

Performance Figures Of Printed Armature DC Servo Motors B Series

MOTOR RATINGS (1&2)	SYBOL	UNIT	B9M4	B12M4	B12M4H	B9M4T*	B12M4T*	B12M4HT*
Rated Torque	To	Ncm	34	85	112	30	80	97
Rated Speed	N	RPM	3000	3000	3000	3000	3000	3000
Rated Output (3)	W	Watts	106	268	350	94	250	305
Rated Voltage	V	Volts	24.1	43.4	63.5	22.9	40.4	56.5
Rated Current	I	Amps	8.71	8.8	8	8.63	8.7	8
Max. Current at very low speed	Icc	Amps	6.81	8.13	8.1	6.81	8.13	8.1
Peak Torque (4)	Tp	Ncm	306	861	1380	283	843	1208
Peak Current	Ip	Amps	72	84.5	84.5	72	84.5	84.5
Max. speed with no external load	Nmax	RPM	5000	5000	5000	5000	5000	5000
Motor Constants								
Back EMF Constant	Ke	Volts/KRPM	4.85	11.55	15.82	4.5	10.6	13.82
Torque Constant	Kt	Ncm/Amps	4.72	11.25	15.01	4.37	10.39	13.55
Damping Constant	Kd	Ncm/KRPM	0.94	2.2	3.8	0.94	2.2	3.8
Friction Torque	Tf	Ncm	3.13	4.3	5	3.2	4.3	5
Terminal Resistance	Rt	Ohms	0.85	0.75	0.75	0.85	0.75	0.75
Armature Inductance	La	Micro-H	<100	<100	<100	<100	<100	<100
Moment of Inertia	Jm	gm-cm ²	395	1342	1480	586	1837	1910
Mech. Time Constant	Tm	Milli-sec	11.97	6.68	2.88	20.52	10.84	4.82
Ele. Time Constant	Te	Micro-sec	<150	<160	<160	<150	<160	<160
Motor Diameter	D	mm	115	145	145	115	145	145
Motor Length (excl shaft)	L	mm	55	55	70	57	57	72
Weight	Wt.	Kg	2.3	3.6	5	2.3	3.6	5
						B9M4T*	B12M4T*	B12M4HT*
Tachogenerator Characteristics		Unit		B12T	B9T	Tacho	Tacho	Tacho
Output Voltage		Volts/100 RPM		6	3	2.25	5.3	6.4
Ripple content (Max.)		%		3	3	3.5	3.5	3.5
Linearity of output Voltage (Ref. 3600 RPM)		%		0.05	0.05	0.11	0.11	0.11
By directional Tolerance		%		1.5	1.5	1	1	1.5
Temp. Coe. of Voltage		% per Deg. C		0.02	0.02	-0.02	-0.02	-0.02
Minimum Load Resistance Recommended		Ohms		1000	1000	370	494	494