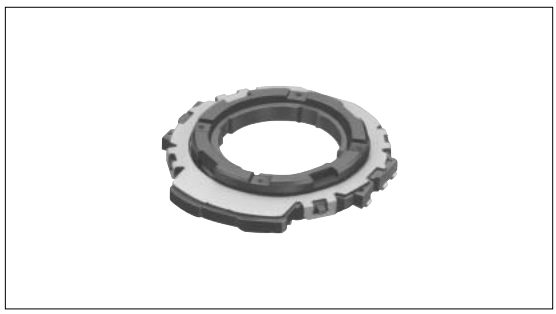
Low-profile and Hollow Shaft Surface Mount Type

SRGP40 Series

Car Use | RoHS compliant

Surface mount encoder with 1.55mm height ϕ9.23mm contribute in space saving



Typical Specifications

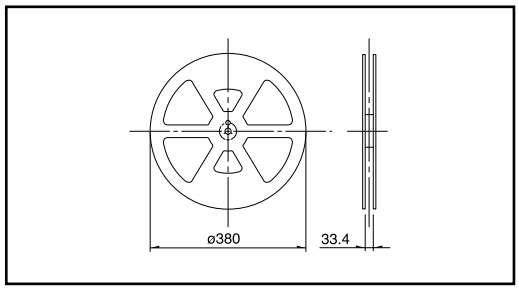
Items		Specifications
Rating (max.) / (min.) (Resistive load)		1mA 5V DC/50μA 3V DC
Output voltage		1V max. at 1mA 5V DC (Resistive load)
Operating life	Without resistor	100,000cycles
	With resistor	100,000cycles

Product Line

Detent torque (mN•m)	Number of detent	Number of pulse	Soldering	Minimum order unit (pcs.)	Product No.
2±1	24	12	Reflow	3,200	SRGP400100
3.5±1					SRGP400200

Taping Specification (Taping Packeging)

Reel Size Unit:mm



Number of packages (pcs.)			Tape width (mm)
1 reel	1 case／Japan	1 case／export packing	
800	1,600	3,200	32

Encoder Type
Potentiometer Type

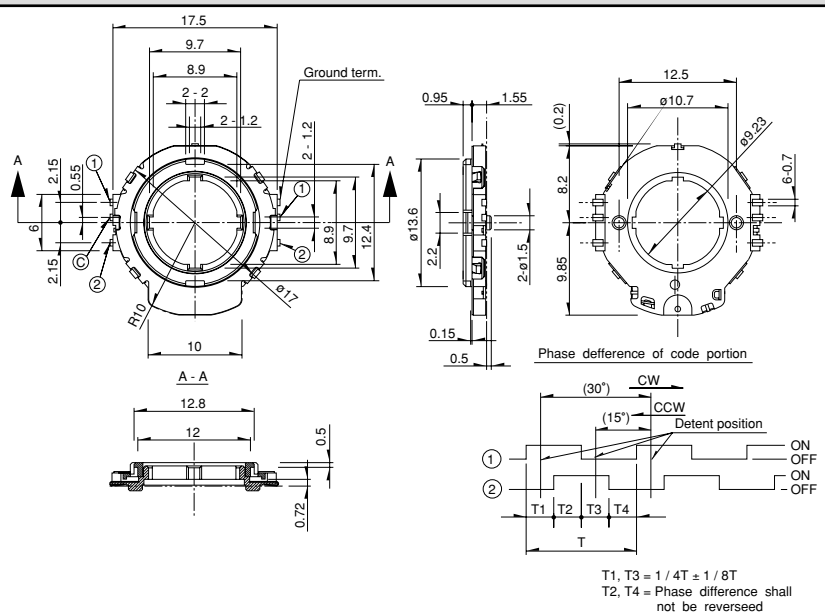
Note

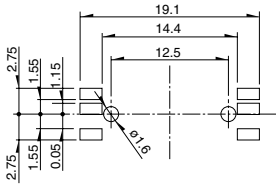
Order products in N minimum order units (1 reel or 1 case).

Dimensions

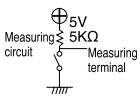
Unit:mm

Style	Recommened patern for reflow (All tolerance shall be ±0.05)





List of Varieties

Type			Hollow type			
			17mm size		22mm size	30mm size
Series			SRGP30	SRGP40	SRGP20	SRGPWJ
Photo						
Output			Incremental			
Outline specifications	Shaft types		Hollow shaft			
	Operating direction		Vertical			
	Number of pulse/ Number of detent		9/18	12/24	10/20	16/16 16/32
	Push switch (Travel mm)		Without			
	Optional functions		———			
	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^{+1}_{0}s max.	350±10℃, 3^{+1}_{0}s	
	Dip soldering		———		260±5℃, 5±1s	
	Reflow soldering		Please see P.198		———	
Maximum operating current (Resistive load)			–10℃ to +60℃		–40℃ to +85℃	
Electrical performance	Output wave		1V max. at 5V DC,1mA (resistive load) 			
	Insulation resistance		100MΩ min. 100V DC			
	Voltage proof		100V AC for 1minute			
Mechanical performance	Rotational torque		5±2.5mN·m	2±1mN·m	7±3mN·m	13±4mN·m
				3.5±1mN·m		6.5±4mN·m
	Terminal strength		———		5N for 1minute	
	Actuator strength	Rotational direction	20N		40N	
		Push 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	–20±2℃ for 96h		
	Dry heat		85±2℃ for 96h			
	Damp heat		40±2℃, 90 to 95%RH for 96h			
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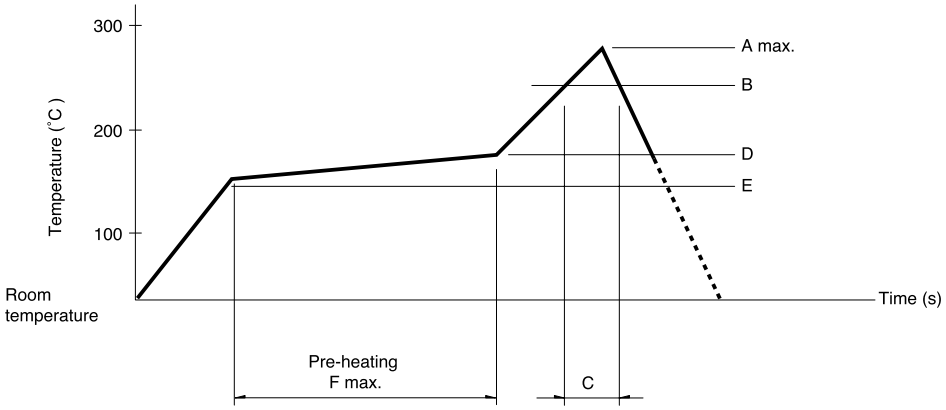
Note

※ The operating temperature range for automotive applications can be raised upon request. Please contact us for requirements of this kind.

Soldering Conditions

Example of Reflow Soldering Condition

1. Heating method: Double heating method with infrared heater.
2. Temperature measurement: Thermocouple 0.1 to 0.2ϕ 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.