

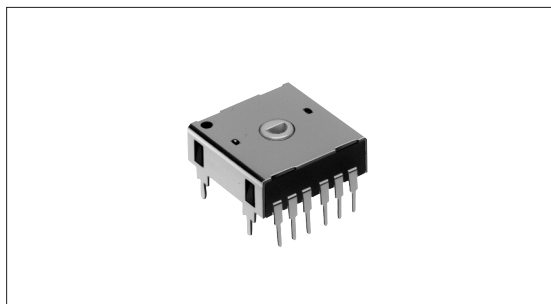
Encoder Hollow Shaft Type

SRGA Series



Hollow shaft vertical encoders deliver increased ease of use.

- Detector
- Push
- Slide
- Rotary
- Encoders**
- Power



Typical Specifications

Items		Specifications
Rating (max.) / (min.) (Resistive load)		0.1A 12V DC/50 μ A 3V DC
Contact resistance (Initial/After operating life)		1 Ω max./1 Ω max.
Operating life	Without load	10,000cycles
	With load	10,000cycles (0.1A 12V DC)

- Dual-in-line
Package Type
- TACT Switch™
- Custom-
Products

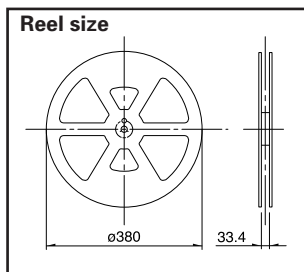
Product Line

Torque (mN·m)	Operating direction	Output code	Positions	Changeover angle	Type	Minimum order unit (pcs.)	Product No.	Drawing No.
20 \pm 10	Vertical	Gray	8	45°	Standard (hollow shaft)	1,680	SRGAV80601	1
			12	30°			SRGAVC0301	
			24	15°			SRGAVQ1100	
Without detent	13	Reflow	600		SRGAR10100	2		

- Metal Shaft
- Insulated Shaft
- Hollow Shaft**
- Ring Type

Packing Specifications

Taping Unit:mm



Series	Number of packages (pcs.)			Tape width (mm)	Export package measurements (mm)
	1 reel	1 case /Japan	1 case /export packing		
SRGAR10100	300	300	600	32	428 \times 413 \times 172

Bulk

Product No.	Number of packages (pcs.)		Export package measurements (mm)
	1 case /Japan	1 case /export packing	
SRGAV80601 SRGAVC0301 SRGAVQ1100	840	1,680	542 \times 377 \times 209

Notes

1. Products other than those listed in the above chart are also available. Please contact us for details.
2. Please contact us for automotive use products.
3. Please place purchase orders per minimum order unit N (integer).



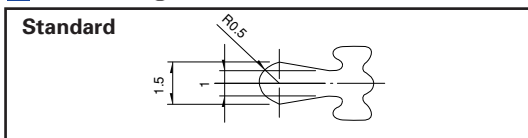
■ Dimensions

Unit:mm

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

■ Detail of ①

Unit:mm



■ Note

※④⑤ of SRGAV80601 and ⑤ of SRGAVC0301 are dummy terminals.

■ Standard Code (Viewed from Direction A)

SRGA

Code	Terminal	Number of positions																							
		8								12															
	Position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Gray	1		●																						
	2			●																					
	3				●																				
	4					●																			
	5						●																		

SRGAR

Code	Terminal	Number of positions																							
		13																							
	Position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Gray	1	●																							
	2					●																			
	3			●																					
	4				●																				

● The marks show the ON position.

※For terminal alignment, please refer to the illustration.

※Please note that there might be ON output of the dummy terminal in the circuit design.

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	Hollow Shaft		Absolute type
	5mm size	10mm size	Hollow shaft
Series	EC05E	EC10E	SRGA
Photo			
Output	Incremental		Absolute type
Outline specifications	Shaft types	Hollow shaft	
	Operating direction	Vertical/Horizontal	Horizontal
	Number of pulse/ Number of detent	12/12	12/24
	Push switch (Travel mm)	Without	
	Changeover angle	15°, 30°, 45°	
Dimensions (mm)	W	5.7	9.8
	D	2.7	4.4
	H	7.3	12.6
Soldering	Manual soldering	350°C max. 3s max.	
	Dip soldering	—	260±5°C, 3±1s
	Reflow soldering	Please see P.225	—
Operating temperature range	-30°C to +85°C		-10°C to +70°C
Automotive use	—	○	●
Electrical performance	Maximum operating current (Resistive load)	0.55mA	1mA
	Output signal	Output of A and B signals, proportionate to phase difference	
	Initial contact resistance	—	
	Insulation resistance	50MΩ min. 50V DC	
	Voltage proof	50V AC for 1minute	
Mechanical performance	Rotational torque	—	
	Defent torque	1.6±1.3mN·m	5±3mN·m
	Terminal strength	—	
	Push-pull strength	—	
	Vibration	—	
Environmental performance	Cold	-40±3°C for 240h	
	Dry heat	85±3°C for 240h	
	Damp heat	40±2°C, 90 to 95%RH for 240h	
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Notes

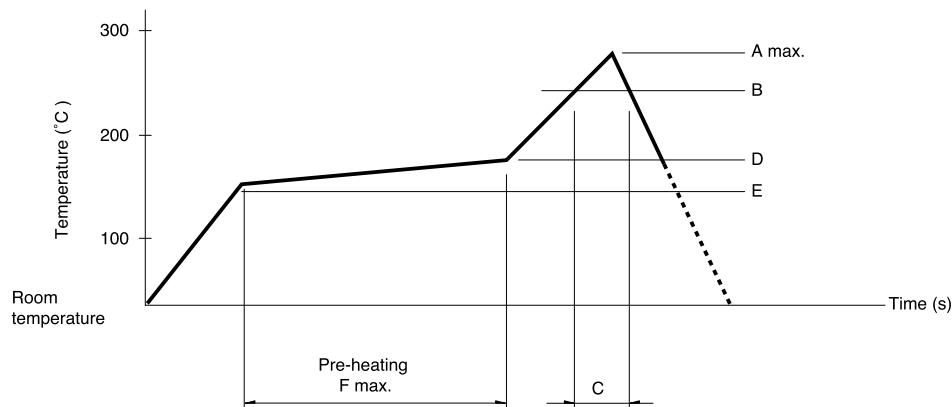
- ※ The operating temperature range for automotive applications can be raised upon request. Please contact us for details.
- marks in "Available for automotive use" indicate that some of the series products can work at the operating temperature range from -40°C to +85°C, ●marks in "Available for automotive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

- Detector
- Push
- Slide
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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)
SRGAR10100	240	220	30	160	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.

Attached Parts

The following parts are included with the product.

SRGH Series

Unit:mm

