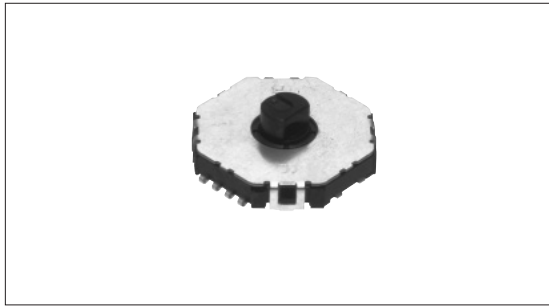


Rotary Switch Heavy-torque Feel, Low-profile Type

SRBD Series



Mode switching with maximum 10-positions.



Typical Specifications

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

Detector

Push

Slide

Rotary

Encoders

Power

Dual-in-line
Package Type

TACT Switch™

Custom-
Products

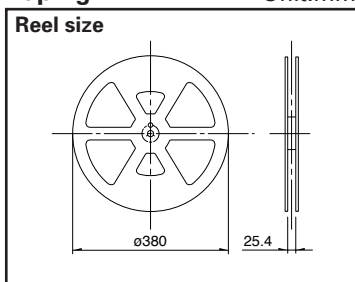
Product Line

Poles	Positions	Changeover angle	Detent	Changeover timing	Soldering	Actuator length (mm)	Minimum order unit (pcs.)	Product No.	Drawing No.
1	10	36°	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

Packing Specifications

Taping

Unit:mm



Actuator length	Number of packages (pcs.)			Tape width (mm)	Export package measurements (mm)
	1 reel	1 case /Japan	1 case /export packing		
SRBD170101 SRBD180100	1,400	2,800	5,600	24	428×413×172
SRBD170201 SRBD110200	1,200	2,400	4,800		

Note

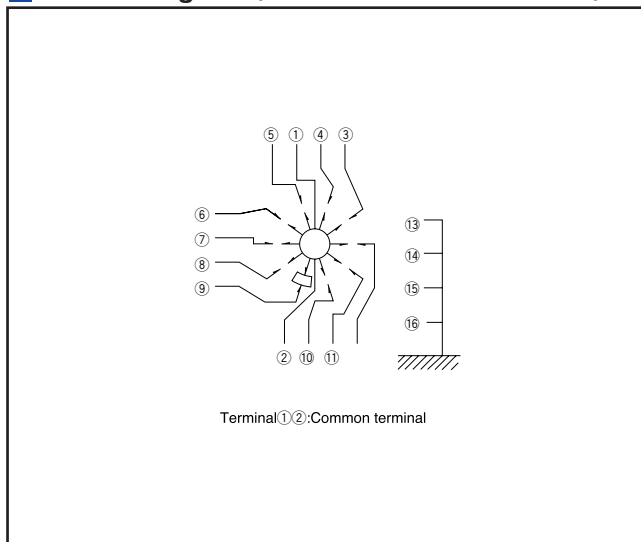
Please place purchase orders per minimum order unit N (integer).

Dimensions

Unit:mm

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









Circuit Diagram (Viewed from Direction A)



Correspondence Table of Terminal No. and Detent

Position No.	Terminal No.	Detent		
		7	8	10
1	③	○	○	○
2	④	○	○	○
3	⑤	○	○	○
4	⑥	○	○	○
5	⑦	○	○	○
6	⑧	○	○	○
7	⑨	○	○	○
8	⑩	—	○	○
9	⑪	—	—	○
10	⑫	—	—	○

List of Varieties

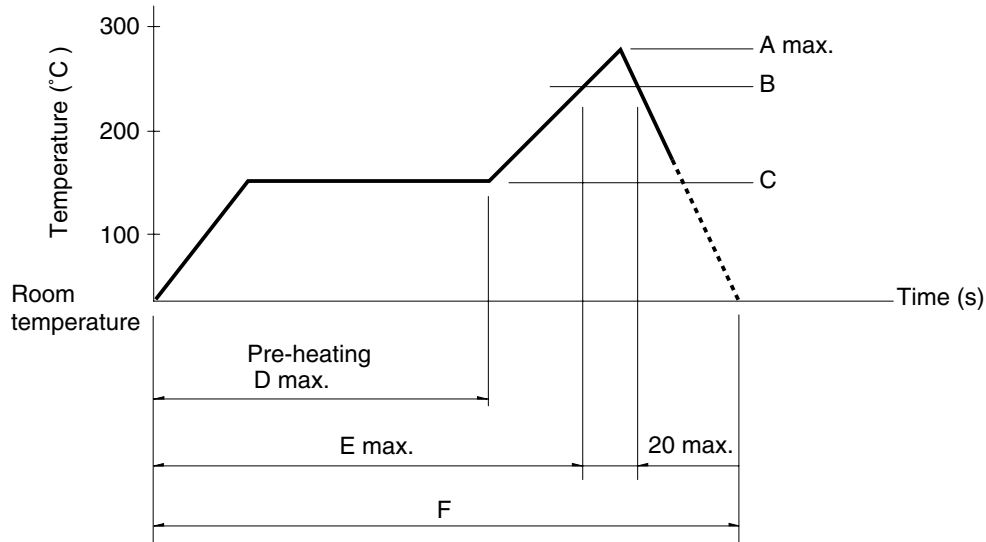
Series	SRBD	SRBQ		SRRM	SRBV	SRBM		SRRN				
		Insertion	Reflow type			Rotary	Pulse					
Detector												
Push												
Slide												
Rotary	Outline specifications	Step angle	36°	40±3°	30±3°		18±3°	30±3°				
		Number of poles	1		1 2 3 4	1	1 2	2 3 4				
Encoders	Dimensions (mm)	W	10		11.4	16.2	12.5	—				
		D	10		12.4	18.5	10	—				
		H	1.7		3.5	7.5	11.5	—				
Power	Operating temperature range	-25°C to +85°C		-10°C to +60°C		-40°C to +85°C		-10°C to +60°C				
Dual-in-line Package Type	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				
TACT Switch™	Electrical performance	Insulation resistance	100MΩ min. 100V DC		100MΩ min. 500V DC	100MΩ min. 100V DC		100MΩ min. 500V DC				
Custom-Products		Voltage proof	100V AC for 1minute		500V AC for 1minute	100V AC for 1minute		500V AC for 1minute				
		Terminal strength	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)			10mm	0.17 mm	15 mm	
Measuring position from mounting surface		Shaft wobble (max. value)	Applicable mounting dimension	Measuring position from mounting surface	Shaft wobble (max. value)	Applicable mounting dimension	15mm	0.25 mm	20 mm			
Durability	Operating life without load	10,000cycles 250mΩ max.	10,000cycles 100mΩ max.	10,000cycles 40mΩ max.	10,000cycles 100mΩ max.		10,000cycles 70mΩ max.					
	Operating life with load Load : (at rated load)	10,000cycles 250mΩ max.	10,000cycles 100mΩ max.	10,000cycles 60mΩ max.	10,000cycles 150mΩ max.		10,000cycles 100mΩ max.					
Environmental performance	Cold	-40±2°C for 500h		-20±2°C for 96h								
	Dry heat	85±2°C for 500h		85±2°C for 96h								
	Damp heat	60±2°C, 90 to 95%RH for 500h		40±2°C, 90 to 95%RH for 96h								
Soldering	Manual soldering	—		350±10°C 3 ⁺ 1s	350±5°C 3s max.	350±10°C, 3 ⁺ 1s						
	Dip soldering	—		260±5°C 5±1s	—	260±5°C 10±1s	260±3°C 5s max.	260±5°C 10±1s				
	Reflow soldering	Please see P.200		—								
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- Rotary Switches Soldering Conditions200
- Rotary Switches Attached Parts201
- Rotary Switches Cautions202

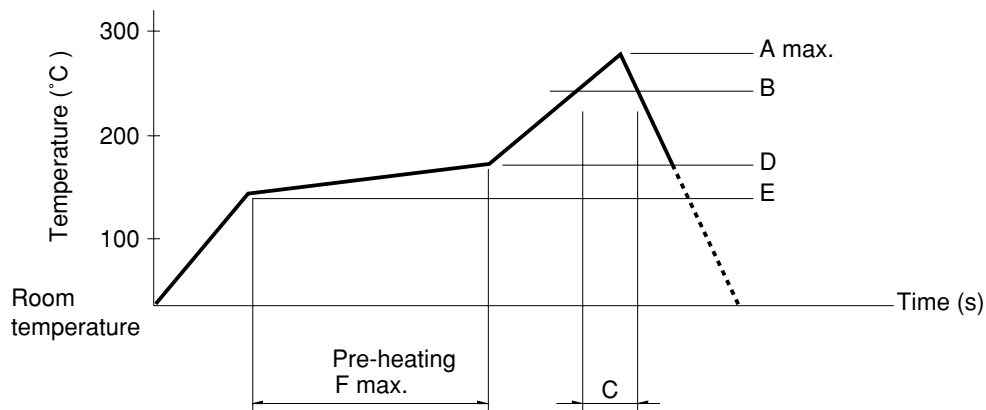
Soldering Conditions

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



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



Series (Reflow type)	A (°C) 3s max.	B (°C)	C (s)	D (°C)	E (°C)	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.

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