

Report for Brushless Motor Testing Data Sheet

Type: DM4080V24HB

Date: 2009-01-21

No.	Testing Item		Tested Values	Unit
1	Nominal voltage	U_N	24	V
2	Terminal resistance, phase to phase	R	0.85	Ω
3	Output power	P_{2max}	164.05	W
4	Efficiency	η_{max}	76	%
5	No-load speed	n_0	8520	rpm
6	No-load current	I_0	0.45	A
7	Stall torque	M_H	735.50	mNm
8	Friction torque	M_F	11.91	mNm
9	Speed constant	k_n	360.75	rpm/V
10	Back-EMF constant	k_E	2.77	mV/rpm
11	Torque constant	k_M	26.47	mNm/A
12	Current constant	k_I	0.04	A/mNm
13	Slope of n-M curve	$\Delta n / \Delta M$	11.58	rpm/mNm
14	Mechanical time constant	τ_n	11.63	ms
15	Rotor inertia	J	95.88	gcm ²
16	Angular acceleration	α_{max}	76.71	10 ³ rad/s ²
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		435	g
25	Direction of rotation		Electronically reversible	
Operating Data For η_{max} of Customer's Specifications				
26	Output Power	P_{2opt}	72.85	W
27	Efficiency	η_{opt}	76	%
28	Speed	n_{opt}	7436	rpm
29	Load Current	I_{opt}	3.99	A
30	Operating Torque	M_{opt}	93.60	mNm

Note:

The I_0 is pure current of motor in this data sheet that means it not included the driver's current.

Made for:

Checker:

Approve: