



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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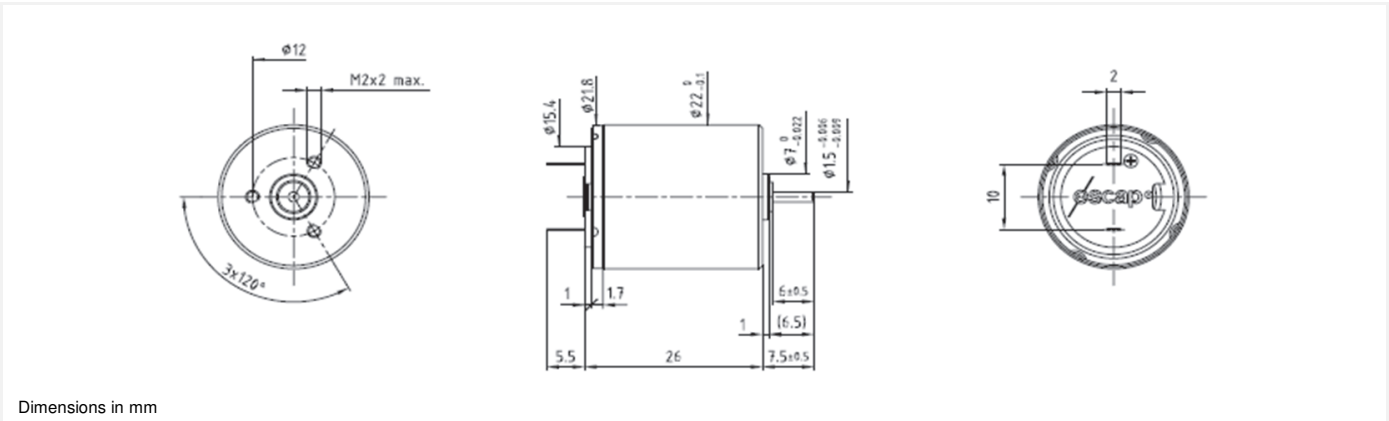


22S28

Precious metal commutation

Ø22mm

4.1 mNm

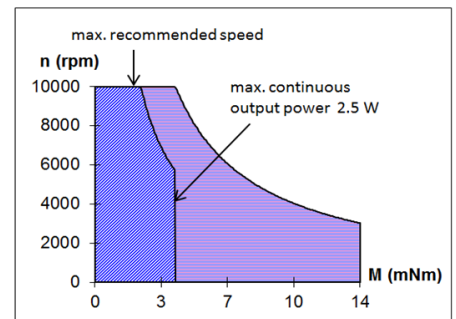


Dimensions in mm

22S28 \*\*\*\* .1

Electrical Data	****	208E	205E	
1 Nominal Voltage	V	15	24	Volt
2 No-Load Speed	$n_0$	9,600	7,940	rpm
3 No-Load Current	$I_0$	6.0	2.8	mA
4 Terminal Resistance	R	35.0	140.0	$\Omega$
5 Output Power	$P_{2\text{max.}}$	2.5	2.4	W
6 Stall Torque	mNm	6.3 (0.9)	4.9 (0.7)	mNm (oz-in)
7 Efficiency	$\eta_{\text{max.}}$	78	76	%
8 Max Continuous Speed	$n_{e \text{ max.}}$	10,000	10,000	rpm
9 Max Continuous Torque	$M_{e \text{ max.}}$	4.1 (0.56)	3.9 (0.56)	mNm (oz-in)
10 Max Continuous Current	$I_{e \text{ max.}}$	0.29	0.15	A
11 Back-EMF Constant	$k_E$	1.54	2.97	mV/rpm
12 Torque Constant	$k_M$	14.70	28.40	mNm/A
13 Motor Regulation	$R/k^2$	160.0	170.0	$10^3/\text{Nms}$
14 Friction Torque	$T_F$	0.09 (0.02)	0.08 (0.02)	mNm (oz-in)
15 Rotor Inductance	L	0.92	3.60	mH
16 Mechanical Time Constant	$t_m$	25.6	25.5	ms
17 Rotor Inertia	J	1.60	1.50	$\text{g.cm}^2$
General Data				
18 Thermal Resistance (rotor/body)	$R_{th1} / R_{th2}$	5/30		$^\circ\text{C}/\text{W}$
19 Thermal Time Constant (rotor/stator)	$t_{w1}/t_{w2}$	5/480		S
20 Operating Temperature Range:	motor	-30 $^\circ\text{C}$ to 85 $^\circ\text{C}$ (-22 $^\circ\text{F}$ to 185 $^\circ\text{F}$ )		$^\circ\text{C}$ ( $^\circ\text{F}$ )
	rotor	100 $^\circ\text{C}$ (212 $^\circ\text{F}$ )		$^\circ\text{C}$ ( $^\circ\text{F}$ )
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)
	-axial	0.15 (0.0059)		mm (inch)
23 Weight	g	49 (1.73)		g (oz)

Execution Table		
Gearbox	Single Shaft	MR2
R22	Upon Request	Upon Request
M22	Upon Request	Upon Request
K24	Upon Request	Upon Request
K27	Upon Request	Upon Request



— Continuous working range  
— Temporary working range