

# Report for Brushless Motor Testing Data Sheet

Type: DM3527V12LB

Date: 2009-05-22

No.	Testing Item		Tested Values	Unit
1	Nominal voltage	$U_N$	12	V
2	Terminal resistance, phase to phase	$R$	8.9	$\Omega$
3	Output power	$P_{2max}$	3.64	W
4	Efficiency	$\eta_{max}$	60	%
5	No-load speed	$n_o$	3405	rpm
6	No-load current	$I_o$	0.07	A
7	Stall torque	$M_H$	40.79	mNm
8	Friction torque	$M_F$	2.23	mNm
9	Speed constant	$k_n$	299.29	rpm/V
10	Back-EMF constant	$k_E$	3.34	mV/rpm
11	Torque constant	$k_M$	31.91	mNm/A
12	Current constant	$k_I$	0.03	A/mNm
13	Slope of n-M curve	$\Delta n / \Delta M$	83.48	rpm/mNm
14	Mechanical time constant	$\tau_n$	7.02	ms
15	Rotor inertia	$J$	8.03	gcm <sup>2</sup>
16	Angular acceleration	$\alpha_{max}$	50.79	10 <sup>3</sup> rad/s <sup>2</sup>
17	Operating temperature range		-30~+85	
18	Commutation		Electronically commutation	
19	Ball bearing		NMB	
20	Shaft load max			
	- radial at 3,000/20,000rpm(7 mm from bearing)		45.5/24	N
	-axial at 3,000/20,000rpm(axial push-on only)		36/24	N
	-axial at standstill (axial push-on only)		60	N
21	shaft play			
	-radial	$\leq$	0.015	
	-axial(spring)	$\leq$	0.2	
22	Magnet material		Aluminum, black anodized	
23	Housing material		Sintered Nd-Fe-B	
24	Weight		110	g
25	Direction of rotation		Electronically reversible	
<b>Operating Data For <math>\eta_{max}</math> of Customer's Specifications</b>				
26	Output Power	$P_{2opt}$	2.61	W
27	Efficiency	$\eta_{opt}$	60	%
28	Speed	$n_{opt}$	2608	rpm
29	Load Current	$I_{opt}$	0.37	A
30	Operating Torque	$M_{opt}$	9.54	mNm

Note:

The  $I_o$  is pure current of motor in this data sheet that means it not included the driver's current.

Made for:  
 Checker:  
 Approve: