



Dimensions in mm.

Electrical Data	Symbol	17S78 .... 1			Unit
		208P	210E	209E	
1 Nominal Voltage	V	6	7.5	12	Volt
2 No-Load Speed	$n_0$	10,280	10,865	12,430	rpm
3 No-Load Current	$I_0$	25.0	18.0	8.4	mA
4 Terminal Resistance	R	7.5	12.2	18.6	Ω
5 Output Power	$P_{2max}$	1.7	1.6	1.8	W
6 Stall Torque	mNm	4.3 (0.61)	3.9 (0.56)	5.9 (0.84)	mNm (oz-in)
7 Efficiency	$\eta_{max}$	68	69	78	%
8 Max Continuous Speed	$n_{e max}$	10,000	10,000	10,000	rpm
9 Max Continuous Torque	$M_{e max}$	2.6 (0.34)	2.4 (0.34)	2.8 (0.4)	mNm (oz-in)
10 Max Continuous Current	$I_{e max}$	0.50	0.38	0.32	A
11 Back-EMF Constant	$k_E$	0.57	0.67	0.95	mV/rpm
12 Torque Constant	$k_M$	5.40	6.40	9.10	mNm/A
13 Motor Regulation	$R/k^2$	255.0	300.0	225.0	10 <sup>3</sup> /Nms
14 Friction Torque	$T_F$	0.12 (0.02)	0.12 (0.02)	0.08 (0.02)	mNm (oz-in)
15 Rotor Inductance	L	0.15	0.23	0.35	mH
16 Mechanical Time Constant	$\tau_m$	12.8	15.0	11.3	ms
17 Rotor Inertia	J	0.50	0.50	0.50	g-cm <sup>2</sup>

General Data				
18 Thermal Resistance (rotor/body)	$R_{th1}/R_{th2}$	13/38		°C/W
19 Thermal Time Constant (rotor/stator)	$t_{w1}/t_{w2}$	7/400		S
20 Operating Temperature Range:	motor	-30°C to 85°C (-22°F to 185°F) 100°C (212°F)		°C (°F)
	rotor			°C (°F)
21 Shaft Load Max.: (5 mm. from bearing)	With sleeve bearings			
	-radial	1.5 (5.4)		N (oz)
	-axial	100 (359.6)		N (oz)
22 Shaft Play:	-radial	<0.03 (0.0012)		mm (inch)
	-axial	0.15 (0.0059)		mm (inch)
23 Weight	g	19 (0.68)		g (oz)

Execution Table

Gearbox	Single Shaft	F16	MR2
B16	5	5	Upon Request
BA16	5	5	Upon Request
R16	1	1	96

