

## DC054B Series

The DC054B Series Brush Commutated DC Motor is a 54 mm diameter unit offered in 7 lengths with continuous output torques of 0.071 to 0.35 Nm.



Shown with optional assemblies.

### DC Brush Commutated Motors

For applications that require reliability and performance with basic control. Yields high efficiencies by consuming less electricity.

#### Benefits

- Speeds up to 6,00 RPM possible
- DC bus voltage up to 80 VDC
- Eight standard windings, special windings available
- 2 pole stator with ceramic magnets
- 7 slot skewed armature cogging reduction
- Sintered bronze bearings, ball bearings available
- Copper graphite brushes, RFI suppression available

#### Optional Assemblies

- Encoder: E30C/D, Q Type
- Gearboxes: G40A, PLG42S, G51A, PLG52
- Drives: BGE6060A, PBL4850E\*\*

### Motor Characteristics

Motor Data	Units	Part No.							
		DC054B-1	DC054B-2	DC054B-3	DC054B-4	DC054B-5	DC054B-6	DC054B-7	
Max DC Terminal Voltage	$V_T$	V							
Max Speed (Mechanical)	$\omega_{MAX}$	6000			5000				
Continuous Stall Torque <sup>1</sup>	$T_{CS}$	Nm	0.071	0.099	0.15	0.18	0.22	0.26	0.35
		oz-in	10	14	21	26	31	37	50
Peak Torque (Maximum) <sup>1</sup>	$T_{pk}$	Nm	0.39	0.67	1.0	1.3	1.4	1.8	2.6
		oz-in	55	95	140	180	200	260	370
Coulomb Friction Torque	$T_f$	Nm	0.0085	0.0085	0.011	0.011	0.014	0.014	0.016
		oz-in	1.2	1.2	1.6	1.6	2.0	2.0	2.2
Viscous Damping Factor	$D$	Nm/(rad/s)	1.1E-05	1.1E-05	1.2E-05	1.2E-05	1.3E-05	1.3E-05	1.7E-05
		oz-in/krpm	0.17	0.17	0.18	0.18	0.19	0.19	0.25
Thermal Time Constant	$\tau_{th}$	min	22	24	26	29	29	34	32
Thermal Resistance	$R_{th}$	°C/W	9.9	9.0	8.1	7.7	7.3	6.8	5.0
Max. Winding Temperature	$\Theta_{MAX}$	°C	155	155	155	155	155	155	155
Rotor Inertia	$J_r$	kg-m <sup>2</sup>	1.1E-05	1.6E-05	2.1E-05	2.6E-05	3.1E-05	3.7E-05	4.7E-05
		oz-in-s <sup>2</sup>	0.0016	0.0023	0.0030	0.0037	0.0044	0.0052	0.0067
Motor Weight	$W_m$	g	590	740	880	1000	1100	1300	1500
		oz	21	26	31	35	40	45	55

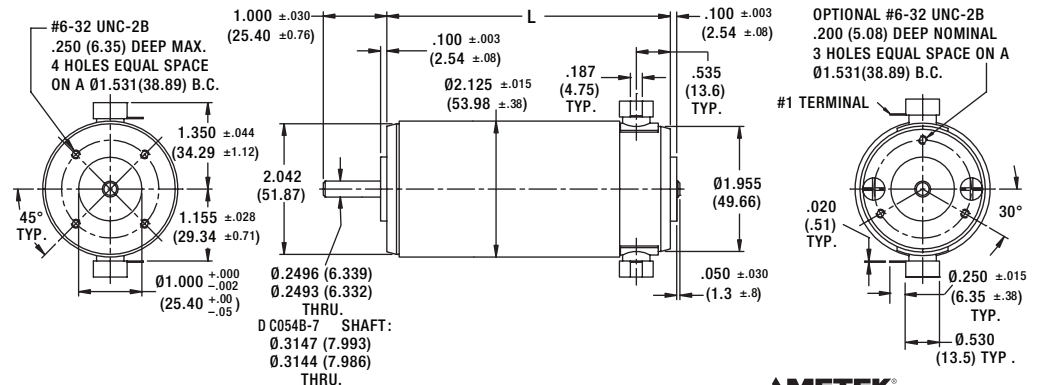
<sup>1</sup>Recorded at maximum winding temperature at 25°C ambient and without heatsink. \*\*For PBL4850E to operate a brush motor, an encoder is required.

### Dimensional Drawings: DC054B-1 • DC054B-2 • DC054B-3 • DC054B-4 • DC054B-5 • DC054B-6 • DC054B-7

Dimensions = Inches (mm)

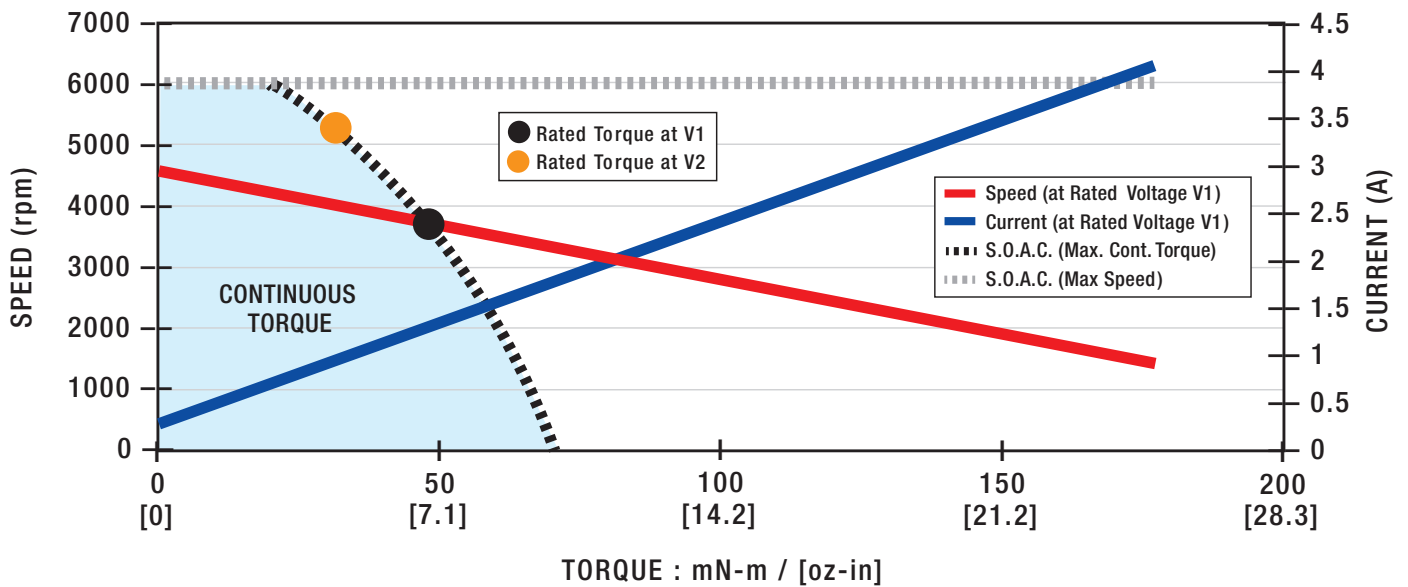
L = Lengths Available

- DC054B-1 = 2.953 (75.01) Max.
- DC054B-2 = 3.203 (81.36) Max.
- DC054B-3 = 3.703 (94.06) Max.
- DC054B-4 = 4.078 (103.6) Max.
- DC054B-5 = 4.453 (113.1) Max.
- DC054B-6 = 4.953 (125.8) Max.
- DC054B-7 = 5.703 (144.9) Max.



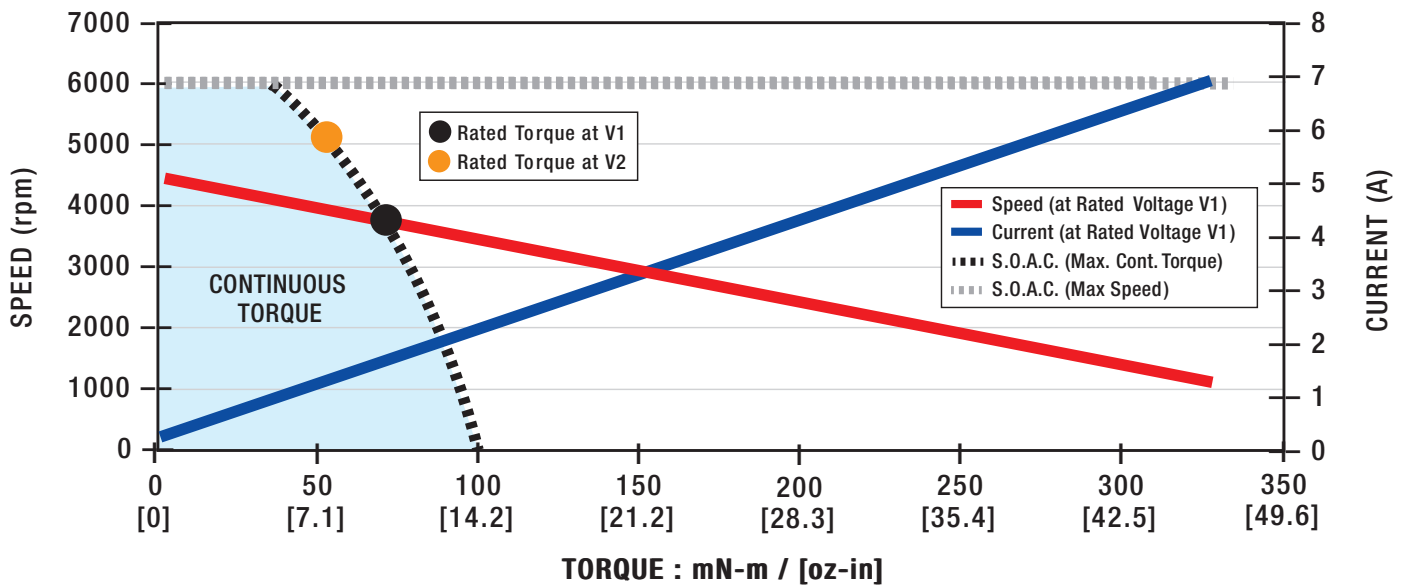
Motor Data		Units								
Rated Voltage <b>V1</b>	$V_r$	V	12.0	15.2	19.1	24.0	30.3	38.2	48.0	60.6
Rated Torque <sup>1</sup> •	$T_r$	Nm	0.049	0.048	0.048	0.048	0.048	0.047	0.048	0.048
		oz-in	6.9	6.8	6.8	6.8	6.7	6.7	6.7	6.7
Rated Speed <sup>1</sup>	$\omega_r$	rpm	3680	3780	3750	3740	3720	3770	3750	3720
Rated Current <sup>1</sup>	$I_r$	A	2.7	2.1	1.7	1.3	1.0	0.83	0.65	0.51
Rated Power <sup>1</sup>	$P_r$	W	19	19	19	19	19	19	19	19
No Load Speed	$\omega_{nl}$	rpm	4140	4200	4170	4150	4120	4170	4150	4120
No Load Current	$I_{nl}$	A	0.52	0.42	0.33	0.26	0.21	0.17	0.13	0.11
Rated Voltage <b>V2</b>	$V_r$	V	15.2	19.1	24.0	30.3	38.2	48.0	60.6	76.4
Rated Torque <sup>1</sup> •	$T_r$	Nm	0.033	0.031	0.031	0.031	0.031	0.031	0.031	0.031
		oz-in	4.7	4.4	4.4	4.4	4.4	4.3	4.3	4.3
Rated Speed <sup>1</sup>	$\omega_r$	rpm	5250	5320	5280	5290	5250	5300	5300	5250
Rated Current <sup>1</sup>	$I_r$	A	2.1	1.6	1.3	0.99	0.77	0.62	0.49	0.39
Rated Power <sup>1</sup>	$P_r$	W	18	17	17	17	17	17	17	17
No Load Speed	$\omega_{nl}$	rpm	5270	5300	5250	5260	5210	5260	5260	5210
No Load Current	$I_{nl}$	A	0.57	0.46	0.36	0.29	0.23	0.18	0.15	0.12
Motor Constant	$K_M$	Nm/ $\sqrt{W}$	0.031	0.031	0.031	0.031	0.032	0.032	0.032	0.032
		oz-in/ $\sqrt{W}$	4.4	4.4	4.4	4.5	4.5	4.5	4.5	4.5
Torque Constant	$K_T$	Nm/A	0.0263	0.0328	0.0416	0.0525	0.0668	0.0832	0.105	0.134
		oz-in/A	3.72	4.65	5.90	7.44	9.47	11.8	14.9	18.9
Voltage Constant	$K_E$	V/(rad/s)	0.0263	0.0328	0.0416	0.0525	0.0668	0.0832	0.105	0.134
		V/krpm	2.75	3.44	4.36	5.50	7.00	8.71	11.0	14.0
Terminal Resistance	$R_{mt}$	$\Omega$	0.720	1.11	1.76	2.79	4.45	6.98	11.1	17.8
Inductance	L	mH	0.63	0.99	1.6	2.5	4.1	6.4	10	16
Peak Current	$I_{pk}$	A	17	14	11	8.6	6.8	5.5	4.3	3.4
Electrical Time Constant	$\tau_e$	ms	0.88	0.89	0.90	0.91	0.92	0.91	0.92	0.92
Mechanical Time Constant	$\tau_m$	ms	12	12	11	11	11	11	11	11

<sup>1</sup>Recorded at maximum winding temperature at 25°C ambient and without heatsink.



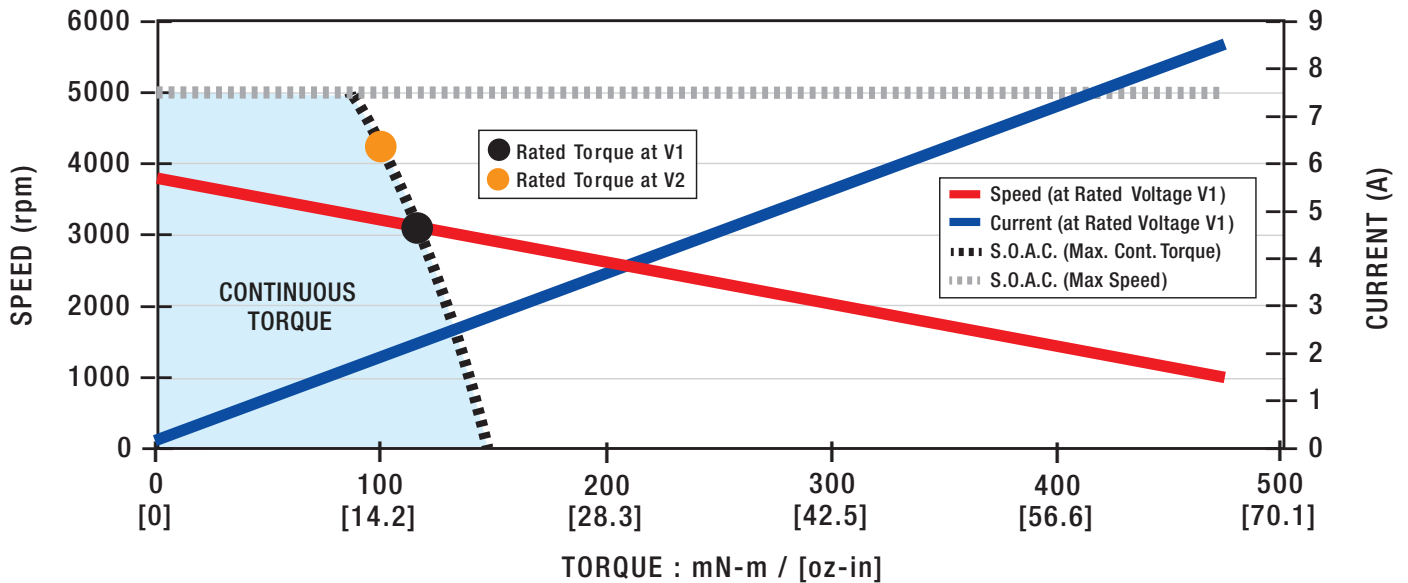
Motor Data		Units									
Rated Voltage <b>V1</b>	$V_r$	V	12.0	15.2	19.1	24.0	30.3	38.2	48.0	60.6	
Rated Torque <sup>1</sup> •	$T_r$	Nm	0.072	0.071	0.070	0.070	0.070	0.070	0.070	0.070	0.070
		oz-in	10	10	9.9	9.9	9.9	9.9	9.9	9.9	9.8
Rated Speed <sup>1</sup>	$\omega_r$	rpm	3720	3740	3790	3770	3780	3750	3790	3780	
Rated Current <sup>1</sup>	$I_r$	A	3.5	2.7	2.2	1.7	1.4	1.1	0.86	0.67	
Rated Power <sup>1</sup>	$P_r$	W	28	28	28	28	28	27	28	28	
No Load Speed	$\omega_{nl}$	rpm	4010	4010	4030	4010	4010	3970	4020	4000	
No Load Current	$I_{nl}$	A	0.49	0.39	0.31	0.25	0.20	0.16	0.13	0.096	
Rated Voltage <b>V2</b>	$V_r$	V	15.2	19.1	24.0	30.3	38.2	48.0	60.6	76.4	
Rated Torque <sup>1</sup> •	$T_r$	Nm	0.054	0.054	0.052	0.052	0.051	0.052	0.051	0.051	
		oz-in	7.7	7.6	7.4	7.3	7.3	7.3	7.3	7.2	7.2
Rated Speed <sup>1</sup>	$\omega_r$	rpm	5130	5100	5160	5160	5160	5100	5190	5160	
Rated Current <sup>1</sup>	$I_r$	A	2.8	2.2	1.7	1.4	1.1	0.85	0.68	0.53	
Rated Power <sup>1</sup>	$P_r$	W	29	29	28	28	28	28	28	27	
No Load Speed	$\omega_{nl}$	rpm	5090	5050	5080	5070	5070	5000	5090	5050	
No Load Current	$I_{nl}$	A	0.54	0.42	0.34	0.27	0.21	0.17	0.14	0.11	
Motor Constant	$K_M$	Nm/ $\sqrt{W}$	0.041	0.041	0.042	0.042	0.042	0.042	0.042	0.042	
		oz-in/ $\sqrt{W}$	5.8	5.9	5.9	5.9	5.9	6.0	6.0	6.0	
Torque Constant	$K_T$	Nm/A	0.0275	0.0349	0.0435	0.0551	0.0695	0.0884	0.110	0.139	
		oz-in/A	3.89	4.94	6.17	7.80	9.84	12.5	15.6	19.7	
Voltage Constant	$K_E$	V/(rad/s)	0.0275	0.0349	0.0435	0.0551	0.0695	0.0884	0.110	0.139	
		V/krpm	2.88	3.65	4.56	5.77	7.28	9.26	11.5	14.6	
Terminal Resistance	$R_{mt}$	$\Omega$	0.450	0.710	1.09	1.73	2.74	4.37	6.85	10.9	
Inductance	L	mH	0.63	1.0	1.6	2.5	4.1	6.6	10	16	
Peak Current	$I_{pk}$	A	27	21	18	14	11	8.7	7.0	5.6	
Electrical Time Constant	$\tau_e$	ms	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.5	
Mechanical Time Constant	$\tau_m$	ms	9.7	9.5	9.3	9.3	9.2	9.1	9.2	9.1	

<sup>1</sup>Recorded at maximum winding temperature at 25°C ambient and without heatsink.



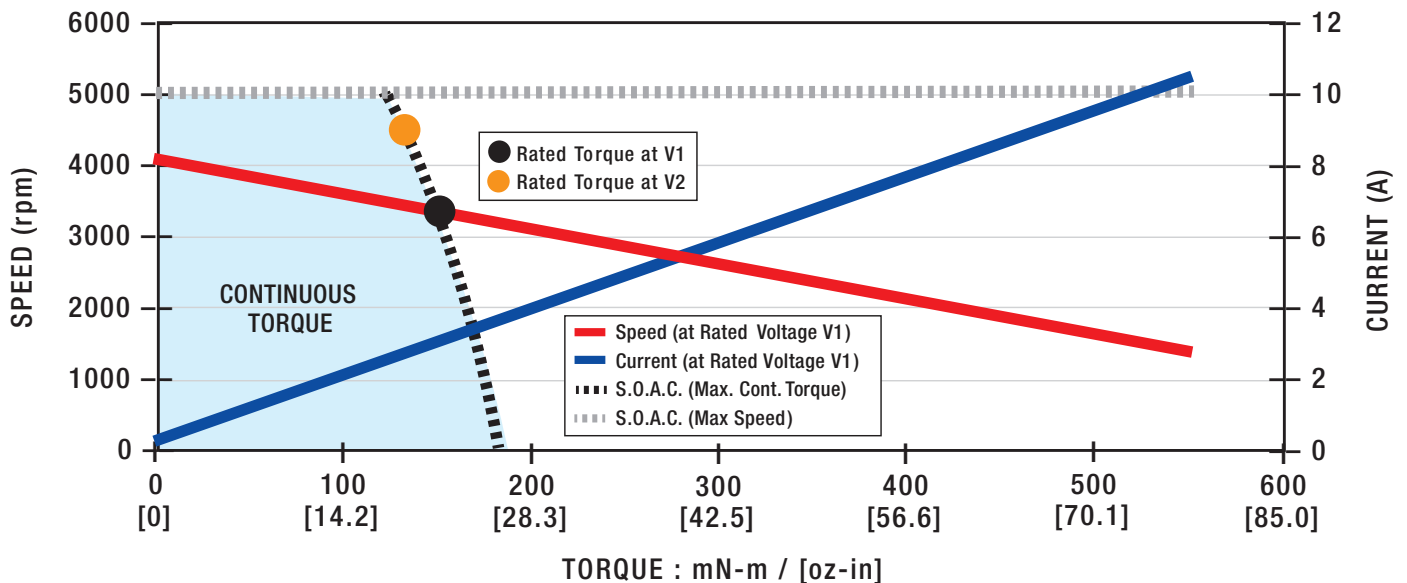
Motor Data		Units								
Rated Voltage <b>V1</b>	$V_r$	V	12.0	15.2	19.1	24.0	30.3	38.2	48.0	60.6
Rated Torque <sup>1</sup> •	$T_r$	Nm	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
		oz-in	17	17	17	17	17	16	17	17
Rated Speed <sup>1</sup>	$\omega_r$	rpm	3050	3100	3090	3120	3120	3110	3090	3140
Rated Current <sup>1</sup>	$I_r$	A	4.7	3.7	2.9	2.3	1.8	1.4	1.1	0.91
Rated Power <sup>1</sup>	$P_r$	W	38	38	38	38	38	38	38	38
No Load Speed	$\omega_{nl}$	rpm	3390	3390	3370	3390	3380	3360	3340	3390
No Load Current	$I_{nl}$	A	0.48	0.38	0.30	0.24	0.19	0.15	0.12	0.095
Rated Voltage <b>V2</b>	$V_r$	V	15.2	19.1	24.0	30.3	38.2	48.0	60.6	76.4
Rated Torque <sup>1</sup> •	$T_r$	Nm	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
		oz-in	15	15	14	14	14	14	14	14
Rated Speed <sup>1</sup>	$\omega_r$	rpm	4180	4190	4170	4240	4230	4190	4190	4240
Rated Current <sup>1</sup>	$I_r$	A	4.2	3.3	2.6	2.0	1.6	1.3	1.0	0.80
Rated Power <sup>1</sup>	$P_r$	W	46	45	45	45	44	44	44	44
No Load Speed	$\omega_{nl}$	rpm	4300	4270	4240	4280	4270	4230	4220	4280
No Load Current	$I_{nl}$	A	0.52	0.41	0.32	0.26	0.21	0.16	0.13	0.11
Motor Constant	$K_M$	Nm/ $\sqrt{W}$	0.054	0.055	0.055	0.056	0.056	0.057	0.056	0.056
		oz-in/ $\sqrt{W}$	7.6	7.8	7.9	7.9	7.9	8.0	8.0	7.9
Torque Constant	$K_T$	Nm/A	0.0327	0.0413	0.0523	0.0654	0.0828	0.105	0.133	0.165
		oz-in/A	4.62	5.86	7.41	9.26	11.7	14.9	18.8	23.4
Voltage Constant	$K_E$	V/(rad/s)	0.0327	0.0413	0.0523	0.0654	0.0828	0.105	0.133	0.165
		V/krpm	3.42	4.33	5.48	6.85	8.67	11.0	13.9	17.3
Terminal Resistance	$R_{mt}$	$\Omega$	0.370	0.570	0.890	1.38	2.19	3.46	5.53	8.68
Inductance	L	mH	0.56	0.91	1.5	2.3	3.6	5.8	9.3	15
Peak Current	$I_{pk}$	A	32	27	21	17	14	11	8.7	7.0
Electrical Time Constant	$\tau_e$	ms	1.5	1.6	1.6	1.6	1.7	1.7	1.7	1.7
Mechanical Time Constant	$\tau_m$	ms	7.3	7.1	6.9	6.8	6.8	6.6	6.6	6.7

<sup>1</sup>Recorded at maximum winding temperature at 25°C ambient and without heatsink.



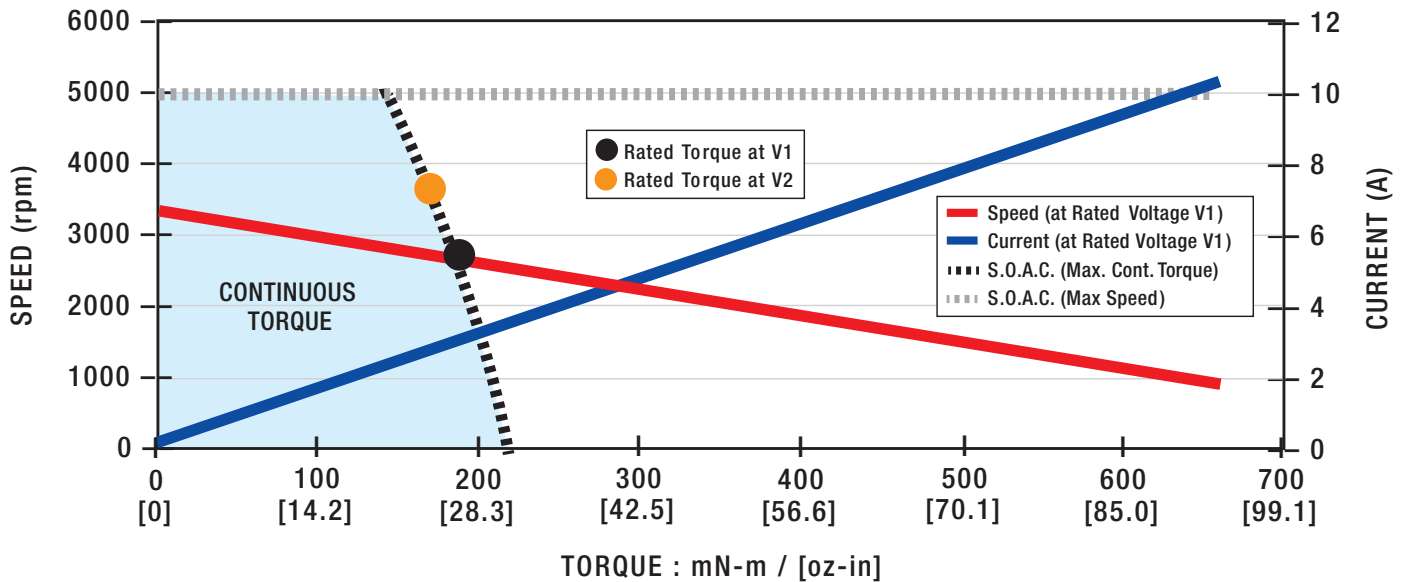
Motor Data		Units								
Rated Voltage <b>V1</b>	$V_r$	V	12.0	15.2	19.1	24.0	30.3	38.2	48.0	60.6
Rated Torque <sup>1</sup> •	$T_r$	Nm	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
		oz-in	22	22	21	21	21	21	21	21
Rated Speed <sup>1</sup>	$\omega_r$	rpm	3280	3340	3350	3350	3400	3380	3380	3350
Rated Current <sup>1</sup>	$I_r$	A	6.3	5.0	3.9	3.1	2.5	1.9	1.5	1.2
Rated Power <sup>1</sup>	$P_r$	W	53	53	53	53	53	53	53	53
No Load Speed	$\omega_{nl}$	rpm	3630	3670	3650	3630	3660	3630	3640	3600
No Load Current	$I_{nl}$	A	0.53	0.42	0.33	0.26	0.21	0.17	0.14	0.11
Rated Voltage <b>V2</b>	$V_r$	V	15.2	19.1	24.0	30.3	38.2	48.0	60.6	76.4
Rated Torque <sup>1</sup> •	$T_r$	Nm	0.14	0.14	0.14	0.13	0.13	0.13	0.13	0.13
		oz-in	19	19	19	19	19	19	19	19
Rated Speed <sup>1</sup>	$\omega_r$	rpm	4470	4500	4500	4520	4570	4520	4550	4510
Rated Current <sup>1</sup>	$I_r$	A	5.7	4.6	3.6	2.8	2.2	1.7	1.4	1.1
Rated Power <sup>1</sup>	$P_r$	W	64	64	64	63	63	63	63	62
No Load Speed	$\omega_{nl}$	rpm	4610	4620	4590	4590	4620	4570	4600	4550
No Load Current	$I_{nl}$	A	0.57	0.45	0.36	0.28	0.23	0.18	0.15	0.11
Motor Constant	$K_M$	Nm/ $\sqrt{W}$	0.059	0.059	0.060	0.061	0.061	0.062	0.061	0.062
		oz-in/ $\sqrt{W}$	8.3	8.4	8.5	8.6	8.6	8.7	8.7	8.7
Torque Constant	$K_T$	Nm/A	0.0306	0.0383	0.0484	0.0612	0.0766	0.0974	0.122	0.156
		oz-in/A	4.33	5.42	6.86	8.67	10.8	13.8	17.3	22.0
Voltage Constant	$K_E$	V/(rad/s)	0.0306	0.0383	0.0484	0.0612	0.0766	0.0974	0.122	0.156
		V/krpm	3.20	4.01	5.07	6.41	8.02	10.2	12.8	16.3
Terminal Resistance	$R_{mt}$	$\Omega$	0.270	0.420	0.650	1.01	1.57	2.50	3.96	6.33
Inductance	L	mH	0.40	0.62	1.0	1.6	2.5	4.0	6.4	10
Peak Current	$I_{pk}$	A	44	36	29	24	19	15	12	9.6
Electrical Time Constant	$\tau_e$	ms	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.6
Mechanical Time Constant	$\tau_m$	ms	7.5	7.5	7.2	7.0	7.0	6.9	6.9	6.8

<sup>1</sup>Recorded at maximum winding temperature at 25°C ambient and without heatsink.



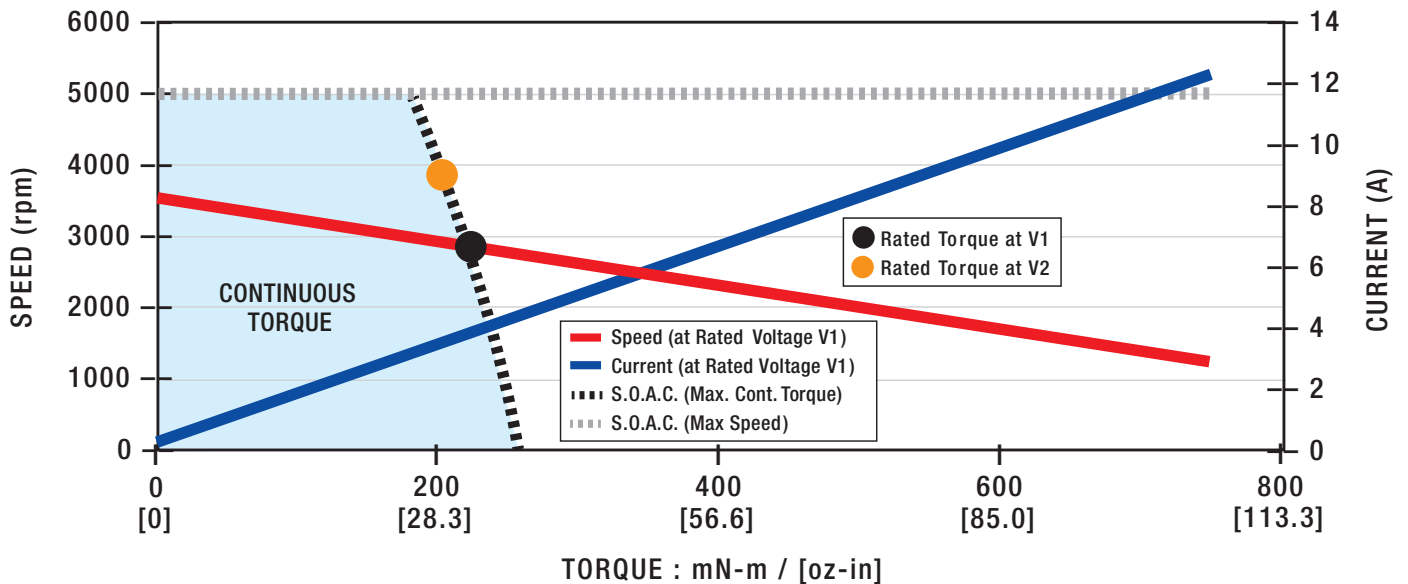
Motor Data		Units								
Rated Voltage <b>V1</b>	$V_r$	V	12.0	15.2	19.1	24.0	30.3	38.2	48.0	60.6
Rated Torque <sup>1</sup> •	$T_r$	Nm	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
		oz-in	27	27	26	26	26	26	26	26
Rated Speed <sup>1</sup>	$\omega_r$	rpm	2620	2700	2690	2690	2730	2720	2710	2700
Rated Current <sup>1</sup>	$I_r$	A	6.4	5.0	4.0	3.1	2.5	2.0	1.6	1.2
Rated Power <sup>1</sup>	$P_r$	W	52	53	53	53	53	53	53	52
No Load Speed	$\omega_{nl}$	rpm	2990	3040	3010	3000	3020	3010	3000	2980
No Load Current	$I_{nl}$	A	0.49	0.40	0.31	0.25	0.20	0.16	0.13	0.097
Rated Voltage <b>V2</b>	$V_r$	V	15.2	19.1	24.0	30.3	38.2	48.0	60.6	76.4
		Nm	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Rated Torque <sup>1</sup> •	$T_r$	oz-in	25	24	24	24	24	24	24	24
		rpm	3590	3650	3630	3650	3690	3660	3670	3640
Rated Current <sup>1</sup>	$I_r$	A	5.9	4.7	3.7	2.9	2.3	1.8	1.4	1.1
Rated Power <sup>1</sup>	$P_r$	W	66	66	65	65	65	65	65	65
No Load Speed	$\omega_{nl}$	rpm	3800	3820	3790	3790	3820	3790	3800	3770
No Load Current	$I_{nl}$	A	0.52	0.42	0.33	0.26	0.21	0.17	0.13	0.11
Motor Constant	$K_M$	Nm/ $\sqrt{W}$	0.068	0.069	0.070	0.070	0.070	0.071	0.071	0.071
		oz-in/ $\sqrt{W}$	9.6	9.8	9.9	10	10	10	10	10
Torque Constant	$K_T$	Nm/A	0.0371	0.0463	0.0587	0.0741	0.0927	0.117	0.148	0.188
		oz-in/A	5.25	6.56	8.32	10.5	13.1	16.6	21.0	26.6
Voltage Constant	$K_E$	V/(rad/s)	0.0371	0.0463	0.0587	0.0741	0.0927	0.117	0.148	0.188
		V/krpm	3.88	4.85	6.15	7.76	9.71	12.3	15.5	19.7
Terminal Resistance	$R_{mt}$	$\Omega$	0.300	0.450	0.710	1.11	1.73	2.75	4.36	6.97
Inductance	L	mH	0.45	0.71	1.1	1.8	2.8	4.5	7.2	12
Peak Current	$I_{pk}$	A	40	34	27	22	18	14	11	8.7
Electrical Time Constant	$\tau_e$	ms	1.5	1.6	1.6	1.6	1.6	1.7	1.7	1.7
Mechanical Time Constant	$\tau_m$	ms	6.8	6.5	6.4	6.3	6.3	6.2	6.2	6.1

<sup>1</sup>Recorded at maximum winding temperature at 25°C ambient and without heatsink.



Motor Data		Units								
Rated Voltage <b>V1</b>	$V_r$	V	12.0	15.2	19.1	24.0	30.3	38.2	48.0	60.6
Rated Torque <sup>1</sup> •	$T_r$	Nm	0.23	0.22	0.22	0.22	0.22	0.22	0.22	0.22
		oz-in	32	32	32	31	31	31	31	31
Rated Speed <sup>1</sup>	$\omega_r$	rpm	2940	2850	2880	2880	2890	2920	2900	2900
Rated Current <sup>1</sup>	$I_r$	A	8.3	6.2	4.9	3.9	3.0	2.4	1.9	1.5
Rated Power <sup>1</sup>	$P_r$	W	69	67	67	67	67	67	67	67
No Load Speed	$\omega_{nl}$	rpm	3320	3160	3180	3150	3150	3170	3150	3150
No Load Current	$I_{nl}$	A	0.56	0.42	0.34	0.27	0.21	0.17	0.13	0.11
Rated Voltage <b>V2</b>	$V_r$	V	15.2	19.1	24.0	30.3	38.2	48.0	60.6	76.4
Rated Torque <sup>1</sup> •	$T_r$	Nm	0.21	0.21	0.21	0.20	0.20	0.20	0.20	0.20
		oz-in	30	29	29	29	29	29	29	29
Rated Speed <sup>1</sup>	$\omega_r$	rpm	4000	3830	3870	3880	3880	3900	3890	3890
Rated Current <sup>1</sup>	$I_r$	A	7.8	5.8	4.6	3.6	2.8	2.3	1.8	1.4
Rated Power <sup>1</sup>	$P_r$	W	88	83	84	83	83	83	83	82
No Load Speed	$\omega_{nl}$	rpm	4210	3980	4000	3990	3980	3990	3980	3970
No Load Current	$I_{nl}$	A	0.59	0.44	0.36	0.28	0.22	0.18	0.14	0.11
Motor Constant	$K_M$	Nm/ $\sqrt{W}$	0.072	0.075	0.076	0.077	0.077	0.078	0.078	0.078
		oz-in/ $\sqrt{W}$	10	11	11	11	11	11	11	11
Torque Constant	$K_T$	Nm/A	0.0335	0.0446	0.0557	0.0706	0.0892	0.112	0.141	0.179
		oz-in/A	4.75	6.32	7.88	9.99	12.6	15.8	20.0	25.3
Voltage Constant	$K_E$	V/(rad/s)	0.0335	0.0446	0.0557	0.0706	0.0892	0.112	0.141	0.179
		V/krpm	3.51	4.67	5.83	7.39	9.34	11.7	14.8	18.7
Terminal Resistance	$R_{mt}$	$\Omega$	0.220	0.350	0.540	0.840	1.32	2.06	3.28	5.20
Inductance	L	mH	0.31	0.54	0.85	1.4	2.2	3.4	5.4	8.7
Peak Current	$I_{pk}$	A	55	43	35	29	23	19	15	12
Electrical Time Constant	$\tau_e$	ms	1.4	1.5	1.6	1.6	1.6	1.6	1.7	1.7
Mechanical Time Constant	$\tau_m$	ms	7.2	6.5	6.4	6.2	6.1	6.1	6.0	6.0

<sup>1</sup>Recorded at maximum winding temperature at 25°C ambient and without heatsink.



Motor Data		Units								
Rated Voltage V1	V <sub>r</sub>	V	15.2	19.1	24.0	30.3	38.2	48.0	60.6	76.4
Rated Torque <sup>1</sup> •	T <sub>r</sub>	Nm	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
		oz-in	44	44	44	44	44	44	43	43
Rated Speed <sup>1</sup>	ω <sub>r</sub>	rpm	3000	2850	2900	2900	2920	2930	2930	2920
Rated Current <sup>1</sup>	I <sub>r</sub>	A	8.9	6.7	5.3	4.2	3.3	2.6	2.1	1.6
Rated Power <sup>1</sup>	P <sub>r</sub>	W	98	93	94	94	94	94	94	94
No Load Speed	ω <sub>nl</sub>	rpm	3330	3140	3160	3140	3150	3160	3150	3140
No Load Current	I <sub>nl</sub>	A	0.51	0.38	0.30	0.24	0.19	0.15	0.12	0.094
Rated Voltage V2	V <sub>r</sub>	V	19.1	24.0	30.3	38.2	48.0	60.6	76.4	60.6
Rated Torque <sup>1</sup> •	T <sub>r</sub>	Nm	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.32
		oz-in	41	41	41	41	41	40	40	46
Rated Speed <sup>1</sup>	ω <sub>r</sub>	rpm	4020	3820	3890	3880	3880	3920	3910	2150
Rated Current <sup>1</sup>	I <sub>r</sub>	A	8.4	6.3	5.0	3.9	3.1	2.5	2.0	1.7
Rated Power <sup>1</sup>	P <sub>r</sub>	W	120	120	120	120	120	120	120	72
No Load Speed	ω <sub>nl</sub>	rpm	4190	3950	3990	3960	3960	3990	3980	2480
No Load Current	I <sub>nl</sub>	A	0.55	0.40	0.33	0.26	0.20	0.16	0.13	0.089
Motor Constant	K <sub>M</sub>	Nm/√W	0.086	0.091	0.092	0.093	0.094	0.093	0.094	0.094
		oz-in/√W	12	13	13	13	13	13	13	13
Torque Constant	K <sub>T</sub>	Nm/A	0.0424	0.0565	0.0706	0.0897	0.113	0.141	0.179	0.226
		oz-in/A	6.00	8.01	9.99	12.7	16.0	20.0	25.3	32.0
Voltage Constant	K <sub>E</sub>	V/(rad/s)	0.0424	0.0565	0.0706	0.0897	0.113	0.141	0.179	0.226
		V/krpm	4.44	5.92	7.39	9.39	11.8	14.8	18.7	23.7
Terminal Resistance	R <sub>mt</sub>	Ω	0.240	0.390	0.590	0.930	1.46	2.29	3.64	5.78
Inductance	L	mH	0.31	0.56	0.87	1.4	2.2	3.5	5.6	8.9
Peak Current	I <sub>pk</sub>	A	63	49	41	33	26	21	17	13
Electrical Time Constant	τ <sub>e</sub>	ms	1.3	1.4	1.5	1.5	1.5	1.5	1.5	1.5
Mechanical Time Constant	τ <sub>m</sub>	ms	6.3	5.8	5.6	5.5	5.4	5.4	5.4	5.4

<sup>1</sup>Recorded at maximum winding temperature at 25°C ambient and without heatsink.

