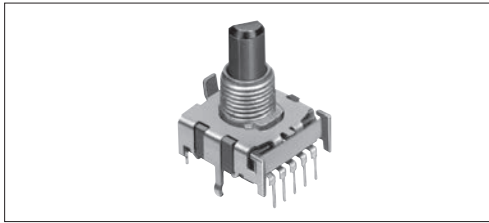


Low-profile 7.5mm height contributes to flexibility in set design.



#### Typical Specifications

Items		Specifications
Rating (max.) / (min.) (Resistive load)		0.3A 16V DC / 50 $\mu$ A 3V DC
Contact resistance (Initial / After operating life)		50m $\Omega$ max. / 150m $\Omega$ max.
Rotational torque		30 $\pm$ 15mN·m
Operating life	Without load	10,000cycles
	With load	10,000cycles (0.3A 16V DC)

Detector

Slide

Push

Rotary

Encoders

Power

Dual-in-line  
Package Type

TACT Switch™

#### Product Line

Poles	Positions	Changeover angle	Changeover timing	Actuator configuration	Actuator length (mm)	Minimum order unit (pcs.)		Product No.
						Japan	Export	
1	3	30 $\pm$ 3°	Non shorting	Flat	L=15	165	330	SRBV131803
					L=20			SRBV131502
	4				L=15			SRBV141404
					L=20			SRBV141201
	5				L=15			SRBV151102
					L=20			SRBV150901
	6				L=15			SRBV160803
								SRBV170701
7	L=20	SRBV170501						
		8	L=15	SRBV181004				

#### Note

Other varieties are also available. Please inquire.

#### Packing Specifications













##### Bulk

Number of packages (pcs.)		Export package measurements (mm)
1 case / Japan	1 case/export packing	
165	330	400 × 270 × 185



# Rotary Switches

## List of Varieties

Series		SRBD	SRBQ		SRBM		SRBV	SRRM	SRRN																																						
			Insertion	Reflow type	Rotary	Pulse																																									
Photo																																															
Angle of throw		36°	40±3°		30±3°	18±3°	30±3°																																								
Number of poles		1	1		1 2	1	1 2 3 4	2 3 4																																							
Rotational torque		13±5mN·m	6±3mN·m 13±5mN·m		40±20mN·m 15±7mN·m		30±15mN·m	80±30mN·m (Shoting) 70±30mN·m (Non shorting)	70±30mN·m																																						
Dimensions (mm)	W	10	11.4		10		16.2	—	—																																						
	D		12.4		12.5		18.5																																								
	H		3.5		11		7.5																																								
Operating temperature range		-25°C to +85°C	-10°C to +60°C		-30°C to +85°C		-10°C to +85°C	-10°C to +60°C	-30°C to +65°C																																						
Automotive use		—	—		●		—	—	—																																						
Life cycle																																															
Rating(max.)/(min.) (Resistive load)		1mA 5V DC 50 μA 3V DC	0.1A 16V DC 50 μA 3V DC		0.3A 16V DC 50 μA 3V DC		0.25A 30V DC 50 μA 3V DC	0.15A 12V DC 50 μA 3V DC																																							
Durability	Operating life without load	10,000cycles 250mΩ max.	10,000cycles 100mΩ max.		30,000 cycles 100mΩ max.		10,000cycles 100mΩ max.	10,000cycles 40mΩ max.	10,000cycles 70mΩ max.																																						
	Operating life with load Load as rating	10,000cycles 250mΩ max.	10,000cycles 100mΩ max.		10,000cycles 150mΩ max.		10,000cycles 60mΩ max.	10,000cycles 100mΩ max.	10,000cycles 100mΩ max.																																						
Electrical performance	Initial contact resistance	200mΩ max.	50mΩ max.				20mΩ max.	50mΩ max.																																							
	Insulation resistance	100MΩ min. 100V DC					100MΩ min. 500V DC																																								
	Voltage proof	100V AC for 1minute					500V AC for 1minute																																								
Mechanical performance	Terminal strength	3N for 1minute	5N for 1minute				10N for 1minute	5N for 1minute																																							
	Actuator strength	Operating direction	—	—	0.5N·m	—	0.6N·m	1N·m																																							
		Pulling direction	50N	20N		100N																																									
	Wobble of actuator	<p>Load at the tip of shaft SRRM, SRBM, SRRN: 5N, SRBQ, SRBV: 1N</p> <p>The below table shows for SRRM, SRBM, SRRN (Unit: mm)</p> <table border="1" data-bbox="422 1563 737 1787"> <thead> <tr> <th>Measuring position from mounting surface</th> <th>Shaft wobble (max. value)</th> <th>Applicable mounting dimension</th> </tr> </thead> <tbody> <tr><td>10</td><td>0.17</td><td>15</td></tr> <tr><td>15</td><td>0.25</td><td>20</td></tr> <tr><td>20</td><td>0.35</td><td>25</td></tr> <tr><td>25</td><td>0.42</td><td>30</td></tr> <tr><td>30</td><td>0.5</td><td>above 35</td></tr> </tbody> </table> <p>The below table shows for SRBQ (Unit: mm)</p> <table border="1" data-bbox="774 1563 1034 1720"> <thead> <tr> <th>Distance from mounting surface to the tip of shaft</th> <th>Shaft wobble (max. value)</th> </tr> </thead> <tbody> <tr><td>below 5</td><td>0.5</td></tr> <tr><td>above 5 and below 10</td><td>0.9</td></tr> <tr><td>above 10 and below 15</td><td>1.2</td></tr> </tbody> </table> <p>The below table shows for SRBV (Unit: mm)</p> <table border="1" data-bbox="1070 1563 1385 1720"> <thead> <tr> <th>Measuring position from mounting surface</th> <th>Shaft wobble (max. value)</th> <th>Applicable mounting dimension</th> </tr> </thead> <tbody> <tr><td>10</td><td>0.2</td><td>15</td></tr> <tr><td>15</td><td>0.3</td><td>20</td></tr> <tr><td>20</td><td>0.4</td><td>25</td></tr> </tbody> </table>									Measuring position from mounting surface	Shaft wobble (max. value)	Applicable mounting dimension	10	0.17	15	15	0.25	20	20	0.35	25	25	0.42	30	30	0.5	above 35	Distance from mounting surface to the tip of shaft	Shaft wobble (max. value)	below 5	0.5	above 5 and below 10	0.9	above 10 and below 15	1.2	Measuring position from mounting surface	Shaft wobble (max. value)	Applicable mounting dimension	10	0.2	15	15	0.3	20	20	0.4
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15	0.3	20																																													
20	0.4	25																																													
Environmental performance	Cold	-40±2°C for 500h	-20±2°C for 96h		-40±2°C for 96h		-20±2°C for 96h		-40±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																																												
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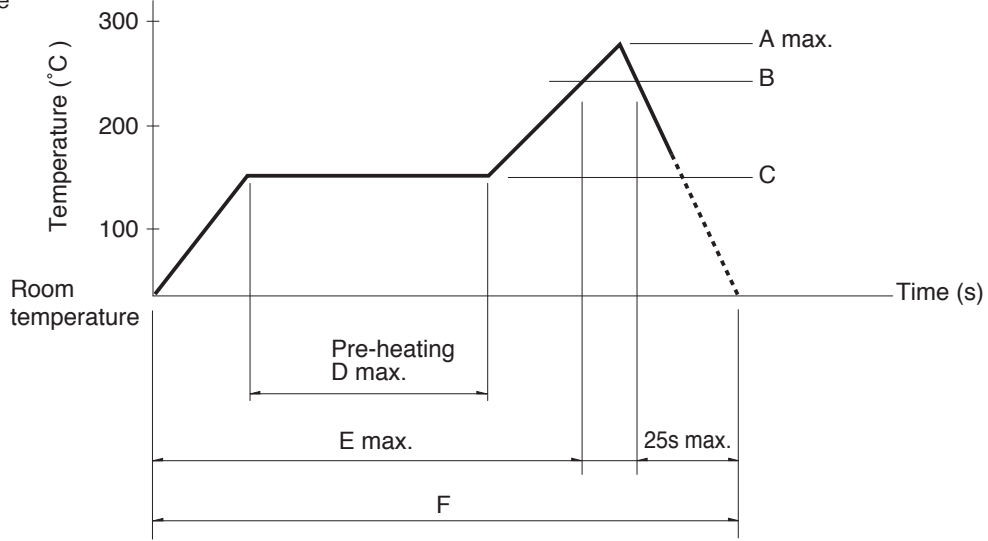
**Note** ● indicates applicability to all products in the series.

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

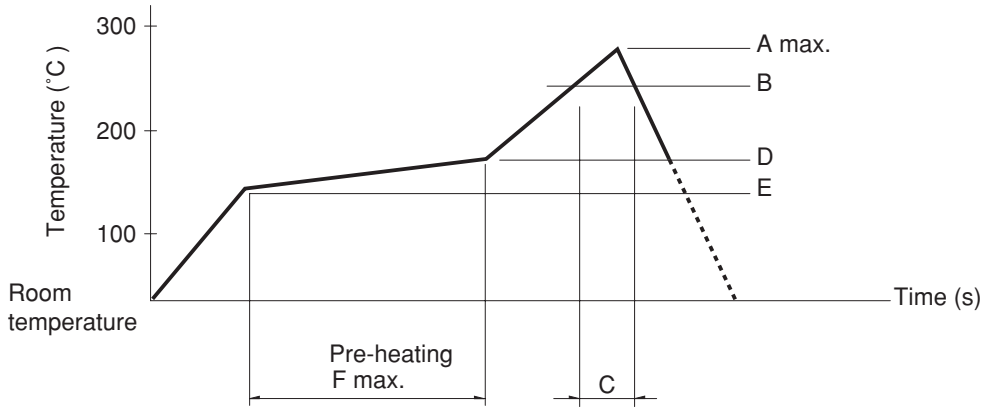
# Rotary Switches Soldering Conditions

## 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	250	200	150±5	80 to 100	—	—



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.

## Reference for Hand Soldering

Series	Soldering temperature	Soldering time
SRBQ, SRBM, SRBV, SRRM, SRRN	350±10°C	3+1/0s
SRBQ (Reflow type)	350±10°C	3s max.

## Reference for Dip Soldering

(For PC board terminal types)

Series	Items		Dip soldering	
	Preheating temperature	Preheating time	Soldering temperature	Duration of immersion
SRBM	100°C max.	60s max.	260±5°C	5s max.
SRBV, SRRM, SRRN	—	—	260±5°C	10±1s
SRBQ	—	—	260±5°C	5±1s