

MC1020 Series

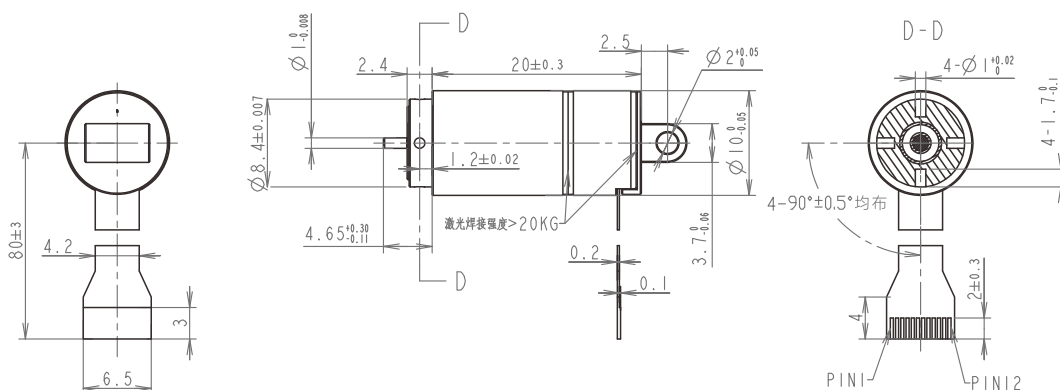
Φ10mm Brushless Coreless Motor

Key Features

- Two magnetic pole
- 37000rpm
- 1.45mNm
- 2.1mNm/A



Dimensional Drawing



Motor Data (Rated)

Rated voltage (V)	12
No-Load Speed (rpm)	51000
No-Load Current (A)	0.15
Rated speed (rpm)	37000
Rated torque (mNm)	1.45
Rated current (A)	0.86
Stall torque (mNm)	5.3
Stall current (A)	2.7
Max. efficiency (%)	56.2

Motor Constant (Rated)

Phase-to-Phase Resistance (Ω)	4.48
Phase-to-Phase inductance (mH)	0.053
Torque constant (mNm/A)	2.1
Speed constant (rpm/V)	4545
Speed/torque gradient (rpm/mNm)	9597
Mechanical time constant (ms)	2.78
Rotor inertia (gcm ²)	0.046

Thermal Data

Thermal resistance housing-ambient (K/W)	
Thermal resistance winding-housing (K/W)	
Thermal time constant winding (s)	
Thermal time constant motor (s)	
Ambient temperature (°C)	-20~+100
Max. winding temperature (°C)	125

Mechanical Data (Ball Bearing)

Max. allowable speed (rpm)	40 000
Max. axial play (mm)	< 0.15 N 0 > 0.15 N 0.06 (max)
Radial play	preloaded
Max. axial load dynamic(N)	2
Max. force for press fits (static) (N)	10
Max. radial load (2 mm from flange) (N)	5

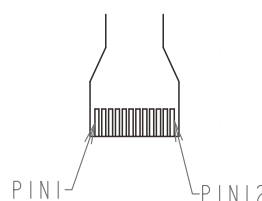
Note: Specifications can be customized per customer requirements.

Terminal Type

Adapter terminal FPC0.5-12P

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Terminal Definition



pin 1	Motor Winding 1
pin 2	Motor Winding 1
pin 3	Motor Winding 2
pin 4	Motor Winding 2
pin 5	Motor Winding 3
pin 6	Motor Winding 3
pin 7	VHall (3.3-5.5 VDC)
pin 8	GND
pin 9	SPI-MISO
pin 10	SPI-MOSI
pin 11	SPI-SCK
pin 12	SPI-NSS