

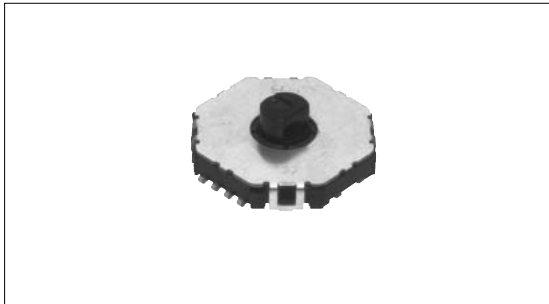
Rotary Switch Heavy-torque Feel, Low-profile Type

SRBD Series



Mode switching with maximum 10-positions.

- Detector
- Push
- Slide
- Rotary**
- Encoders
- Power
- Dual-in-line Package Type
- TACT Switch™
- Custom-Products



Typical Specifications

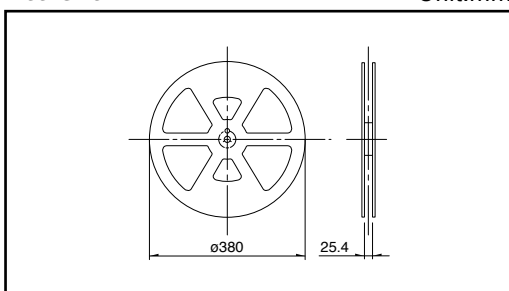
Items	Specifications
Rating(max.)(min.) (Resistive load)	1mA 5V DC/50 μ A 3V DC
Contact resistance	200m max.
Rotational torque	13 \pm 5mN \cdot m
Operating life with load	10,000cycles(DC5V 1mA)
Insulation resistance	50m max./100m max.
Voltage proof	100VAC 1minute
Angle of throw	36 $^{\circ}$

Product Line

Poles	Positions	Changeover angle	Detent	Changeover timing	Soldering	Actuator length (mm)	Minimum order unit(pcs.)	Product No.	Drawing No.
1	10	36 $^{\circ}$	7	Non shorting	For PC board (Reflow)	1.0	5,600	SRBD170101	1
			8			1.7	4,800	SRBD170201	2
			10			1.0	5,600	SRBD180100	1
						1.7	4,800	SRBD110200	2

Taping Specification (Taping Packeging)

Reel Size Unit:mm



Series		Number of packages(pcs.)			Tape width (mm)
		1 reel	1 case /Japan	1 case /export packing	
Length of operationg section	1.0mm	1,400	2,800	5,600	24
	1.7mm	1,200	2,400	4,800	

Note

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

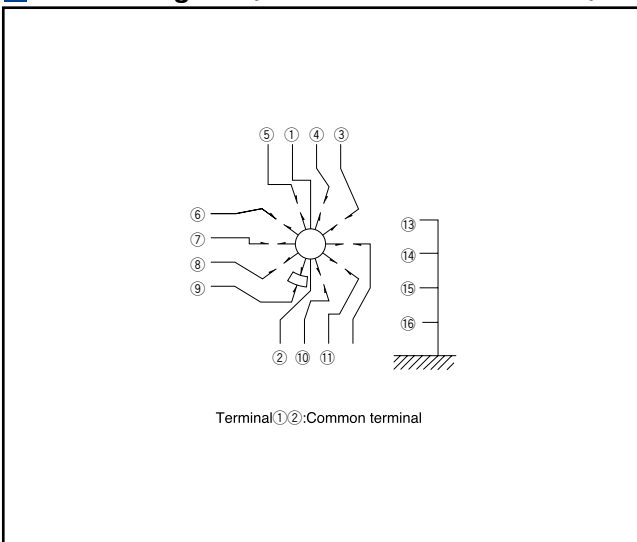
Dimensions

Unit:mm

No.	Style	PC board mounting hole dimensions (Viewed from the direction A)
1		
2		

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Circuit Diagram (Viewed from Direction A)



Correspondence Table of Terminal No. and Detent

Position No.	Terminal No.	Detent		
		7	8	10
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

List of Varieties

Series		SRBD	SRBQ		SRRM	SRBV	SRBM		SRRN						
			Insertion	Reflow type			Rotary	Pulse							
Photo															
Outline specifications	Step angle	36 °	40 ± 3 °		30 ± 3 °			18 ± 3 °	30 ± 3 °						
	Number of poles	1		1 2 3 4	1	1 2	2 3 4								
Dimensions (mm)		W	11.4		16.2		12.5		—						
		D	12.4		18.5		10								
		H	3.5		7.5		11.5								
Operating temperature range		-25 to +85		-10 to +60		-40 to +85		-10 to +60							
Rating(max)/(min) (Resistive load)		1mA 5V DC 50µA 3V DC		0.1A 16V DC 50µA 3V DC		0.25A 30V DC 50µA 3V DC		0.3A 16V DC 50µA 3V DC		0.1A 16V DC 50µA 3V DC		0.15A 12V DC 50µA 3V DC			
Electrical performance	Initial contact resistance	100M min. 100V DC			100M min. 500V DC		100M min. 100V DC			100M min. 500V DC					
	Insulation resistance	100V AC for 1minute			500V AC for 1minute		100V AC for 1minute			500V AC for 1minute					
	Voltage proof	3N for 1minute		5N for 1minute		10N for 1minute		5N for 1minute							
Mechanical performance	Actuator strength	Rotational direction	—		1N·m		0.6N·m		0.5N·m		1N·m				
		Push direction	50N		20N		100N								
	Wobble of actuator	Load at the tip of shaft SRRM : 5N SRBV, SRBQ : 1N		The below table shows for SRBQ (Unit : mm)			The below table shows for SRBV (Unit : mm)			Measuring position from mounting surface	Shaft wobble (max. value)	Applicable mounting dimension			
		(Unit : mm)		Distance from mounting surface to the tip of shaft		Shaft wobble (max. value)		(Unit : mm)		Measuring position from mounting surface		Shaft wobble (max. value)		Applicable mounting dimension	
		10 0.17 15		below 5		0.5 max.		10 0.2 15		10mm		0.17 mm		15 mm	
		15 0.25 20		above 5 and below 10		0.9 max.		15 0.3 20		15mm		0.25 mm		20 mm	
				above 10 and below 15		1.2 max.				Load at the tip of shaft : 5N					
Durability	Operating life without load	10,000cycles 250m max.		10,000cycles 100m max.		10,000cycles 40m max.		10,000cycles 100m max.		30,000cycles 100m max.		10,000cycles 70m max.			
	Operating life with load Load : (at rated load)	10,000cycles 250m max.		10,000cycles 100m max.		10,000cycles 60m max.		10,000cycles 150m max.		10,000cycles 100m max.					
Environmental performance	Cold	-40 ± 2 for 500h		-20 ± 2 for 96h											
	Dry heat	85 ± 2 for 500h		85 ± 2 for 96h											
	Damp heat	60 ± 2 , 90 to 95%RH for 500h		40 ± 2 , 90 to 95%RH for 96h											
Soldering	Manual soldering	—		350 ± 10 3 ⁺ 1s		350 ± 5 3s max.		350 ± 10 , 3 ⁺ 1s							
	Dip soldering	—		260 ± 5 5 ± 1s		—		260 ± 5 10 ± 1s		260 ± 3 5s max.		260 ± 5 10 ± 1s			
	Reflow soldering	Please see P.172													
Page		158		160		167		165		162		169			

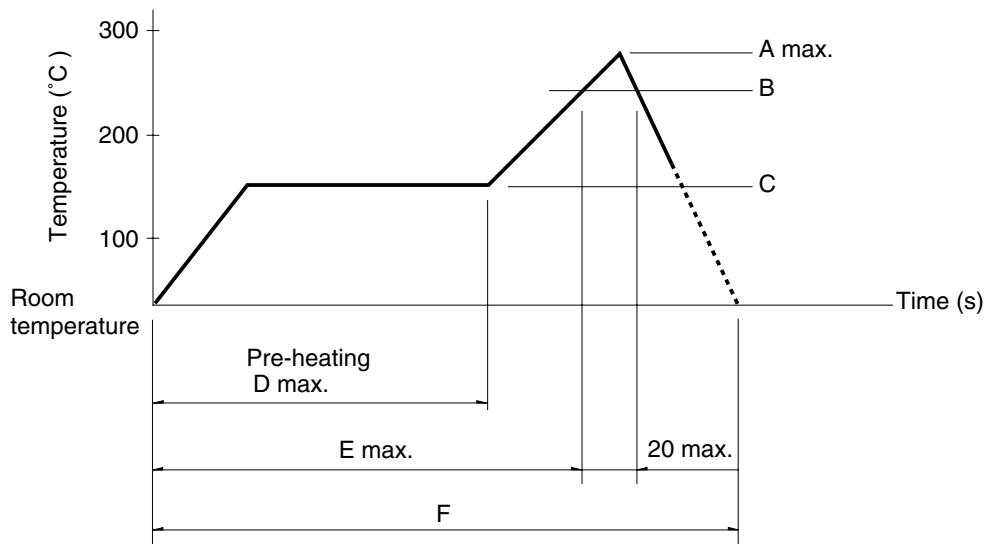
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Rotary Switches Shaft Style171
 Rotary Switches Soldering Conditions172
 Rotary Switches Attached Parts173
 Rotary Switches Cautions174

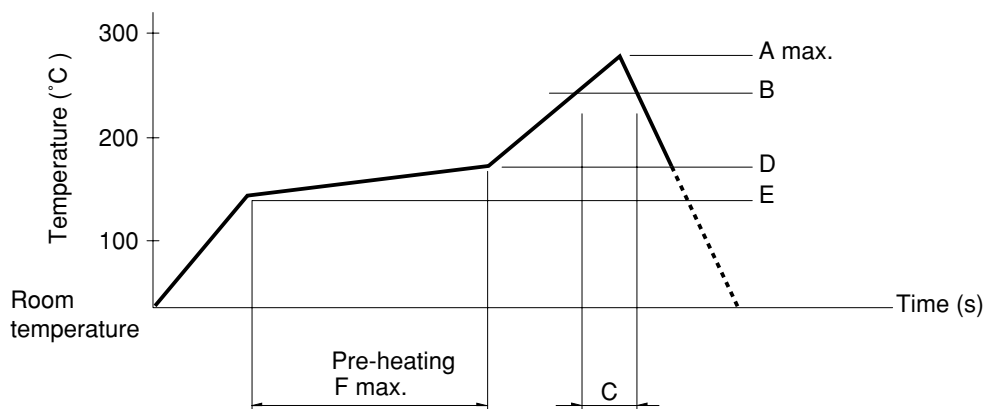
Soldering Conditions

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 soldering portion(copper foil surface).A heat resisting tape should be used for fixed measurement.
3. Temperature profile



Series(Reflow type)	A() 3s max.	B()	C()	D(s)	E(s)	F(s)
SRBQ	240	230	150	120		



Series(Reflow type)	A() 3s max.	B()	C(s)	D()	E()	F(s)
SRBD	260	230	40	180	150	120

Notes

1. The condition mentioned above is the temperature 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 PC board's material, size, thickness, etc. 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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