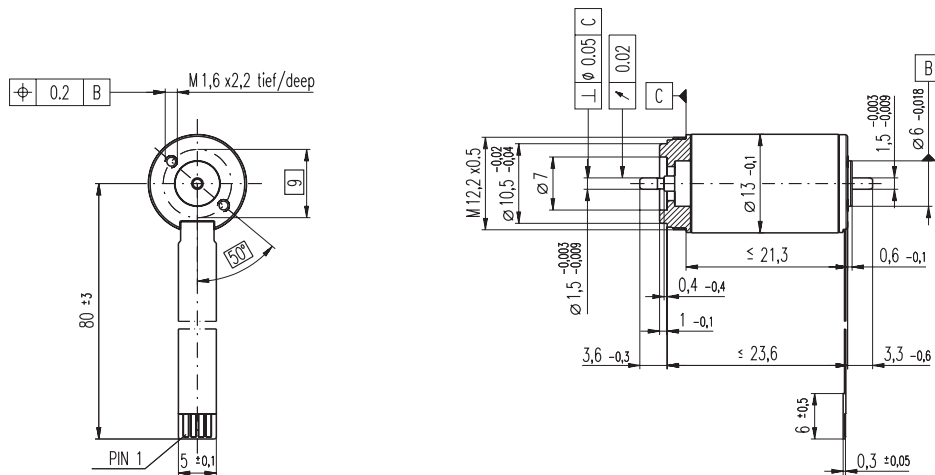


# EC 13 $\varnothing$ 13 mm, brushless, 6 Watt



M 1:1

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

### Order Number

305190	305191	305192	305193	305194
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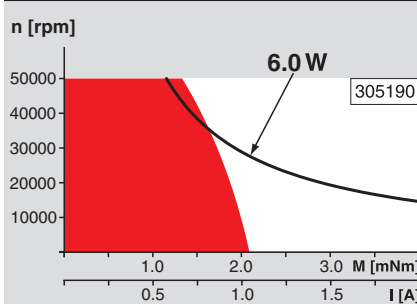
### Motor Data (provisional)

		305190	305191	305192	305193	305194
<b>Values at nominal voltage</b>						
1	Nominal voltage	V	6.0	9.0	12.0	18.0
2	No load speed	rpm	28300	30100	27000	27400
3	No load current	mA	194	140	90.5	61.7
4	Nominal speed	rpm	20500	22700	19400	19600
5	Nominal torque (max. continuous torque)	mNm	2.2	2.34	2.3	2.23
6	Nominal current (max. continuous current)	A	1.31	0.973	0.645	0.424
7	Stall torque	mNm	8.30	9.93	8.47	8.13
8	Starting current	A	4.30	3.62	2.09	1.36
9	Max. efficiency	%	63	65	63	62
<b>Characteristics</b>						
10	Terminal resistance phase to phase	$\Omega$	1.40	2.48	5.74	13.2
11	Terminal inductance phase to phase	mH	0.0206	0.0416	0.0910	0.198
12	Torque constant	mNm / A	1.93	2.74	4.05	5.98
13	Speed constant	rpm / V	4950	3480	2360	1600
14	Speed / torque gradient	rpm / mNm	3580	3160	3340	3530
15	Mechanical time constant	ms	6.18	5.46	5.77	6.10
16	Rotor inertia	gcm <sup>2</sup>	0.165	0.165	0.165	0.165

### Specifications

- Thermal data**
- 17 Thermal resistance housing-ambient 32 K / W
  - 18 Thermal resistance winding-housing 2.46 K / W
  - 19 Thermal time constant winding 0.72 s
  - 20 Thermal time constant motor 188 s
  - 21 Ambient temperature -40 ... +100°C
  - 22 Max. permissible winding temperature +155°C
- Mechanical data (preloaded ball bearings)**
- 23 Max. permissible speed 50000 rpm
  - 24 Axial play at axial load < 1 N 0 mm
  - > 1 N max. 0.05 mm preloaded
  - 25 Radial play 1 N
  - 26 Max. axial load (dynamic) 40 N
  - 27 Max. force for press fits (static) (static, shaft supported) 250 N
  - 28 Max. radial loading, 5 mm from flange 4 N

### 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**

### Other specifications

- 29 Number of pole pairs 1
- 30 Number of phases 3
- 31 Weight of motor 15 g

Values listed in the table are nominal.

### Connection

- Pin 1 Motor winding 1
- Pin 2 Motor winding 2
- Pin 3 Motor winding 3
- Pin 4 N.C.

### Connector Article number

- TYCO 84953-4
- MOLEX 52207-0485
- MOLEX 52089-0419

### Option

- Hall sensors on request
- Encoder MR on request

### maxon Modular System

Overview on page 16 - 21

### Planetary Gearhead

- $\varnothing$ 13 mm
- 0.2 - 0.35 Nm
- Page 218

