



Dimensions in mm

Electrical Data	Symbol	16ECS52-8B-xxx.01			Unit
		49	30	21	
1 Nominal Voltage	U_N	24	24	24	Volt
2 Optimization Direction	-	Symmetrical	Symmetrical	Symmetrical	-
3 No Load Speed	n_0	27,800	45,400	66,380	rpm
4 Typical No Load Current	I_0	85	135	240	mA
5 Max Continuous Mechanical Power (@25°C)	P_{max}	66	66	66	W
6 Max Continuous Current	$I_{e,max}$	2	3.2	4.6	A
7 Max Continuous Torque	$M_{e,max}$	16.1 (2.28)	15.9 (2.25)	15.8 (2.23)	mNm (oz-in)
8 Back EMF Constant	k_E	0.84	0.52	0.36	V/1000 rpm
9 Torque Constant	k_M	7.99	4.93	3.45	mNm/A
10 Motor Regulation	R/k^2	15.35	15.6	15.9	10 ³ /Nms
11 Motor Regulation	$k/R^{1/2}$	8.1 (1.15)	8 (1.13)	7.9 (1.11)	mNm/W ^{1/2} (oz-in/W ^{1/2})
12 Internal Resistance - phase to phase	R_l	0.98	0.38	0.19	ohms
13 Line to Line Resistance at Connectors	R_L	1.06	0.43	0.24	ohms
14 Inductance Phase to Phase	L	0.12	0.02	0.01	mH
15 Mechanical Time Constant	τ_m	1.5	1.6	1.6	ms
16 Electrical Time Constant	τ_e	0.12	0.06	0.05	ms

General Data					
17 Maximum Motor Speed	n_{max}	73,000			rpm
18 Ambient Working Temperature Range	-	-30 to +100 (-22 to +212)			°C (°F)
19 Ambient Storage Temperature Range	-	-40 to +100 (-40 to +212)			°C (°F)
20 Ball Bearings Preload	-	5.3			N
21 Axial Static Force w/o Shaft Support (max)	-	34			N
22 Maximum Winding Temperature	-	125 (257)			°C (°F)
23 Thermal Resistance	R_{th}	3 / 15			°C/W
24 Thermal Time Constant	τ_w	750			s
25 Weight	-	62 (2.19)			g (oz)
26 Rotor Inertia	J	1			g-cm ²
27 Hall Sensor Electrical Phasing*	-	120			Electrical °

*Also available without Hall sensors

Wire	Description
Gray	Phase 1
Violet	Phase 2
Blue	Phase 3
Green	3 to 24V DC
Yellow	GND
Orange	Sensor 1
Red	Sensor 2
Brown	Sensor 3

with hall effect sensor

