

MC1028-01

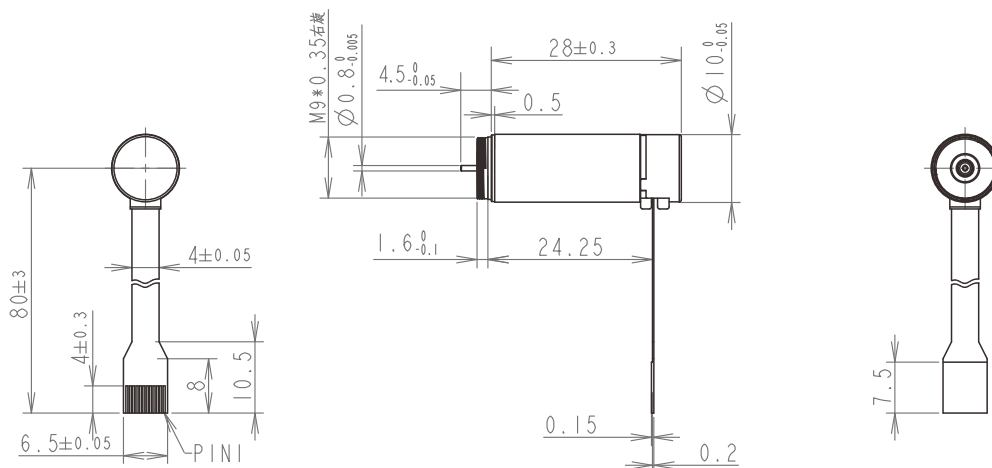
Φ10mm Brushless Coreless Motor

Key Features

- Two magnetic pole
- 8.7W
- 26500rpm
- 1.5mNm



Dimensional Drawing



Motor Data (Rated)

| | |
|---------------------|-------------|
| Rated voltage (V) | 12 |
| No-Load Speed (rpm) | 33000 ± 10% |
| No-Load Current (A) | 80 ± 50% |
| Rated speed (rpm) | 26500 ± 10% |
| Rated torque (mNm) | 1.5 |
| Rated current(A) | 0.7 ± 50% |
| Stall torque(mNm) | 9 ± 7% |
| Stall current(A) | 2.75 ± 20% |
| Max. efficiency(%) | 71 ± 7% |

Motor Constant (Rated)

| | |
|-----------------------------------|-------------|
| Phase-to-Phase Resistance (Ω) | 4.75 ± 10% |
| Phase-to-Phase inductance (mH) | 0.026 ± 10% |
| Torque constant (mNm/A) | 3.37 ± 20% |
| Speed constant (rpm/V) | 3747 ± 20% |
| Speed/torque gradient (rpm/mNm) | 3667 ± 20% |
| Mechanical time constant (ms) | 3.56 ± 20% |
| Rotor inertia (gcm ²) | 0.092 ± 20% |

Thermal Data

| | |
|--|------------|
| Thermal resistance housing-ambient (K/W) | 42.6 |
| Thermal resistance winding-housing (K/W) | 7.2 |
| Thermal time constant winding (s) | 4.2 |
| Thermal time constant motor (s) | 156 |
| 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 |

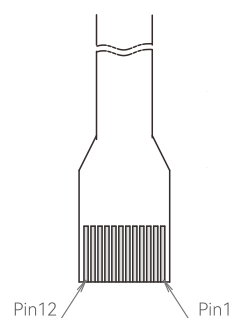
Note: Specifications can be customized per customer requirements.

Terminal Type

Molex 52745-1297

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Terminal Definition



| | |
|--------|--------------------|
| pin 1 | Motor Winding 3 |
| pin 2 | Motor Winding 2 |
| pin 3 | Motor Winding 1 |
| pin 4 | Grounding |
| pin 5 | VHall (3.3-24 VDC) |
| pin 6 | Hall sensor 3 |
| pin 7 | Hall sensor 2 |
| pin 8 | Hall sensor 1 |
| pin 9 | None |
| pin 10 | None |
| pin 11 | None |
| pin 12 | None |