

BDCM Series

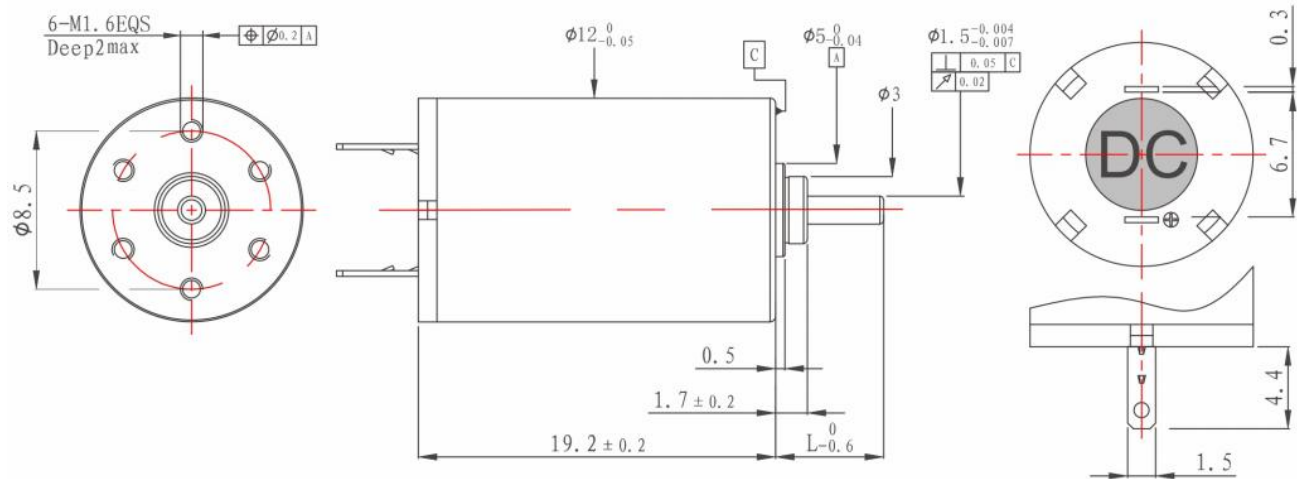
Coreless Precious Metal Brushed DC Motor



BDCM1219 Motor Data

1-1.8W

Motor Model	Unit	BDCM1219-01	BDCM1219-02	BDCM1219-03	BDCM1219-04
Value at Rated voltage					
At Nominal					
1. Nominal voltage	V/DC	4.5	12	15	24
2. Nominal speed	rpm	10800	9120	10800	12000
3. Nominal current	A	0.4	0.2	0.2	0.2
4. Nominal torque	mNm	1.4	1.5	1.8	2.7
Free Load					
5. No-load speed	rpm	15000	17000	17000	16000
6. No-load current	mA	45.0	30.0	20.0	12.0
At Max. Efficiency					
7. Max. efficiency	%	70.1	72.7	70.4	74.0
8. Speed	rpm	12900	14790	14620	14080
9. Current	A	0.3	0.2	0.1	0.1
10. Torque	mNm	0.6	0.5	0.5	0.4
At Max. Output power					
11. Max.output power	W	1.8	1.7	1.7	1.5
12. Speed	rpm	7500	8500	8500	8000
13. Current	A	0.9	0.6	0.3	0.2
14. Torque	mNm	2.3	1.9	1.9	1.8
At Stall					
15. Stall current	A	1.70	1.15	0.58	0.41
16. Stall torque	mNm	4.6	3.7	3.7	3.5
Motor Constants					
17. Terminal resistance	Ω	2.65	5.22	20.69	36.59
18. Terminal inductance	mH	0.110	0.250	0.480	0.600
19. Torque constant	mNm/A	2.79	3.30	6.57	8.78
20. Speed constant	rpm/V	3333.3	2833.3	1416.7	1066.7
21. Speed/torque constant	rpm/mNm	3249.8	4583.2	4582.2	4534.3
22. Mechanical time constant	ms	4.9	8.0	8.0	7.1
23. Rotor inertia	gcm ²	0.14	0.17	0.17	0.15
24. Number of pole pairs		1			
25. Number of phase		5			
26. Weight of motor	g	11.5			
27. Typical noise level	dB	≤38			

Motor Drawing (mm)**Φ12*L19mm****Technical Specifications**

1. Axial play: 0.05–0.15 mm
2. Sintered metal bearing load limits:
 - Max. axial load (dynamic): 0.6 N
 - Max. radial load (5 mm from flange): 5 N
 - Max. press-fit force (static): 15 N
3. Radial play: ≤ 0.012 mm
4. Ambient temperature range: -20 to +65°C
5. Relative humidity: <90% RH (25°C)
6. Maximum rotor temperature: 120°C

Values listed in the table are nominal.

Motor terminal definition

1. + Vcc
2. - GND

Optional Parts

1. Planetary gearbox

