

# MC0824-01

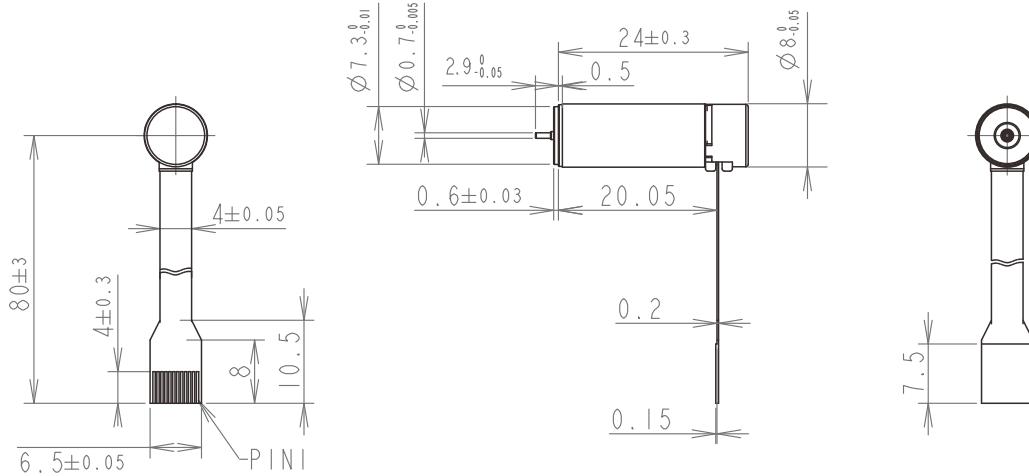
**Φ8mm** Brushless coreless motor

## Main parameters

- Two-magnetic pole
- 5.8W
- 25500rpm
- 0.85mNm



## Technical illustration



## Motor data (Rated value)

Rated voltage	V	12
Air -load speed	rpm	38500±10%
No-load current	A	70±50%
Rated speed	rpm	25500±10%
The rated torque	mNm	0.85
Rated current	A	0.5±50%
Blocking torque	mNm	3.5±7%
Blocking current	A	1.65±20%
Maximum efficiency	%	67±7%

## Motor constants (Rated value)

Phase terminal resistance	Ω	8.4±10%
Phase terminal inductance	mH	0.05±10%
Torque constant	mNm/A	2.22±20%
Speed constant	rpm/V	3155±20%
Speed/torque gradient	rpm/mNm	11000±20%
Mechanical time constant	ms	2.87±20%
Rotor inertia	gcm <sup>2</sup>	0.024±20%

## Thermal parameter

Case-Environmental thermal resistance	K/W	56.6
Wind-Case thermal resistance	K/W	11.5
Winding time constant	s	3.7
Motor heat time constant	s	120
Environmental temperature	°C	-20~+100
Maximum winding temperature	°C	125

## Mechanical parameter (Pearl bearing)

Maximum speed (rpm)	40 000
Axial gap under axial load (mm)	< 0.15 N 0 > 0.15 N 0.06 (max)
Radial gap	preloaded
Maximum axial dynamic load (N)	2
Maximum allowable installation power (N)	10
Maximum radial load (2mm from Flange) (N)	5

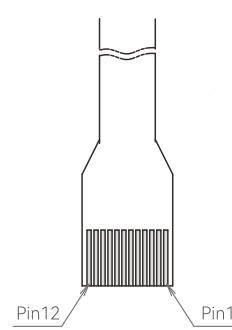
Note: Can be customized according to customer requirements

## Pin model

Molex 52745-1297

Note: Can be customized according to customer requirements

## Pin definition



- pin 1 motor winding 3
- pin 2 motor winding 2
- pin 3 motor winding 1
- pin 4 grounded
- pin 5 VHall (3.3-24 VDC)
- pin 6 Hall sensor 3
- pin 7 Hall sensor 2
- pin 8 Hall sensor 1
- pin 9 invalid
- pin 10 invalid
- pin 11 invalid
- pin 12 invalid