



17S78 **** .1

Electrical Data	****	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	$n_{e max.}$	12,000	12,000	12,000	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	$10^3/Nms$
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	τ_m	12.8	15.0	11.3	ms
17 Rotor Inertia	J	0.50	0.50	0.50	$g.cm^2$
18 Thermal Resistance (rotor/body)	R_{th1} / R_{th2}	13/38	13/38	13/38	$^\circ C/W$
19 Thermal Time Constant (rotor/stator)	τ_{w1}/τ_{w2}	7/400	7/400	7/400	$^\circ C/W$
20 Operating Temperature Range:	motor	-30 $^\circ C$ to 85 $^\circ C$ (-22 $^\circ F$ to 185 $^\circ F$)			$^\circ C$ ($^\circ F$)
	rotor	100 $^\circ C$ (212 $^\circ F$)			$^\circ C$ ($^\circ F$)
21 Shaft Load max.:		With sleeve bearings			
at 3,000 rpm (5mm from bearing)	-radial	1.5 (5.4)			N (oz)
at 3,000 rpm	-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			
Gearbox	Single Shaft	F16	MR2
B16	5	5	Contact Us
BA16	5	5	Contact Us
R16	1	1	Contact Us

