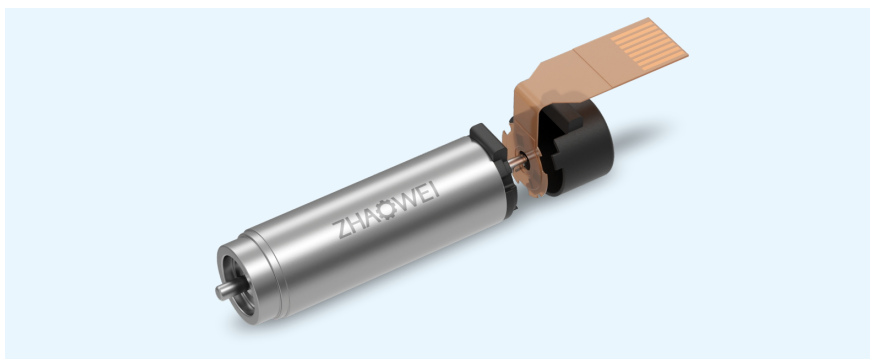


# MC0623-01

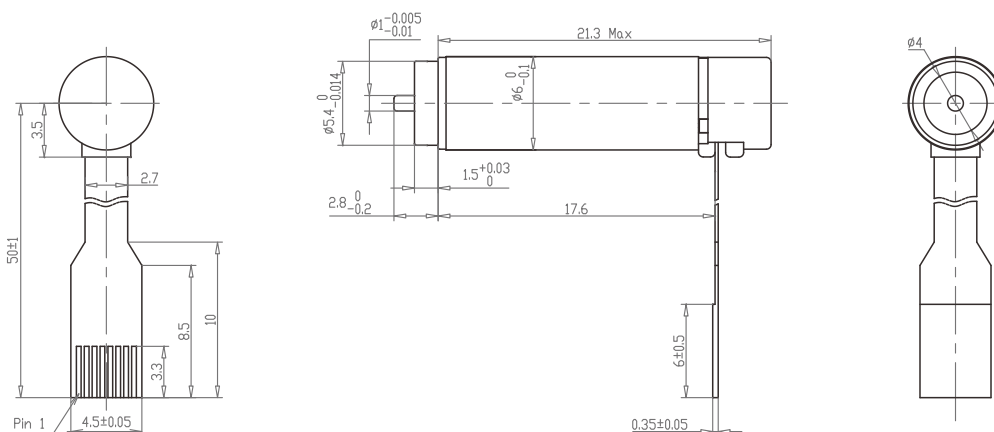
**Φ6mm** Brushless coreless motor

## Main parameters

- Two-magnetic pole
- 2W
- 46800rpm
- 0.4mNm



## Technical illustration



## Motor data (Rated value)

|                    |     |           |
|--------------------|-----|-----------|
| Rated voltage      | V   | 12        |
| Air -load speed    | rpm | 63400±10% |
| No-load current    | A   | 37±50%    |
| Rated speed        | rpm | 46800±10% |
| The rated torque   | mNm | 0.4       |
| Rated current      | A   | 0.256±50% |
| Blocking torque    | mNm | 1.5±7%    |
| Blocking current   | A   | 0.85±20%  |
| Maximum efficiency | %   | 63±7%     |

## Motor constants (Rated value)

|                           |                  |           |
|---------------------------|------------------|-----------|
| Phase terminal resistance | Ω                | 14.4±10%  |
| Phase terminal inductance | mH               | 0.1±10%   |
| Torque constant           | mNm/A            | 1.73±20%  |
| Speed constant            | rpm/V            | 5523±20%  |
| Speed/torque gradient     | rpm/mNm          | 45972±20% |
| Mechanical time constant  | ms               | 2.84±20%  |
| Rotor inertia             | gcm <sup>2</sup> | 0.007±20% |

## Thermal parameter

|                                       |     |          |
|---------------------------------------|-----|----------|
| Case-Environmental thermal resistance | K/W | 67.9     |
| Wind-Case thermal resistance          | K/W | 15.2     |
| Winding time constant                 | s   | 1.54     |
| Motor heat time constant              | s   | 71.5     |
| Environmental temperature             | °C  | -20~+100 |
| Maximum winding temperature           | °C  | 125      |

## Mechanical parameter (Pearl bearing)

|   |                                   |
|---|-----------------------------------|
| Maximum speed (rpm)                       | 100 000                           |
| Axial gap under axial load (mm)           | < 0.15 N 0<br>> 0.15 N 0.06 (max) |
| Radial gap                                | preloaded                         |
| Maximum axial dynamic load (N)            | 0.1                               |
| Maximum allowable installation power (N)  | 10                                |
| Maximum radial load (2mm from Flange) (N) | 2                                 |

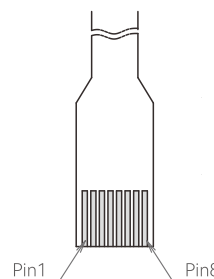
Note: Can be customized according to customer requirements

## Pin model

Molex 52745-0897 52207-0460  
FCI SFV8R-2STBE1HLF SFW4R-2STGE1LF

Note: Can be customized according to customer requirements

## Pin definition



|      |                    |
|------|--------------------|
| pin1 | motor winding 1    |
| pin2 | motor winding 2    |
| pin3 | motor winding 3    |
| pin4 | VHall (3.3-24 VDC) |
| pin5 | Grounded           |
| pin6 | Hall sensor 1      |
| pin7 | Hall sensor 2      |
| pin8 | Hall sensor 3      |