

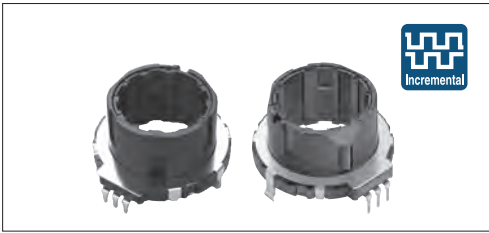
# EC28A EC28C

## 28mm Size Ring Type

A low-profile unit with 4mm height and good operation feel



### Typical Specifications



Items	Specifications
Rating	10mA 5V DC
Operating life	50,000 cycles
Operating temperature range	-40°C to +85°C (EC28A) -40°C to +90°C (EC28C)

### Product Line

Mounting method	Actuator length (mm)	Detent torque (mN·m)	Number of detent	Number of pulse	Minimum order unit (pcs.)		Product No.	Drawing No.
					Japan	Export		
DIP	15	7±5	30	15	400	800	<b>EC28A1520401</b>	1
		12±7					<b>EC28A1550401</b>	
		20±10	<b>EC28A1560401</b>					
		12±7	<b>EC28A1850402</b>					
	20±10	<b>EC28A1870401</b>						
	25	20±10	30	15	420	840	<b>EC28A1560501</b>	2
Reflow	15	22 ± 11 (Initial) 16 ± 7 (After reflow)			480	480	<b>EC28C1540403</b>	3


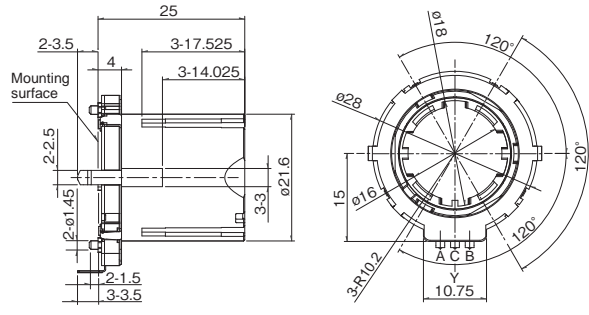
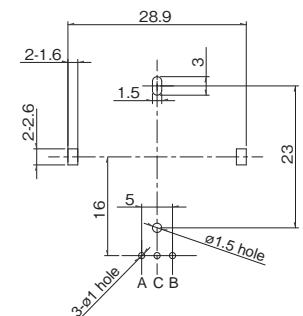
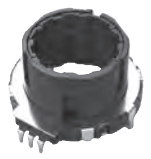
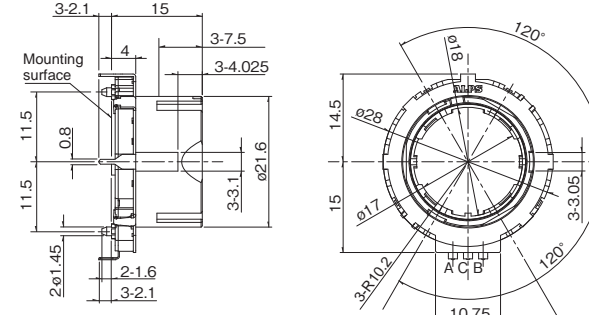

### Packing Specifications Tray

Product No.	Number of packages (pcs.)		Export package measurements (mm)
	1 case / Japan	1 case / export packing	
<b>EC28A15, EC28A18</b>	400	800	509×366×287
<b>EC28A1560501</b>	420	840	540×360×380
<b>EC28C</b>	480	480	440×290×205

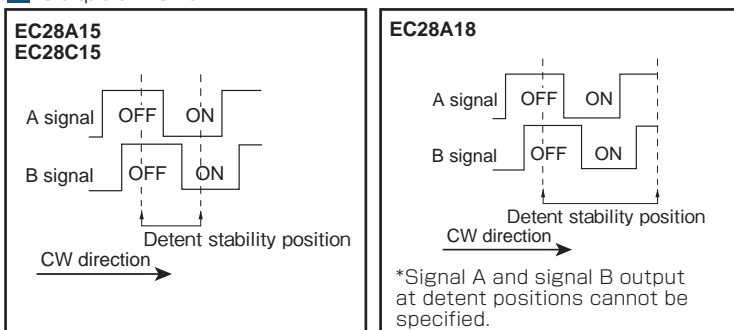
### Dimensions

No.	Photo	Style	PC board mounting hole dimensions (Viewed from mounting side)
1	<p><b>EC28A</b> Actuator length 15mm</p>		

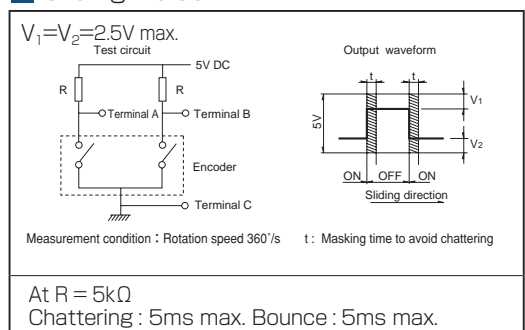
■ Dimensions

No.	Photo	Style	PC board mounting hole dimensions (Viewed from mounting side)
2	 <p><b>EC28A</b> Actuator length 25mm</p>		
3	 <p><b>EC28C</b> Reflow type Actuator length 15mm</p>		

■ Output Wave













■ Sliding Noise



# Encoders

## List of Varieties

Type		Ring type				
		28mm size		35mm size		
Series		EC28A	EC28C	EC35A	EC35AH	EC35CH
Photo						
Output		Incremental (Two phase A and B)			Incremental (Three phase A, B and C)	
Shaft types		Ring type				
Number of pulse / Number of detent		15/30 18/18	15/30	9/18 15/30	6×ABC/18 10×ABC/30	6×ABC/18
Dimensions (mm)	W	28		35		35.2
	D	29	29.5			36
	H	4		4.5		
Operating temperature range		-40°C to +85°C	-40°C to +90°C	-40°C to +85°C		-40°C to +90°C
Operating life		50,000 cycles				
Automotive use		●	●	●	●	●
Life cycle (availability)						
Electrical performance	Rating	10mA 5V DC				
	Max./min. operating current (Resistive load)	10mA /1mA				
	Insulation resistance	100MΩ min. 250V DC				
	Voltage proof	300V AC for 1minute or 360V AC for 2s	300V AC for 1minute or 360V AC for 1s	300V AC for 1minute or 360V AC for 2s		300V AC for 1minute or 360V AC for 1s
Mechanical performance	Detent torque	7±5mN·m 12±7mN·m 20±10mN·m	22±11mN·m (Initial) 16±7mN·m (After reflow)	18±7mN·m 22±8mN·m 30±15mN·m	12±5mN·m 18±7mN·m 30±15mN·m	22±11mN·m (Initial) 18±7mN·m (After reflow)
	Push-pull strength	100N				
Shaft configuration		Ring type				
Terminal type		Insertion				
Switch Specifications	Switch type	—	—	—	—	—
	Contact arrangement	—	—	—	—	—
	Travel (mm)	—	—	—	—	—
	Operating force (N)	—	—	—	—	—
	Switch ON position	—	—	—	—	—
	Rotational torque	—	—	—	—	—
	Rating	—	—	—	—	—
	Contact resistance	—	—	—	—	—
	Operating life	—	—	—	—	—
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### Notes

● Indicates applicability to all products in the series.