## mail

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from, Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

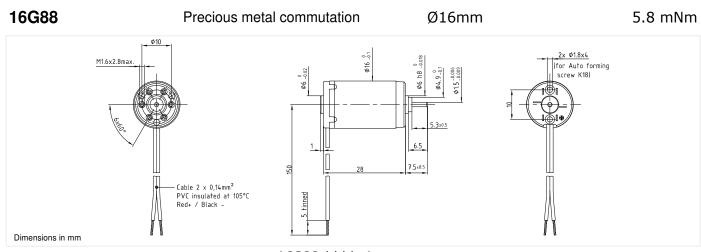


## Contact us

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## Portescap



## 16G88 \*\*\*\* .1

		10	/000	••				
Electrical Data	****	220P	214E	213E	211E	210E	205E	
1 Nominal Voltage	V	3	8	9	12	15	32	Volt
2 No-Load Speed	n <sub>o</sub>	11,025	9,250	7,980	8,690	9,000	8,150	rpm
3 No-Load Current	I <sub>0</sub>	45.0	10.0	8.0	6.5	5.5	2.0	mA
4 Terminal Resistance	R	0.5	5.4	7.6	13.0	19.5	135.0	Ω
5 Output Power	P <sub>2max.</sub>	4.1	4.2	4.6	4.2	4.2	2.5	W
6 Stall Torque	mNm	16 (2.27)	12.1 (1.72)	12.7 (1.8)	12.1 (1.72)	12.2 (1.73)	8.8 (1.25)	mNm (oz-in)
7 Efficiency	h <sub>max.</sub>	83	84	84	84	84	82	%
8 Max Continuous Speed	n <sub>e max.</sub>	10,000	10,000	10,000	10,000	10,000	10,000	rpm
9 Max Continuous Torque	M <sub>e max.</sub>	5.5 (0.76)	5.3 (0.76)	5.8 (0.83)	5.4 (0.77)	5.4 (0.77)	4.8 (0.68)	mNm (oz-in)
10 Max Continuous Current	I <sub>e max.</sub>	2.20	0.66	0.55	0.42	0.35	0.13	А
11 Back-EMF Constant	k <sub>E</sub>	0.27	0.86	1.12	1.37	1.65	3.90	mV/rpm
12 Torque Constant	k <sub>M</sub>	2.58	8.20	10.70	13.10	15.80	37.20	mNm/A
13 Motor Regulation	R/k <sup>2</sup>	75.1	80.3	66.4	75.75	78.11	97.55	10 <sup>3</sup> /Nms
14 Friction Torque	T <sub>F</sub>	0.12 (0.02)	0.08 (0.02)	0.09 (0.02)	0.09 (0.02)	0.09 (0.02)	0.07 (0.01)	mNm (oz-in)
15 Rotor Inductance	L	0.01	0.12	0.15	0.26	0.40	1.70	mH
16 Mechanical Time Constant	t <sub>m</sub>	6.0	6.4	5.3	6.1	5.8	7.8	ms
17 Rotor Inertia	J	0.80	0.80	0.80	0.80	0.74	0.80	g.cm <sup>2</sup>
General Data								
18 Thermal Resistance (rotor/body)	R <sub>th1</sub> / R <sub>th2</sub>	8 / 35			°C/W			
19 Thermal Time Constant (rotor/stator)	$t_{w1}/t_{w2}$	6 / 500 S			S			
20 Operating Temperature Range:	motor	-30 ℃ to 85 ℃ (-22 °F to 185 °F) ℃ ( °F)					°C (°F)	
	rotor			100 <i>°</i> C	(212°F)			°C (°F)
21 Shaft Load Max .:		With sleeve bearings						
(5mm from bearing)	-radial	1.5 (5.4) N (oz)						
	-axial	100 (359.6) N (oz)						
22 Shaft Play:	-radial	<0.03 (0.0012) mm (inch)				mm (inch)		

0.15 (0.0059)

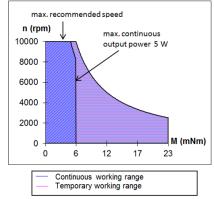
24 (0.85)

Execution Table						
Gearbox	Single Shaft	MR2				
B16	5	Upon Request				
BA16	5	Upon Request				
R16	1	Upon Request				

23 Weight

-axial

g



V121616

mm (inch)

g (oz)