

DC-Micromotors

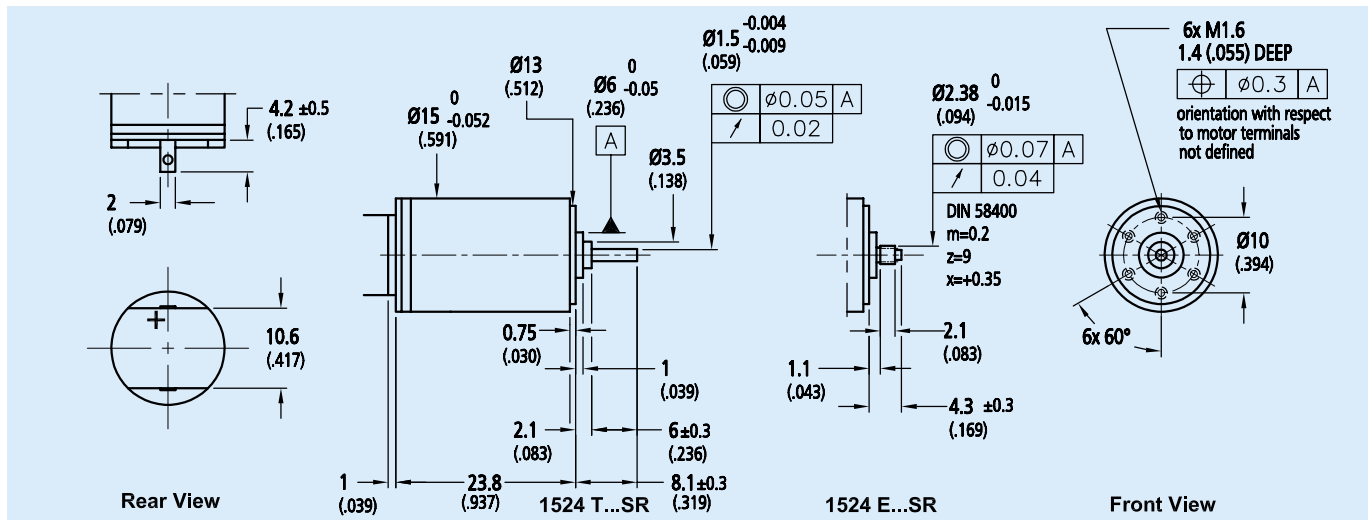
Precious Metal Commutation

0.354 oz-in

For combination with:
 Gearheads: 15A, 15/3, 15/4, 15/5, 15/8,
 16A, 16/7
 Encoders: IE2

Series 1524 ... SR

		1524 T	003 SR	006 SR	009 SR	012 SR	018 SR	024 SR	
1	Nominal voltage	U_N	3	6	9	12	18	24	Volt
2	Terminal resistance	$R \pm 12\%$	1.1	5.1	10.4	19.8	44.0	79.6	Ω
3	Output power	$P_{2 \text{ max.}}$	1.92	1.70	1.88	1.75	1.78	1.75	W
4	Efficiency	$\eta_{\text{max.}}$	77	77	77	76	77	78	%
5	No-load speed	$n_o \pm 12\%$	10,800	9,700	10,100	9,900	9,900	9,900	rpm
6	No-load current (with shaft \varnothing 0.06 in)	$I_o \pm 50\%$	0.047	0.021	0.014	0.011	0.007	0.005	A
7	Stall torque	M_H	0.963	0.946	1.008	0.957	0.971	0.956	oz-in
8	Friction torque	M_R	0.017	0.017	0.017	0.018	0.017	0.016	oz-in
9	Speed constant	k_n	3,660	1,650	1,140	840	560	419	rpm/V
10	Back-EMF constant	k_E	0.273	0.607	0.877	1.190	1.790	2.380	mV/rpm
11	Torque constant	k_M	0.370	0.821	1.185	1.614	2.421	3.229	oz-in/A
12	Current constant	k_I	2.706	1.218	0.844	0.619	0.413	0.310	A/oz-in
13	Slope of n-M curve	$\Delta n/\Delta M$	11,215	10,254	10,020	10,345	10,196	10,356	rpm/oz-in
14	Rotor inductance	L	17	70	150	250	560	1,000	μH
15	Mechanical time constant	τ_m	10	10	10	10	10	10	ms
16	Rotor inertia	J	$8.497 \cdot 10^{-6}$	$9.346 \cdot 10^{-6}$	$9.488 \cdot 10^{-6}$	$9.205 \cdot 10^{-6}$	$9.346 \cdot 10^{-6}$	$9.205 \cdot 10^{-6}$	oz-in-sec ²
17	Angular acceleration	$\alpha_{\text{max.}}$	110	100	110	100	100	100	$\cdot 10^3 \text{ rad/s}^2$
18	Thermal resistance	$R_{\text{th}1} / R_{\text{th}2}$	4.5 / 31						$^\circ\text{C/W}$
19	Thermal time constant	τ_{w1} / τ_{w2}	2.4 / 300						s
20	Operating temperature range:								
	- motor		- 30 to +85 (- 22 to +185)						$^\circ\text{C} (^\circ\text{F})$
	- rotor, max. permissible		+125 (+257)						$^\circ\text{C} (^\circ\text{F})$
	Note: Special operating temperature models for		-55 $^\circ\text{C}$ to +125 $^\circ\text{C}$ (- 67 $^\circ\text{F}$ to +257 $^\circ\text{F}$) available on request.						
21	Shaft bearings		sintered bronze sleeves	ball bearings	ball bearings	ball bearings, preloaded			
22	Shaft load max.:			(optional)	(optional)	(optional)			
	- with shaft diameter		0.0591	0.0591	0.0591	0.0591		in	
	- radial at 3,000 rpm (0.12 in from bearing)		4.32	18	18	18		oz	
	- axial at 3,000 rpm		0.72	1.8	1.8	1.8		oz	
	- axial at standstill		72	36	36	36		oz	
23	Shaft play:								
	- radial	\leq	0.0012	0.0006	0.0006	0.0006		in	
	- axial	\leq	0.0079	0.0079	0.0079	0		in	
24	Housing material		steel, black coated						
25	Weight		0.74					oz	
26	Direction of rotation		clockwise, viewed from the front face						
Recommended values									
27	Speed up to	$n_e \text{ max.}$	10,000	10,000	10,000	10,000	10,000	10,000	rpm
28	Torque up to	$M_e \text{ max.}$	0.354	0.354	0.354	0.354	0.354	0.354	oz-in
29	Current up to (thermal limits)	$I_e \text{ max.}$	1.300	0.630	0.440	0.320	0.210	0.160	A



For notes on technical data refer to "Technical Information". Specifications subject to change without notice. MIM00104