

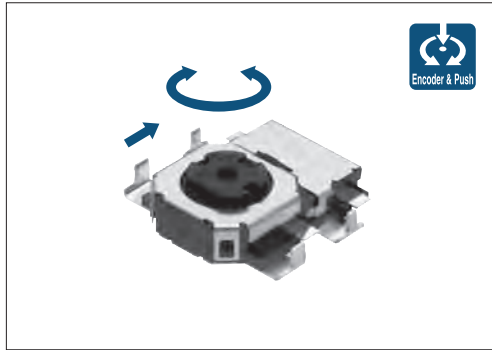
# SRBE

## Encoder and Push Operation Type Switch

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



### 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	100,000 cycles
	Push portion	

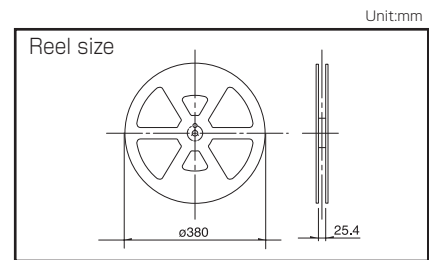
### Product Line

Product No.	Number of detent	Number of pulse	Operating direction	Mounting method	Rotational torque (Jog portion)	Minimum order unit (pcs.)		Drawing No.
						Japan	Export	
SRBE110301	12	6	Horizontal	Standard	3±2mN·m	1,500	6,000	1
SRBE210200				Low-profile		1,300	5,200	2

### Packing Specifications

#### Taping

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		



Dimensions

Unit:mm

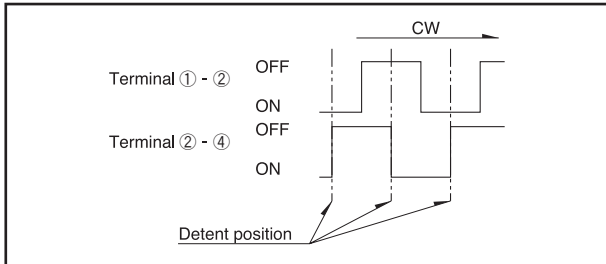
No.	Style	PC board mounting hole dimensions (Viewed from direction A)
1	<p>Push stroke Ground terminal No.⑥ Terminal No.① 7.4 7 0.2-0.15 CW Push Ground terminal No.⑤ 0.82 2.35 0.13 0.11 1.1 1.05 Terminal No.④ 4.05 Terminal No.③ Push switch Terminal No.② Common 9.4 8.05 3.5 1 1.2 7.5 5.25 1.2 0.4</p>	<p>6.85 5.05 2.4 1.8 0.8 0.3 7.2 10</p>
2	<p>Push stroke Terminal No.① 9 7.4 0.2-0.15 CW Push Terminal No.④ 0.82 1.9 0.13 0.11 1.1 1.05 Terminal No.③ Push switch Terminal No.② Common 10 2.05 0.8 0.625 4.35 11.6 0.2 0.9 0.9 0.3</p>	<p>11.8 0.8 0.6 7.6 1.35 2.05 4.35 6.65 5.05 2.4 0.8 0.4 7.7 0.625 1 1.7 8.8 10.6 4-Through hole</p>

Multi Control Devices

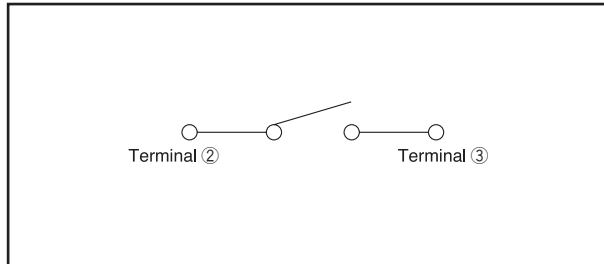
Variable Resistor Type

Switch Type

Output Signal (Encoder)









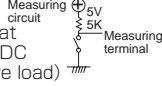


Circuit Diagram



# Multi Control Devices

## List of Varieties

Type		Switch type					
Series		SKRH		SRBE	SLLB5 Compact type	SLLB	
		SKRHAA/AB	SKRHAC/AD				
Photo							
Dimensions (mm)	W	7.35/7.45		—	9.5	11.8	
	D	7.5		—	8.8	11.4	
	H	5		—	2.2	3	
Shaft material		Resin					
Directional resolution		4-direction		—	2-direction		
Directional operating feeling (tactile feeling)		With			Without		
Lever return mechanism		With		Without	With		
Center-push switch		With					
Encoder		Without		With	Without		
Operating temperature range		-40°C to +85°C		-10°C to +60°C		-40°C to +85°C	
Operating life	Without load	—		100,000 cycles			
	With load(10mA 5V DC)	—		100,000 cycles			
	With load(5mA 5V DC)	200,000 cycles for each direction	1,000,000 cycles for each direction	—	—		
Automotive use		—		—	—		
Life cycle (availability)							
Rating (max.) (Resistive load)		50mA 12V DC		1mA 5V DC	10mA 5V DC		
Electrical performance	Output voltage	—		1V max. at 1mA 5V DC (Resistive load)	—	1V max. at 1mA 5V DC (Resistive load) 	
	Encoder resolution	—		6 pluses/360°	—		
	Insulation resistance	100MΩ min. 100V DC		10MΩ min. 50V DC	100MΩ min. 100V DC		
	Voltage proof	100V AC for 1min.		50V AC for 1min.	100V AC for 1min.		
Mechanical performance	Directional operating force	1.23±0.69N	1.2±0.69N	—	0.65±0.3N		
	Push operating force	2.35±0.69N		3.5±1.5N	2.5±1N	2±1N	
	Encoder detent torque	—		3±2mN·m	—	—	
	Terminal strength	—				3N for 1min.	
	Actuator strength	—	—	—	50N		
Environmental performance	Cold	-40°C 96h		-30°C 96h	-20°C 96h	-40°C 96h	
	Dry heat	90°C 96h		85°C 96h			
	Damp heat	60°C, 90 to 95%RH 96h		40°C, 90 to 95%RH 96h			
Page		405		406	408	410	

Switch Type Multi Control Devices Soldering Conditions . . . . . 412  
 Switch Type Multi Control Devices Cautions . . . . . 413

# Switch Type Multi Control Devices / Soldering Conditions

## Reference for Manual Soldering

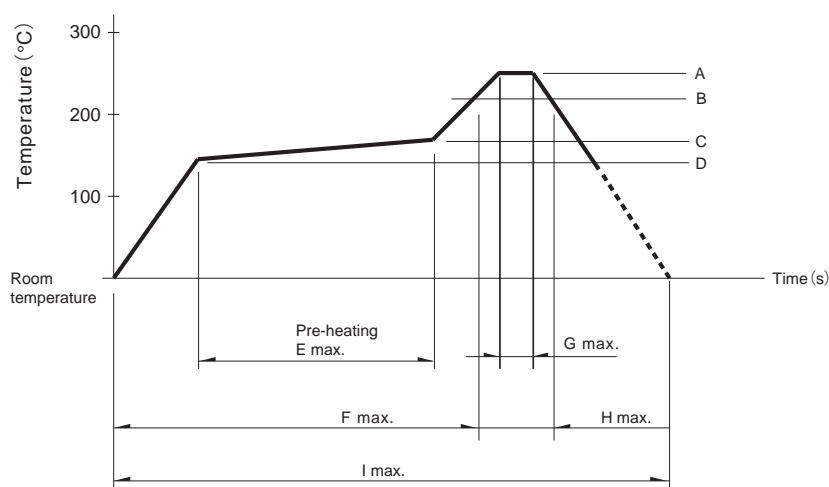
Series	Tip temperature	Soldering time	No. of solders
<b>RKJXT1F, RKJXM, RKJXL, SLLB, SLLB5, SRBE, SKRH</b>	350±5°C	3s max.	1 time

## Reference for Dip Soldering

Series	Preheating		Dip soldering		No. of solders
	Soldering surface temperature	Heating time	Soldering temperature	Soldering time	
<b>RKJXT1F, RKJXM</b>	100°C max.	2 min. max.	260±5°C	5±1s	2 time max.
<b>RKJXL</b>	120°C max.	70s max.	260°C max.	6s max.	2 time max.

## Example of Reflow Soldering Condition

1. Heating method: Double heating method with infrared heater.
2. Temperature measurement: Thermocouple  $\phi 0.1$  to  $0.2$  CA (K) or CC (T) at soldering portion (copper foil surface).  
A heat resisting tape should be used for fixed measurement.
3. Temperature profile



Series	A	B	C	D	E	F	G	H	I	No. of reflows
<b>SLLB5</b>	250°C	230°C	150°C	150°C	—	2 min.	—	30s	—	1 time
<b>SLLB, SRBE</b>	260°C	230°C	180°C	150°C	2 min.	—	—	40s	—	1 time
<b>SKRH</b>	260°C	230°C	180°C	150°C	2 min.	—	3s	40s	3-4 min.	2 times

## 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.

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Multi-Directional Switches](#) category:*

*Click to view products by [ALPS](#) manufacturer:*

Other Similar products are found below :

[MJTP1109AL](#) [RA3CSH6A](#) [APTCFVTR](#) [SRBE210100](#) [T5-NH1118](#) [RKJXW1014002](#) [RKJXW2014001](#) [T4-TCN3332](#) [TSWA-3N-CUP2-LFS](#) [T2-0018](#) [T5-CK2212](#) [CS41001E](#) [RKJXK122000D](#) [RKJXK122400Y](#) [RKJXL100401V](#) [RKJXM2E13001](#) [RKJXM2E13004](#) [RKJXS1004001](#) [RKJXT1F42001](#) [RKJXV1224005](#) [RKJXY100000A](#) [SKRHAAE010](#) [SKRHABE010](#) [SKRHACE010](#) [SKRHADE010](#) [SLLB120100](#) [SLLB120200](#) [SLLB120300](#) [SLLB510100](#) [SLLB510200](#) [SLLB520100](#) [SRBE110301](#) [SRBE210200](#) [AMPTFP2VTR](#) [D16202](#) [PHAP4383V](#) [3302](#) [7G5002C0003](#) [QSA2S3.5NH3G7](#) [K1-1508SA-03](#) [PLJG2-G-V-T/R](#) [PLMG5-GH-V-T/R](#) [RKJXU1210006](#) [SKRHADE011](#) [2200-000301](#) [RKJXM1015004](#) [RKJXV1220001](#) [SLLB310300](#) [SLLB310500](#) [SLLB520200](#)