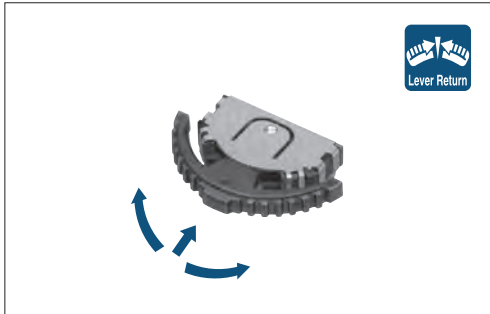


# SLLB5 Lever and Push Operation Type Switch

Compact two-way input device approximately 50% smaller than our conventional models



## Typical Specifications



Items		Specifications
Rating (max.)/(min.) (Resistive load)		10mA 5V DC/50 $\mu$ A 3V DC
Contact resistance		1 $\Omega$ max.
Operating force	Lever portion	0.65 $\pm$ 0.3N
	Push portion	2.5 $\pm$ 1N
Travel (Push operation)		0.7mm
Operating life	Without load	100,000 cycles
	With load	100,000 cycles (10mA 5V DC)

## Product Line

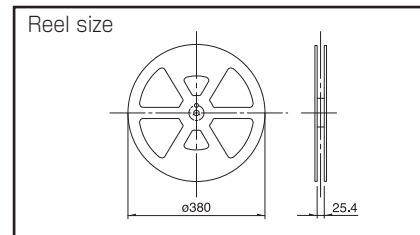
Product No.	Actuator configuration	Push-on switch	Location lug	Minimum order unit (pcs.)		Drawing No.
				Japan	Export	
<b>SLLB510100</b>	Mounting knob integrated	With	With	1,500	6,000	1
<b>SLLB510200</b>			Without			
<b>SLLB520100</b>	Mounting knob		With			2
<b>SLLB520200</b>			Without			

## Packing Specifications

### Taping

Number of packages (pcs.)			Tape width (mm)	Export package measurements (mm)
1 reel	1 case / Japan	1 case / export packing		
1,500	3,000	6,000	24	428 $\times$ 413 $\times$ 172

Unit:mm



### Note

For automotive use, please contact us.

Refer to P.412 for soldering conditions.

Dimensions

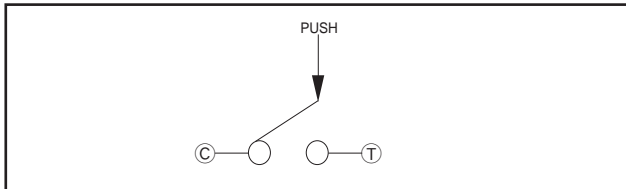
Unit:mm

No.	Style	PC board mounting hole and land dimensions
1	<p><b>Mounting knob integrated with boss</b></p>	
2	<p><b>Mounting knob with boss</b></p>	

Note

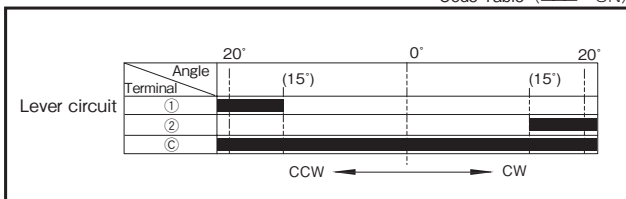
Dimensions drawing is for type with location lugs.

Circuit Diagram (Push Portion)



Code Table

Code Table (■ = ON)











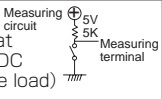
Multi Control Devices

Variable Resistor Type

Switch Type

# 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	Push / pull directions	—	—	50N		
	Operating direction	29.4N	—	10N			
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			
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 Switch Type Multi Control Devices Cautions . . . . . 413

# Switch Type Multi Control Devices / Soldering Conditions

## Reference for Manual Soldering

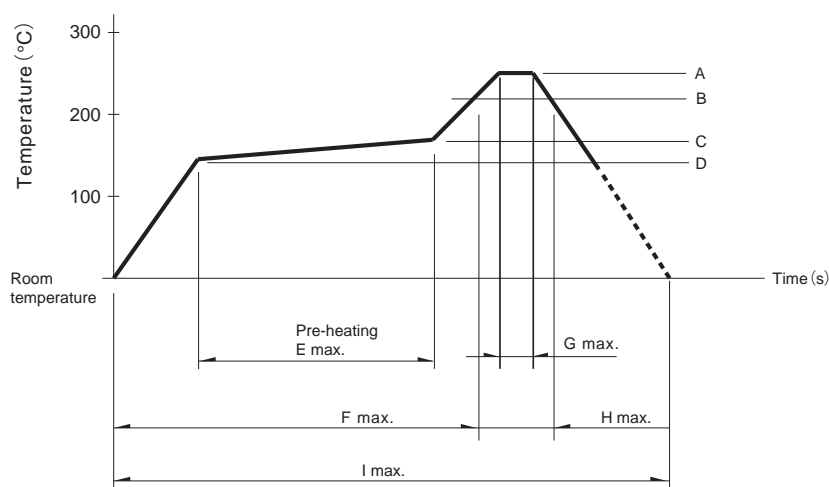
Series	Tip temperature	Soldering time	No. of solders
<b>RKJXT1F, RKJXM, RKJXL, SLLB, SLLB5, SRBE, SKRH</b>	350±5°C	3s max.	1 time

## 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.

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