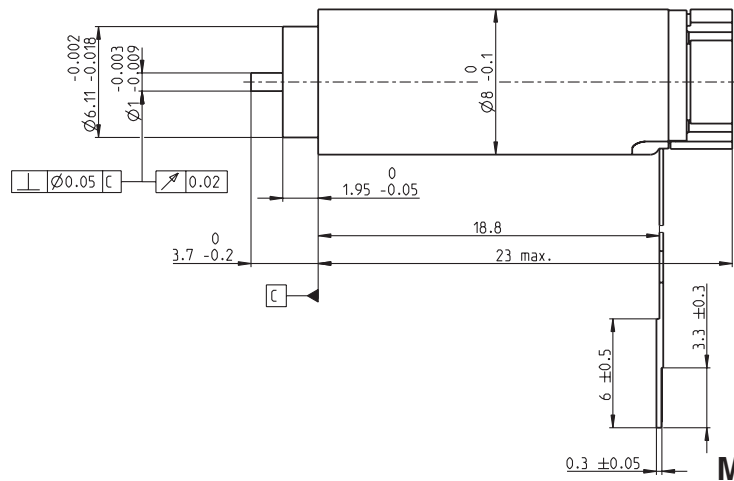
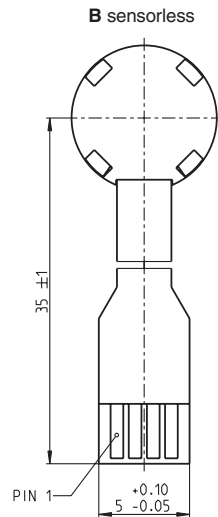
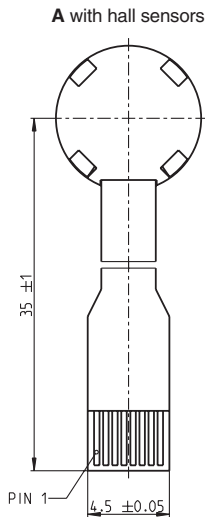


EC 8 Ø8 mm, brushless, 2 Watt

NEW

maxon EC motor



- Stock program
- Standard program
- Special program (on request)

Order Number

A with Hall sensors	384406	384407	384408
B sensorless	384409	384410	384411

Motor Data

Values at nominal voltage

1 Nominal voltage	V	6.0	12.0	24.0
2 No load speed	rpm	36000	43900	42700
3 No load current	mA	76	53	25
4 Nominal speed	rpm	24800	33100	32100
5 Nominal torque (max. continuous torque)	mNm	0.92	0.92	0.95
6 Nominal current (max. continuous current)	A	0.649	0.401	0.199
7 Stall torque	mNm	3.05	3.90	3.93
8 Starting current	A	1.98	1.54	0.76
9 Max. efficiency	%	69	70	71

Characteristics

10 Terminal resistance phase to phase	Ω	3.0	7.8	31.8
11 Terminal inductance phase to phase	mH	0.039	0.106	0.447
12 Torque constant	mNm / A	1.54	2.53	5.21
13 Speed constant	rpm / V	6200	3770	1830
14 Speed / torque gradient	rpm / mNm	12200	11600	11200
15 Mechanical time constant	ms	3.19	3.03	2.92
16 Rotor inertia	gcm ²	0.025	0.025	0.025

Specifications

Thermal data

17 Thermal resistance housing-ambient	51.2 K / W
18 Thermal resistance winding-housing	3.5 K / W
19 Thermal time constant winding	0.832 s
20 Thermal time constant motor	154 s
21 Ambient temperature	-20 ... +80°C
22 Max. permissible winding temperature	125°C

Mechanical data (preloaded ball bearings)

23 Max. permissible speed	80000 rpm
24 Axial play at axial load	< 0.15 N 0 mm
	> 0.15 N max. 0.06 mm
25 Radial play	preloaded
26 Max. axial load (dynamic)	0.1 N
27 Max. force for press fits (static)	10 N
28 Max. radial loading, 2 mm from flange	2 N

Other specifications

29 Number of pole pairs	1
30 Number of phases	3
31 Weight of motor	6 g

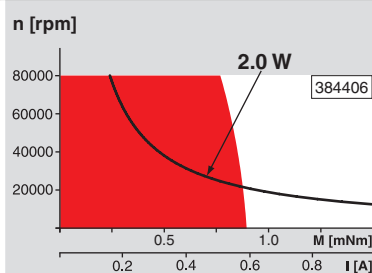
Values listed in the table are nominal.

Connection	with hall sensors	sensorless
Pin 1	Motor winding 1	Motor winding 1
Pin 2	Motor winding 2	Motor winding 2
Pin 3	Motor winding 3	Motor winding 3
Pin 4	V _{Hall} 4.5...24 VDC	N.C.
Pin 5	GND	
Pin 6	Hall sensor 1	
Pin 7	Hall sensor 2	
Pin 8	Hall sensor 3	

Connector	Article number	Article number
FCI	SFV8R-2STE1LF	
Global Shine	GS200-08 1 1 1-2	
MOLEX	52745-0896	52207-0485
MOLEX		52089-0419
TYCO		84953-4

Pin for design with Hall sensors:
FPC, 8 pole, pitch 0.5 mm, top contact style
Wiring diagram for Hall sensors see page 27

Operating Range



Comments

Continuous operation
In observation of above listed thermal resistance (lines 17 and 18) the maximum permissible winding temperature will be reached during continuous operation at 25°C ambient.
= Thermal limit.

Short term operation
The motor may be briefly overloaded (recurring).

— Assigned power rating

maxon Modular System

Overview on page 16 - 21

Planetary Gearhead

Ø8 mm
0.01 - 0.1 Nm
Page 204



Recommended Electronics:
DECS 50/5 Page 289
DEC 24/1 381510 289
DEC Module 24/2 290
Notes 20