



- 1000 oz-in. peak torque
- 1910 watts continuous power
- Weight 27 oz
- 77% peak system efficiency
- Smooth, controllable power
- No cogging or hysteresis torque
- 24 Pole, “Y” Coil

**TG8250 SERIES BRUSHLESS MOTORS**

Peak torque1	Tpk		1100		oz-in.
Maximum Continuous Stall Torque	Tlr		220		ozin
Motor constant	Km		26.3		oz-in./sqrt (W)
Cogging and hysteresis torque	Tc, Th		0		oz-in.
Electrical time constant	Te		0.038		mS
Mechanical time constant	Tm		187		mS
Stall Thermal Resistance	TPR1		0.81		deg C/WATT
Viscous drag torque	Tac		0.81		oz-in./krpm
Windage friction	Twl		0.249		oz-in./(krpm)^2
$T_w = T_{w1} * (KRPM)^2 + T_{w2} * KRPM$	Tw2		0.488		oz-in./krpm
Maximum System Efficiency	Eff system		77.0%		%
Maximum Motor Efficiency	Eff. Motor		86.5%		%
<b>MAXIMUM VOLTAGE</b>	Vmax		84		Volts
Friction torque	Tfr		0.1		oz-in.
Motor weight, total	Wt. Total		27		oz
Rotor inertia	J		0.92		oz-in.-sec2
Max rotor temperature2	Temp rot		70		°C
Max stator winding temperature2	Temp wdg		110		°C
<b>MODEL NUMBER</b>		<b>TG8251</b>	<b>TG8252</b>	<b>TG8253</b>	
Maximum Continuous rating3:					
Torque -	Tc	300	266	245	Oz-in
Speed -	Wc	6800	3500	1755	Rpm
Current pk -	Ic	30.5	13.5	6.2	Amps
Voltage -	Vc	72	72	72	VDC
Shaft Power	Pc	1509	689	318	Watts
Current at Peak Torque	Ipk	112	56	28	Amps
Voltage at Peak Torque	Vpk	16	28	54	Volts
Maximum Continuous Stall Current	llr	22.3	11.2	5.6	Amps
No load speed	Wnl	9300	4650	2325	Rpm
No load voltage	Vnl	72	72	72	Volts
No load current	Inl	3.5	1.8	0.9	Amps
Torque constant -trap drive	Kt	9.85	19.7	39.4	oz-in./amp
Back EMF constant	Kv	0.073	0.146	0.292	v/rad./s
Back EMF constant	Ke	131	65	33	rpm/volt
Terminal resistance	Rt	0.140	0.500	1.940	ohms
Stator inductance	L	10.0	40.0	160.0	micro H

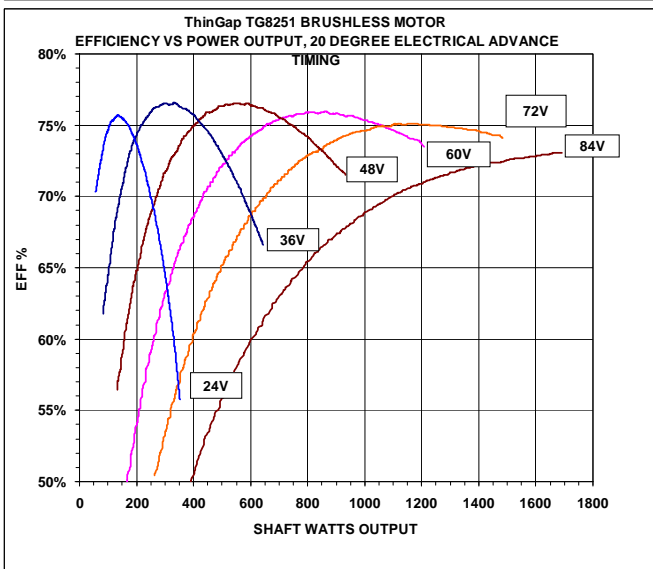
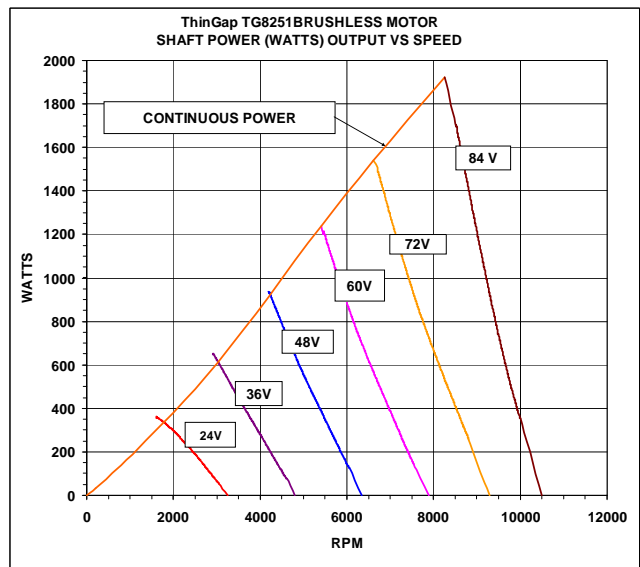
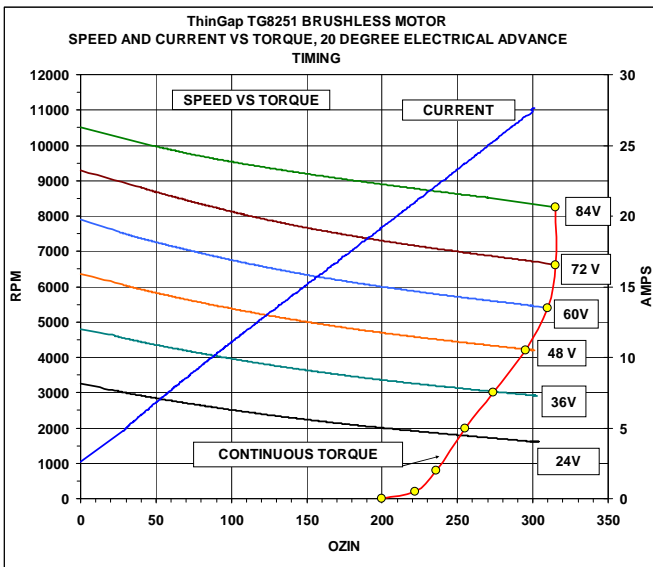
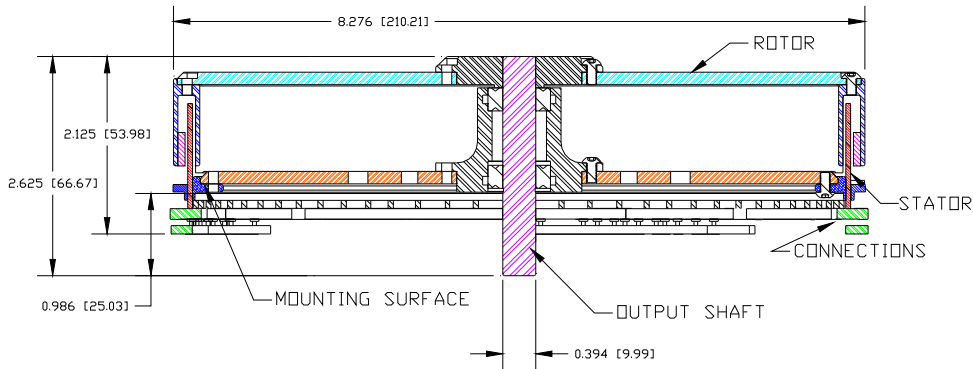
**NOTES:**

1-Caution, high torque. Torque increases linearly with current, without saturation.

2-Maximum Temperature is Limited by magnet stability when testing at constant torque.

All tests are at 25C ambient with motor mounted to an 8"x.375"x8" aluminum bracket

3. Test data includes inductors in series with each motor phase.



**THINGAP CORPORATION**  
(805) 477-9741  
(805) 477-7535 Fax