

Ring Type Device Low-profile and Surface Mount Type Ring Encoder SRGP30 Series

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THE ONLINE DISTRIBUTOR OF ELECTRONIC COMPONENTS



TACT Switch™ adaptable ring center adds flexibility for multifunction sets.



Typical Specifications

Items		Specifications
Rating (max.) / (min.) (Resistive load)		10mA 5V DC/50μA 3V DC
Output voltage		1V max. at 1mA 5V DC (Resistive load)
Operating life	Without resistor	50,000cycles min.
	With resistor	50,000cycles min.

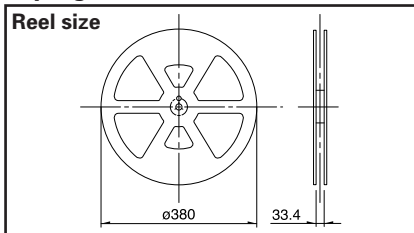
Product Line

Detent torque (mN · m)	Number of detent	Number of pulse	Soldering	Minimum order unit (pcs.)	Product No.
5±2.5	18	9	Reflow	1,600	SRGP300100

Packing Specifications

Taping

Unit:mm



Number of packages (pcs.)			Tape width (mm)	Export package measurements (mm)
1 reel	1 case/ Japan	1 case / export packing		
400	800	1,600	32	368×363×194

Dimensions

Unit:mm

Style	PC board mounting hole and land dimensions

Notes

- Please contact us for automotive use products.
- Order products in N minimum order units (1 reel or 1 case).

Detector

Push

Slide

Rotary

Encoders

Power

Dual-in-line
Package Type

TACT Switch™

Custom-
Products

Metal
Shaft

Insulated
Shaft

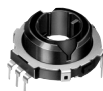
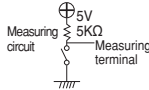
Hollow
Shaft

Ring
Type



Automotive
Use

List of Varieties

Type		Ring Type			
		17mm size		22mm size	30mm size
Series		SRGP30	SRGP40	SRGP20	SRGPWJ
Photo					
Output		Incremental			
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°
Dimensions (mm)	W	17.5		23.6	31.8
	D	18.5	18.25	23	32
	H	2.3	1.55	4.5	
Soldering	Manual soldering	350±5℃, 3s max.		350±10℃, 3 ⁺ 1s	
	Dip soldering			260±5℃, 5±1s	
	Reflow soldering	Please see P.234			
Operating temperature range		-40℃ ~ 85℃	-10℃ ~ +60℃	-40℃ ~ +85℃	
Automotive use		●		●	
Electrical performance	Output voltage	1V max. at 1mA 5V DC (Resistive load) 			
	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℃ for 96h			
	Dry heat	85±2℃ for 96h			
	Damp heat	40±2℃, 90 ~ 95%RH for 96h			
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● Ring Type Device Cautions244, 245

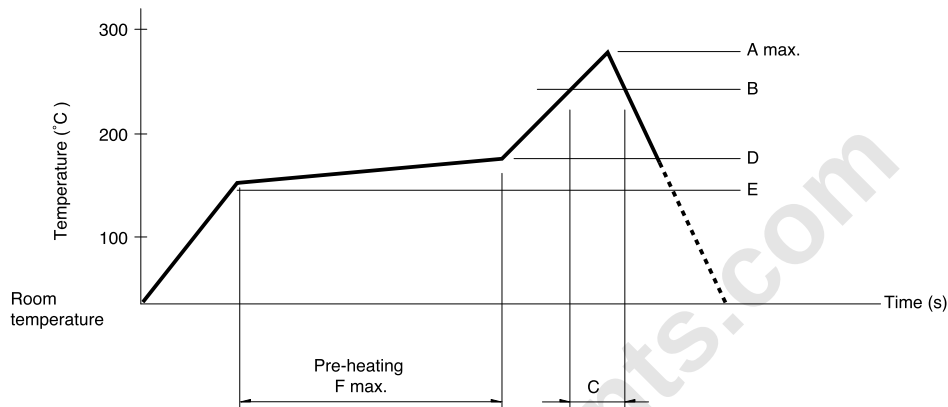
Notes

- ※ 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.

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