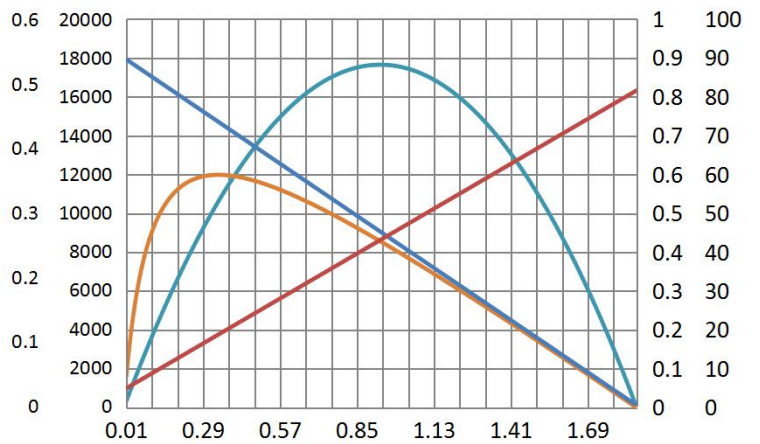


电机参数 Motor Data			电机型号 Motor Model				
额定电压参数值 Value at rated voltage			8V				
额定点At Nominal	1	额定电压 Nominal voltage	V/DC	8			
	2	额定转速 Nominal speed	rpm	16200			
	3	额定电流 Nominal current	A	0.07			
	4	额定转矩 Nominal torque	mNm	0.19			
空载点 Free Load	5	空载转速 No-load speed	rpm	18000			
	6	空载电流 No-load current	mA	25			
最大效率点 At Max. Efficiency	7	最大效率 Max. efficiency	%	59.9			
	8	转速 Speed	rpm	14670			
	9	电流 Current	A	0.111			
	10	转矩 Torque	mNm	0.3			
最大输出功率点 At max. Output power	11	最大功率 Max. output power	W	0.9			
	12	转速 Speed	rpm	9000			
	13	电流 Current	A	0.3			
	14	转矩 Torque	mNm	0.9			
堵转点 At Stall	15	堵转电流 Stall current	A	0.49			
	16	堵转转矩 Stall torque	mNm	1.9			
电机常数 Motor Constants							
	17	电机阻抗 Terminal resistance	Ω	16.33			
	18	电机感抗 Terminal inductance	mH	0.063			
	19	转矩常数 Torque constant	mNm/A	3.82			
	20	转速常数 Speed constant	rpm/V	2250.0			
	21	转数/转矩常数 Speed/torque constant	rpm/mNm	9611.1			
	22	机械时间常数 Mechanical time constant	ms	4.50			
	23	转子惯量 Rotor inertia	gcm ²	2.30			
电机特性曲线 (Motor Characteristics Curve)							
	24	极对数 Number of pole pairs		1			
	25	相数 Number of phase		5			
	26	重量 Weight of motor	g				
	27	噪音 Typical noise level	dB	≤45			

电机端子定义 Motor terminal definition			
+	Vcc		
-	GND		



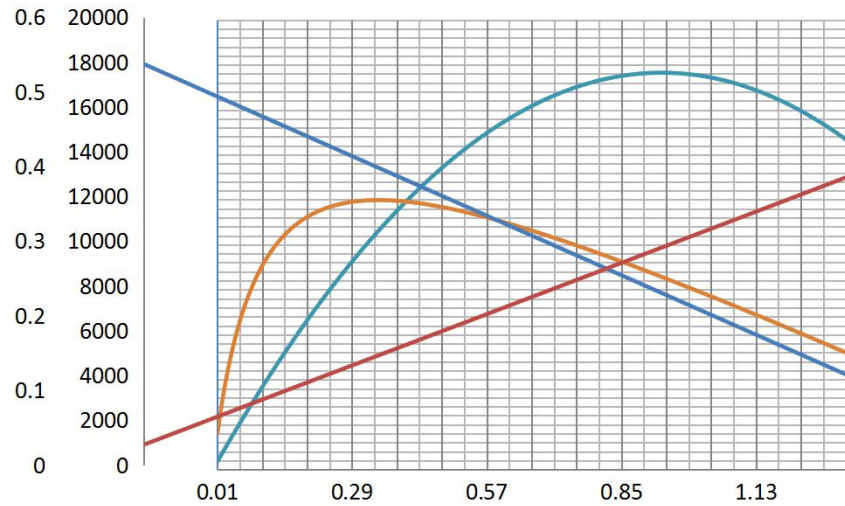
Connection :

防护等级 Protection level IP 54 A rpm mN.m W %

型号		XBD265412056GJ-JS87.6	
额定电压 Rat voltage	V/DC	8.00	转子重量
额定转速 Nominal speed	rpm	16200	
额定电流 Nominal current	mA	0.07	
额定转矩 Nominal torque	mNm	0.187	
空载转速 No load speed	rpm	18000	转子重力
空载电流 No load current	A	0.025	转子半径
最大效率 Max. efficiency	%	59.9	
转速 Speed	rpm	14670	额定负载转速
电流 Current	A	0.11	额定负载电流
转矩 Torque	Nm	0.346	额定负载转矩
最大功率 Max. output	W	0.9	R
转速 Speed	rpm	9000	KE
电流 Current	A	0.26	KT
转矩 Torque	Nm	0.936	TD
堵转电流 Stall current	A	0.49	K值
堵转转矩 Stall torque	mNm	1.873	4.027595918
电机阻抗 Terminal resistance	Ω	16.33	
电机感抗 Terminal inductance	mH	0.115	
转矩常数 Torque constant	mNm/A	3.82	8260
转速常数 Speed constant	rpm/V	2250.00	
转数/转矩常数 Speed/torque gradient	rpm/mNm	9611.11	
机械时间常数 Mechanical time constant	ms	1163.42	
转子惯量 Rotor inertia	gcm^2	11.56	
电机轴半径	mm	3.00	
磁钢半径	mm	8.25	
转子质量	g	30	
噪音 Typical noise level	dB		

无刷电机的计算数据与分析图表

Kg	
N	0
m	
rpm	0
A	0.49
N. m	
Ω	16.32653061
V/Krpm	0.000421769
N. m/A	0.004027596
N. m	0.001872832



	200	9.36416E-06	N	I	P1	P2	η
1	0.009364161	17910	0.027325	0.2186	0.017562765	8.034201878	
2	0.018728321	17820	0.02965	0.2372	0.03494902	14.73398837	
3	0.028092482	17730	0.031975	0.2558	0.052158765	20.39044773	
4	0.037456642	17640	0.0343	0.2744	0.069192	25.21574344	
5	0.046820803	17550	0.036625	0.293	0.086048724	29.36816535	
6	0.056184963	17460	0.03895	0.3116	0.102728939	32.96820885	
7	0.065549124	17370	0.041275	0.3302	0.119232643	36.10921952	
8	0.074913284	17280	0.0436	0.3488	0.135559837	38.86463209	
9	0.084277445	17190	0.045925	0.3674	0.15171052	41.29301045	
10	0.093641605	17100	0.04825	0.386	0.167684694	43.44163054	
11	0.103005766	17010	0.050575	0.4046	0.183482357	45.34907492	
12	0.112369926	16920	0.0529	0.4232	0.19910351	47.04714324	
13	0.121734087	16830	0.055225	0.4418	0.214548153	48.56228	
14	0.131098247	16740	0.05755	0.4604	0.229816286	49.91665632	
15	0.140462408	16650	0.059875	0.479	0.244907908	51.1289962	
16	0.149826568	16560	0.0622	0.4976	0.25982302	52.21523722	
17	0.159190729	16470	0.064525	0.5162	0.274561622	53.18900086	
18	0.168554889	16380	0.06685	0.5348	0.289123714	54.06202586	
19	0.17791905	16290	0.069175	0.5534	0.303509296	54.84446981	
20	0.18728321	16200	0.0715	0.572	0.317718367	55.54516912	
21	0.196647371	16110	0.073825	0.5906	0.331750929	56.17184703	
22	0.206011531	16020	0.07615	0.6092	0.34560698	56.73128358	
23	0.215375692	15930	0.078475	0.6278	0.35928652	57.22945531	
24	0.224739852	15840	0.0808	0.6464	0.372789551	57.67165084	
25	0.234104013	15750	0.083125	0.665	0.386116071	58.06256713	
26	0.243468173	15660	0.08545	0.6836	0.399266082	58.40638994	
27	0.252832334	15570	0.087775	0.7022	0.412239582	58.70686153	
28	0.262196494	15480	0.0901	0.7208	0.425036571	58.96733788	
29	0.271560655	15390	0.092425	0.7394	0.437657051	59.1908373	
30	0.280924815	15300	0.09475	0.758	0.45010102	59.38008185	
31	0.290288976	15210	0.097075	0.7766	0.46236848	59.53753278	
32	0.299653136	15120	0.0994	0.7952	0.474459429	59.6654211	

33	0.309017297	15030	0.101725	0.8138	0.486373867	59.76577382
34	0.318381457	14940	0.10405	0.8324	0.498111796	59.8404368
35	0.327745618	14850	0.106375	0.851	0.509673214	59.89109451
36	0.337109778	14760	0.1087	0.8696	0.521058122	59.91928731
37	0.346473939	14670	0.111025	0.8882	0.53226652	59.92642653
38	0.355838099	14580	0.11335	0.9068	0.543298408	59.91380769
39	0.36520226	14490	0.115675	0.9254	0.554153786	59.88262219
40	0.37456642	14400	0.118	0.944	0.564832653	59.83396749
41	0.383930581	14310	0.120325	0.9626	0.57533501	59.76885624
42	0.393294741	14220	0.12265	0.9812	0.585660857	59.68822433
43	0.402658902	14130	0.124975	0.9998	0.595810194	59.59293798
44	0.412023062	14040	0.1273	1.0184	0.60578302	59.48380012
45	0.421387223	13950	0.129625	1.037	0.615579337	59.3615561
46	0.430751383	13860	0.13195	1.0556	0.625199143	59.22689872
47	0.440115544	13770	0.134275	1.0742	0.634642439	59.0804728
48	0.449479704	13680	0.1366	1.0928	0.643909224	58.92287925
49	0.458843865	13590	0.138925	1.1114	0.6529995	58.75467878
50	0.468208026	13500	0.14125	1.13	0.661913265	58.57639516
51	0.477572186	13410	0.143575	1.1486	0.67065052	58.38851823
52	0.486936347	13320	0.1459	1.1672	0.679211265	58.19150662
53	0.496300507	13230	0.148225	1.1858	0.6875955	57.98579018
54	0.505664668	13140	0.15055	1.2044	0.695803224	57.77177221
55	0.515028828	13050	0.152875	1.223	0.703834439	57.54983146
56	0.524392989	12960	0.1552	1.2416	0.711689143	57.32032401
57	0.533757149	12870	0.157525	1.2602	0.719367337	57.08358489
58	0.54312131	12780	0.15985	1.2788	0.72686902	56.83992965
59	0.55248547	12690	0.162175	1.2974	0.734194194	56.58965576
60	0.561849631	12600	0.1645	1.316	0.741342857	56.33304386
61	0.571213791	12510	0.166825	1.3346	0.74831501	56.07035892
62	0.580577952	12420	0.16915	1.3532	0.755110653	55.80185139
63	0.589942112	12330	0.171475	1.3718	0.761729786	55.52775811
64	0.599306273	12240	0.1738	1.3904	0.768172408	55.24830323
65	0.608670433	12150	0.176125	1.409	0.77443852	54.96369911
66	0.618034594	12060	0.17845	1.4276	0.780528122	54.67414699
67	0.627398754	11970	0.180775	1.4462	0.786441214	54.3798378
68	0.636762915	11880	0.1831	1.4648	0.792177796	54.08095275
69	0.646127075	11790	0.185425	1.4834	0.797737867	53.77766397
70	0.655491236	11700	0.18775	1.502	0.803121429	53.47013506
71	0.664855396	11610	0.190075	1.5206	0.80832848	53.15852161
72	0.674219557	11520	0.1924	1.5392	0.81335902	52.8429717
73	0.683583717	11430	0.194725	1.5578	0.818213051	52.52362633
74	0.692947878	11340	0.19705	1.5764	0.822890571	52.20061986
75	0.702312038	11250	0.199375	1.595	0.827391582	51.87408035
76	0.711676199	11160	0.2017	1.6136	0.831716082	51.54413
77	0.721040359	11070	0.204025	1.6322	0.835864071	51.2108854
78	0.73040452	10980	0.20635	1.6508	0.839835551	50.8744579
79	0.73976868	10890	0.208675	1.6694	0.84363052	50.5349539
80	0.749132841	10800	0.211	1.688	0.84724898	50.19247509
81	0.758497001	10710	0.213325	1.7066	0.850690929	49.84711875

82	0.767861162	10620	0.21565	1.7252	0.853956367	49.49897794
83	0.777225322	10530	0.217975	1.7438	0.857045296	49.14814175
84	0.786589483	10440	0.2203	1.7624	0.859957714	48.79469555
85	0.795953643	10350	0.222625	1.781	0.862693622	48.43872108
86	0.805317804	10260	0.22495	1.7996	0.86525302	48.08029676
87	0.814681964	10170	0.227275	1.8182	0.867635908	47.71949775
88	0.824046125	10080	0.2296	1.8368	0.869842286	47.35639622
89	0.833410285	9990	0.231925	1.8554	0.871872153	46.99106139
90	0.842774446	9900	0.23425	1.874	0.87372551	46.62355978
91	0.852138606	9810	0.236575	1.8926	0.875402357	46.25395525
92	0.861502767	9720	0.2389	1.9112	0.876902694	45.88230922
93	0.870866927	9630	0.241225	1.9298	0.87822652	45.50868071
94	0.880231088	9540	0.24355	1.9484	0.879373837	45.1331265
95	0.889595248	9450	0.245875	1.967	0.880344643	44.75570121
96	0.898959409	9360	0.2482	1.9856	0.881138939	44.37645743
97	0.908323569	9270	0.250525	2.0042	0.881756724	43.99544579
98	0.91768773	9180	0.25285	2.0228	0.882198	43.61271505
99	0.927051891	9090	0.255175	2.0414	0.882462765	43.2283122
100	0.936416051	9000	0.2575	2.06	0.88255102	42.84228254
101	0.945780212	8910	0.259825	2.0786	0.882462765	42.45466974
102	0.955144372	8820	0.26215	2.0972	0.882198	42.06551593
103	0.964508533	8730	0.264475	2.1158	0.881756724	41.67486173
104	0.973872693	8640	0.2668	2.1344	0.881138939	41.28274638
105	0.983236854	8550	0.269125	2.153	0.880344643	40.88920775
106	0.992601014	8460	0.27145	2.1716	0.879373837	40.49428241
107	1.001965175	8370	0.273775	2.1902	0.87822652	40.09800568
108	1.011329335	8280	0.2761	2.2088	0.876902694	39.70041171
109	1.020693496	8190	0.278425	2.2274	0.875402357	39.3015335
110	1.030057656	8100	0.28075	2.246	0.87372551	38.90140295
111	1.039421817	8010	0.283075	2.2646	0.871872153	38.50005092
112	1.048785977	7920	0.2854	2.2832	0.869842286	38.09750726
113	1.058150138	7830	0.287725	2.3018	0.867635908	37.69380086
114	1.067514298	7740	0.29005	2.3204	0.86525302	37.28895968
115	1.076878459	7650	0.292375	2.339	0.862693622	36.88301079
116	1.086242619	7560	0.2947	2.3576	0.859957714	36.47598042
117	1.09560678	7470	0.297025	2.3762	0.857045296	36.06789394
118	1.10497094	7380	0.29935	2.3948	0.853956367	35.65877599
119	1.114335101	7290	0.301675	2.4134	0.850690929	35.24865039
120	1.123699261	7200	0.304	2.432	0.84724898	34.83754028
121	1.133063422	7110	0.306325	2.4506	0.84363052	34.42546807
122	1.142427582	7020	0.30865	2.4692	0.839835551	34.01245549
123	1.151791743	6930	0.310975	2.4878	0.835864071	33.59852365
124	1.161155903	6840	0.3133	2.5064	0.831716082	33.18369301
125	1.170520064	6750	0.315625	2.525	0.827391582	32.76798343
126	1.179884224	6660	0.31795	2.5436	0.822890571	32.35141419
127	1.189248385	6570	0.320275	2.5622	0.818213051	31.93400402
128	1.198612545	6480	0.3226	2.5808	0.81335902	31.51577109
129	1.207976706	6390	0.324925	2.5994	0.80832848	31.09673308
130	1.217340866	6300	0.32725	2.618	0.803121429	30.67690713

131	1.226705027	6210	0.329575	2.6366	0.797737867	30.25630992
132	1.236069187	6120	0.3319	2.6552	0.792177796	29.83495766
133	1.245433348	6030	0.334225	2.6738	0.786441214	29.41286612
134	1.254797508	5940	0.33655	2.6924	0.780528122	28.9900506
135	1.264161669	5850	0.338875	2.711	0.77443852	28.56652602
136	1.273525829	5760	0.3412	2.7296	0.768172408	28.14230686
137	1.28288999	5670	0.343525	2.7482	0.761729786	27.71740724
138	1.29225415	5580	0.34585	2.7668	0.755110653	27.29184087
139	1.301618311	5490	0.348175	2.7854	0.74831501	26.8656211
140	1.310982471	5400	0.3505	2.804	0.741342857	26.43876095
141	1.320346632	5310	0.352825	2.8226	0.734194194	26.01127308
142	1.329710792	5220	0.35515	2.8412	0.72686902	25.5831698
143	1.339074953	5130	0.357475	2.8598	0.719367337	25.15446313
144	1.348439113	5040	0.3598	2.8784	0.711689143	24.72516477
145	1.357803274	4950	0.362125	2.897	0.703834439	24.29528612
146	1.367167434	4860	0.36445	2.9156	0.695803224	23.86483827
147	1.376531595	4770	0.366775	2.9342	0.6875955	23.43383205
148	1.385895756	4680	0.3691	2.9528	0.679211265	23.00227802
149	1.395259916	4590	0.371425	2.9714	0.67065052	22.57018646
150	1.404624077	4500	0.37375	2.99	0.661913265	22.1375674
151	1.413988237	4410	0.376075	3.0086	0.6529995	21.70443063
152	1.423352398	4320	0.3784	3.0272	0.643909224	21.27078569
153	1.432716558	4230	0.380725	3.0458	0.634642439	20.83664189
154	1.442080719	4140	0.38305	3.0644	0.625199143	20.40200832
155	1.451444879	4050	0.385375	3.083	0.615579337	19.96689383
156	1.46080904	3960	0.3877	3.1016	0.60578302	19.53130708
157	1.4701732	3870	0.390025	3.1202	0.595810194	19.09525652
158	1.479537361	3780	0.39235	3.1388	0.585660857	18.65875039
159	1.488901521	3690	0.394675	3.1574	0.57533501	18.22179674
160	1.498265682	3600	0.397	3.176	0.564832653	17.78440343
161	1.507629842	3510	0.399325	3.1946	0.554153786	17.34657815
162	1.516994003	3420	0.40165	3.2132	0.543298408	16.9083284
163	1.526358163	3330	0.403975	3.2318	0.53226652	16.4696615
164	1.535722324	3240	0.4063	3.2504	0.521058122	16.03058462
165	1.545086484	3150	0.408625	3.269	0.509673214	15.59110475
166	1.554450645	3060	0.41095	3.2876	0.498111796	15.15122874
167	1.563814805	2970	0.413275	3.3062	0.486373867	14.71096326
168	1.573178966	2880	0.4156	3.3248	0.474459429	14.27031486
169	1.582543126	2790	0.417925	3.3434	0.46236848	13.82928993
170	1.591907287	2700	0.42025	3.362	0.45010102	13.38789472
171	1.601271447	2610	0.422575	3.3806	0.437657051	12.94613533
172	1.610635608	2520	0.4249	3.3992	0.425036571	12.50401775
173	1.619999768	2430	0.427225	3.4178	0.412239582	12.06154783
174	1.629363929	2340	0.42955	3.4364	0.399266082	11.61873128
175	1.638728089	2250	0.431875	3.455	0.386116071	11.1755737
176	1.64809225	2160	0.4342	3.4736	0.372789551	10.73208058
177	1.65745641	2070	0.436525	3.4922	0.35928652	10.28825727
178	1.666820571	1980	0.43885	3.5108	0.34560698	9.844109023
179	1.676184731	1890	0.441175	3.5294	0.331750929	9.399640975

180	1.685548892	1800	0.4435	3.548	0.317718367	8.954858155
181	1.694913052	1710	0.445825	3.5666	0.303509296	8.509765489
182	1.704277213	1620	0.44815	3.5852	0.289123714	8.064367798
183	1.713641373	1530	0.450475	3.6038	0.274561622	7.618669805
184	1.723005534	1440	0.4528	3.6224	0.25982302	7.172676138
185	1.732369694	1350	0.455125	3.641	0.244907908	6.726391326
186	1.741733855	1260	0.45745	3.6596	0.229816286	6.279819809
187	1.751098015	1170	0.459775	3.6782	0.214548153	5.832965936
188	1.760462176	1080	0.4621	3.6968	0.19910351	5.38583397
189	1.769826336	990	0.464425	3.7154	0.183482357	4.938428087
190	1.779190497	900	0.46675	3.734	0.167684694	4.49075238
191	1.788554657	810	0.469075	3.7526	0.15171052	4.042810862
192	1.797918818	720	0.4714	3.7712	0.135559837	3.594607465
193	1.807282978	630	0.473725	3.7898	0.119232643	3.146146046
194	1.816647139	540	0.47605	3.8084	0.102728939	2.697430385
195	1.826011299	450	0.478375	3.827	0.086048724	2.248464188
196	1.83537546	360	0.4807	3.8456	0.069192	1.799251092
197	1.844739621	270	0.483025	3.8642	0.052158765	1.349794661
198	1.854103781	180	0.48535	3.8828	0.03494902	0.900098393
199	1.863467942	90	0.487675	3.9014	0.017562765	0.450165718
200	1.872832102	0	0.49	3.92	0	0

