

BDCM Series

Coreless Precious Metal Brushed DC Motor

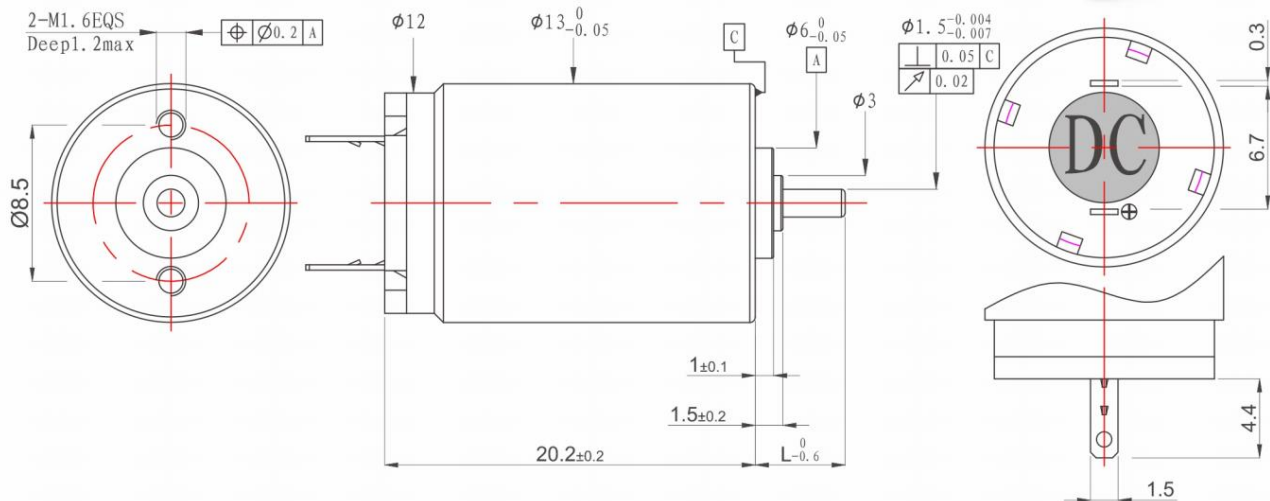




BDCM1320 Motor Data

1-2W

Motor Model	Unit	BDCM1320-01	BDCM1320-02	BDCM1320-03	BDCM1320-04
Value at Rated voltage					
At Nominal					
1. Nominal voltage	V/DC	3.7	6	12	24
2. Nominal speed	rpm	7600	9600	10400	9600
3. Nominal current	A	0.288	0.358	0.133	0.074
4. Nominal torque	mNm	0.9	1.5	1.0	1.19
Free Load					
5. No-load speed	rpm	9500	12000	13000	12000
6. No-load current	mA	35.0	30	16	10.00
At Max. Efficiency					
7. Max. efficiency	%	69.9	71.1	70.0	68.21
8. Speed	rpm	8170	10320	11180	10200
9. Current	A	0.212	0.263	0.098	0.058
10. Torque	mNm	0.64	1.04	0.70	0.89
At Max. Output power					
11. Max.output power	W	1.1	2.3	1.7	1.86
12. Speed	rpm	4750	6000	6500	6000
13. Current	A	0.7	0.8	0.31	0.17
14. Torque	mNm	2.3	3.7	2.5	2.96
At Stall					
15. Stall current	A	1.30	1.63	0.60	0.33
16. Stall torque	mNm	4.58	7.41	5.01	5.93
Motor Constants					
17. Terminal resistance	Ω	2.85	3.68	20	72.73
18. Terminal inductance	mH	0.09	0.12	0.50	1.30
19. Torque constant	mNm/A	3.62	4.66	8.58	18.52
20. Speed constant	rpm/V	2567.6	2000.0	1083.3	500.00
21. Speed/torque constant	rpm/mNm	2075.1	1620.4	2594.5	2024.85
22. Mechanical time constant	ms	5.3	4.2	5.6	4.63
23. Rotor inertia	gcm ²	0.25	0.25	0.20	0.22
24. Number of pole pairs	1				
25. Number of phase	5				
26. Weight of motor	g	13			
27. Typical noise level	dB	≤38			

Motor Drawing (mm)**Φ13*L20mm****Technical Specifications**

1. Axial play: 0.05–0.15 mm
2. Sintered metal bearing load limits:
 - Max. axial load (dynamic): 0.2 N
 - Max. radial load (5 mm from flange): 1.2 N
 - Max. press-fit force (static): 20 N
3. Radial play: ≤ 0.012 mm
4. Ambient temperature range: -20 to $+80^\circ\text{C}$
5. Relative humidity: $<90\%$ RH at 25°C
6. Highest rotor temperature: 85°C

Motor terminal definition

1. + Vcc
2. - GND

Optional Parts

1. Planetary gearbox

