



Dimensions in mm

Electrical Data	Symbol	22ECP45-8B-xxx.01		Unit
		154	82	
1 Nominal Voltage	$U_N$	24	24	Volt
2 Optimization Direction	-	Symmetrical	Symmetrical	-
3 No Load Speed	$n_0$	8,370	15,700	rpm
4 Typical No Load Current	$I_0$	25	60	mA
5 Max Continuous Mechanical Power (@25°C)	$P_{max}$	80	80	W
6 Max Continuous Current	$I_{e,max}$	1.0	2.0	A
7 Max Continuous Torque	$M_{e,max}$	27.7 (3.93)	29.4 (4.17)	mNm (oz-in)
8 Back EMF Constant	$k_E$	2.82	1.53	V/1000 rpm
9 Torque Constant	$k_M$	27.0	14.6	mNm/A
10 Motor Regulation	$R/k^2$	8.0	7.0	$10^3/Nms$
11 Motor Regulation	$k/R^{1/2}$	11.2 (1.59)	11.9 (1.69)	$mNm/W^{1/2}$ (oz-in/ $W^{1/2}$ )
12 Internal Resistance - phase to phase	$R_i$	5.80	1.50	ohms
13 Line to Line Resistance at Connectors	$R_L$	5.89	1.59	ohms
14 Inductance Phase to Phase	$L$	0.94	0.27	mH
15 Mechanical Time Constant	$\tau_m$	1.8	1.6	ms
16 Electrical Time Constant	$\tau_e$	0.16	0.18	ms

General Data				
17 Maximum Motor Speed	$n_{max}$		47,000	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	-		5.5	N
21 Axial Static Force w/o Shaft Support (max)	-		34	N
22 Maximum Winding Temperature	-		125 (257)	°C (°F)
23 Thermal Resistance	$R_{th}$		2/9.7	°C/W
24 Thermal Time Constant	$\tau_w$		850	s
25 Weight	-		100 (3.53)	g (oz)
26 Rotor Inertia	$J$		2.30	g-cm <sup>2</sup>
27 Hall Sensor Electrical Phasing*	-		120	Electrical °

\*Also available without Hall sensors

Wire	Description
Gray	Phase 1
Violet	Phase 2
Blue	Phase 3
Green	3.5 to 24V DC
Yellow	GND
Orange	Sensor 1
Red	Sensor 2
Brown	Sensor 3

with hall effect sensor

