

List of Varieties

Type	Ring Type					
	17mm size		22mm size	30mm size		
Series	SRGP30	SRGP40	SRGP20	SRGPWJ		
Detector						
Push						
Slide						
Output	Incremental					
Rotary Encoders	Outline specifications	Number of pulse/ Number of detent	9/18	12/24	10/20	16/16 16/32
		Changeover angle	20°	15°	18°	22.5°
Power	Dimensions (mm)	W	17.5		23.6	31.8
		D	18.5	18.25	23	32
		H	2.3	1.55	4.5	
Custom-Products	Soldering	Manual soldering	350±5°C, 3s max.		350±10°C, 3 ⁺ 0s	
		Dip soldering	—————		260±5°C, 5±1s	
		Reflow soldering	Please see P.234		—————	
Operating temperature range		-40°C ~ 85°C	-10°C ~ +60°C	-40°C ~ +85°C		
Automotive use		●	—————	●		
Electrical performance	Output voltage	1V max. at 1mA 5V DC (Resistive load)				
		100MΩ min. 100V DC				
Insulation resistance		100MΩ min. 100V DC				
Voltage proof		100V AC for 1minute				
Mechanical performance	Defent torque	5±2.5mN·m	2±1mN·m	7±3mN·m	13±4mN·m	
			3.5±1mN·m		6.5±4mN·m	
	Rotational torque		5N for 1minute			
	Actuator strength	Pushing direction	20N		40N	
	Pulling direction					
Vibration		10 to 55 to 10Hz/min., the amplitude is 1.5mm for all the frequencies, in the 3 direction of X, Y and Z for 2 hours respectively				
Environmental performance	Cold	-40±2°C for 96h				
	Dry heat	85±2°C for 96h				
	Damp heat	40±2°C, 90 ~ 95%RH for 96h				
Page		230	231	232		

● Ring Type Device Cautions244, 245

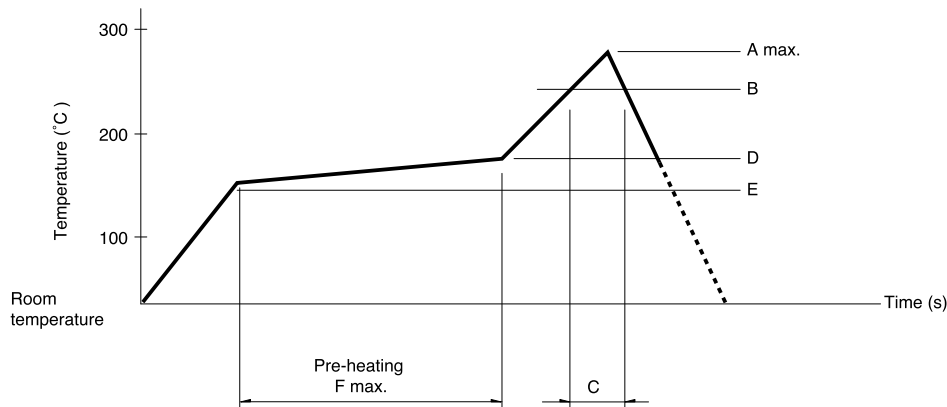
Notes

- ※ The operating temperature range for automotive applications can be raised upon request. Please contact us for details.
- marks in "Available for automotive use" indicate that all of the series products can work at the operating temperature range from -40°C to +85°C.

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) Max	B (°C)	C (s)	D (°C)	E (°C)	F (s)
SRGP30	240	230	20	150	150	120
SRGP40	260		40	180		

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. You are requested to verify the soldering conditions thoroughly beforehand.

Detector

Push

Slide

Rotary

Encoders

Power

Dual-in-line
Package Type

TACT Switch™

Custom-
Products

Metal
Shaft

Insulated
Shaft

Hollow
Shaft

Ring
Type