



Dimensions in mm.

Electrical Data	Symbol	20ECF14 8B xx		Unit
		16	32	
1 Nominal Voltage	U_N	6	12	Volt
2 Optimization Direction	-	Symmetrical	Symmetrical	-
3 No Load Speed	n_0	8,417	8,407	rpm
4 Typical No Load Current	I_0	126	63	mA
5 Max. Continuous Mechanical Power (@25°C)	P_{max}	9	9	W
6 Max. Continuous Current	$I_{e,max}$	1.5	0.75	A
7 Max. Continuous Torque	$M_{e,max}$	9 (1.27)	9 (1.27)	mNm (oz-in)
8 Back EMF Constant	k_E	0.7	1.39	V/1000 rpm
9 Torque Constant	k_M	6.65	13.3	mNm/A
10 Motor Regulation	R/k^2	24.9	26.1	$10^3/Nms$
11 Motor Regulation	$k/R^{1/2}$	6.3 (0.89)	6.2 (0.88)	mNm/W ^{1/2} (oz-in/W ^{1/2})
12 Internal Resistance - phase to phase	R_1	1.1	4.61	ohms
13 Line to Line Resistance at Connectors	R_L	1.1	4.61	ohms
14 Inductance Phase to Phase	L	0.12	0.4	mH
15 Mechanical Time Constant	τ_m	7.5	7.8	ms
16 Electrical Time Constant	τ_e	0.16	0.16	ms

General Data

17 Maximum Motor Speed	n_{max}	10,000	rpm
18 Ambient Working Temperature Range	-	-30 to +80 (-22 to +176)	°C (°F)
19 Ambient Storage Temperature Range	-	-40 to +80 (-30 to +176)	°C (°F)
20 Ball Bearings Preload	-	2.7	N
21 Axial Static Force w/o Shaft Support (max)	-	10	N
22 Maximum Winding Temperature	-	125 (257)	°C (°F)
23 Thermal Resistance	R_{th}	23	°C/W
24 Thermal Time Constant	τ_w	645	s
25 Weight	-	15 (0.53)	g (oz)
26 Rotor Inertia	J	3	g-cm ²
27 Hall Sensor Electrical Phasing*	-	120	Electrical °

*Also available without Hall sensors

Pad Allocation	
Pad 1	Phase A
Pad 2	Phase B
Pad 3	Phase C
Pad 4	3 to 24 V DC
Pad 5	GND
Pad 6	Hall sensor 3
Pad 7	Hall sensor 2
Pad 8	Hall sensor 1

