—	10N	
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 without load	—						100,000cycles
	Operating life with load (at rated load)	—						100,000cycles
Environmental performance	Cold	-30±2°C for 96h			-40±2°C for 96h		-20±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			
Soldering	Manual soldering	350°C max. 3s max.			350±10°C 4 ⁺ s	350±5°C 3s max.		
	Dip soldering	260°C max. 5s max. (SKQUAA,CA)			—			
	Reflow soldering	Please see P.495 (SKQUBA,DB)			Please see P.495			
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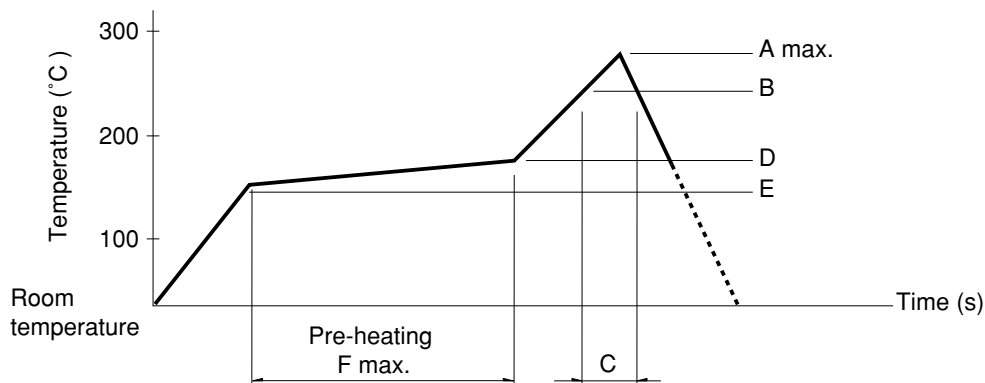
Multi Control
DevicesVariable
Resistor TypeSwitch
Type

- Switch Type Multi Control Devices Soldering Conditions495
- Switch Type Multi Control Devices Cautions496

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 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



Series (Reflow type)	A (°C) 3s max.	B (°C)	C (s)	D (°C)	E (°C)	F (s)
RKJXS	260	230	40	150	150	120
SLLB, SLLB5	240		20			
SKRV/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.

Multi Control Devices

Variable Resistor Type

Switch Type