# RE20F

# **FEATURES**

- Ompact, dia.: 20 mm
- Low torque, low inertia
- RoHS compliant



# PART NUMBER DESIGNATION

RE20F - 100 - 100 Output phase Series name 1: "A" only 2: "A" & "B" (100 P/R only) Resolution (P/R) 100, 300

## LIST OF PART NUMBERS

Resolution Item	Output phases	Part number
100 (P/R)	"A" only	RE20F-100-100
300 (P/R)	"A" only	RE20F-300-100
100 (P/R)	"A" & "B"	RE20F-100-200

<sup>\*</sup> Verify the above part numbers when placing orders.

## STANDARD SPECIFICATIONS

#### Electrical characteristics

Item Output phases	"A" only	"A" & "B"	
Photo-sensor maximum current	45 mA maximum (at 25 °C)		
Output wave form	Quasi-sinusoidal		
Output phases	Α	A, B	
Resolution	100, 300	100	
Phase difference of outputs A & B		90° ± 45°	
Maximum frequency response		12 kHz	
Output signal	150 mVp-p minimum ※1	1 Vp-p minimum	
Output signal amplitude variation ※2	40 % maximum		
Light source	LED		

#### Mechanical characteristics

Starting torque		0.05 mN·m {0.5 gf·cm} maximum	
Inertia		0.2 g·cm² maximum	
Shaft loading (When mounting)	Radial	1.96 N {200 gf} maximum	
	Axial	4.9 N {500 gf} maximum	
Net weight		Approx. 15 g	

### Environmental characteristics

Operating temp. range	0 ~ 50 °C	
Storage temp. range	− 20 ~ 80 °C	
Protection grade	IP40	

- \*\* 1 Measured at CP1 in the fig.A of 'MEASUREMENT CIRCUIT' on the following page.
  \*\* 2 One phase only: Measured at CP2 in the fig.A of 'MEASUREMENT CIRCUIT' on the following page.

# RELIABILITY TEST

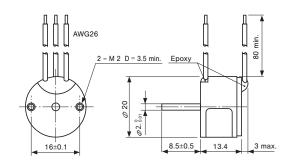
The output wave form and starting torque shall satisfy the STANDARD SPECIFICATIONS after the following tests.

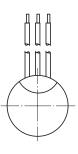
Test item		Test conditions		
Vibration	Power OFF	Amplitude: 1.52 mm or 98.1 m/s² (10 G) whichever is smaller. 10 ~ 500 Hz excursion 5 min/cycle, 1 hour each for X, Y, Z, directions.		
Shock	Power OFF	1 time each in 6 directions (X, Y, Z) at 490 m/s <sup>2</sup> (50 G), 11 ms.		
High temperature	Power OFF	80 °C 96 h		
exposure	Power ON	50 °C 96 h	(To be measured after leaving samples for 1 h at normal temperature and	
Low temperature	Power OFF	– 20 °C 96 h	humidity after the test.)	
exposure	Power ON	0 °C 96 h		
Humidity	Power OFF	(To be measured after wiping out moisture and leaving samples for 1 h at normal temperature and humidity after the test.)		
Thermal shock	Power OFF	To be done 10 cycles with the following condition (To be measured after leaving samples for 1 h at normal temperature and humidity after the test.) 70 °C 1 h, - 20 °C 1 h		

# **OUTLINE DIMENSIONS**

Unless otherwise specified, tolerance: ± 0.4 (Unit: mm)

## RE20F





# **OUTPUT**

