DC-Micromotors

Graphite Commutation

16 Watt

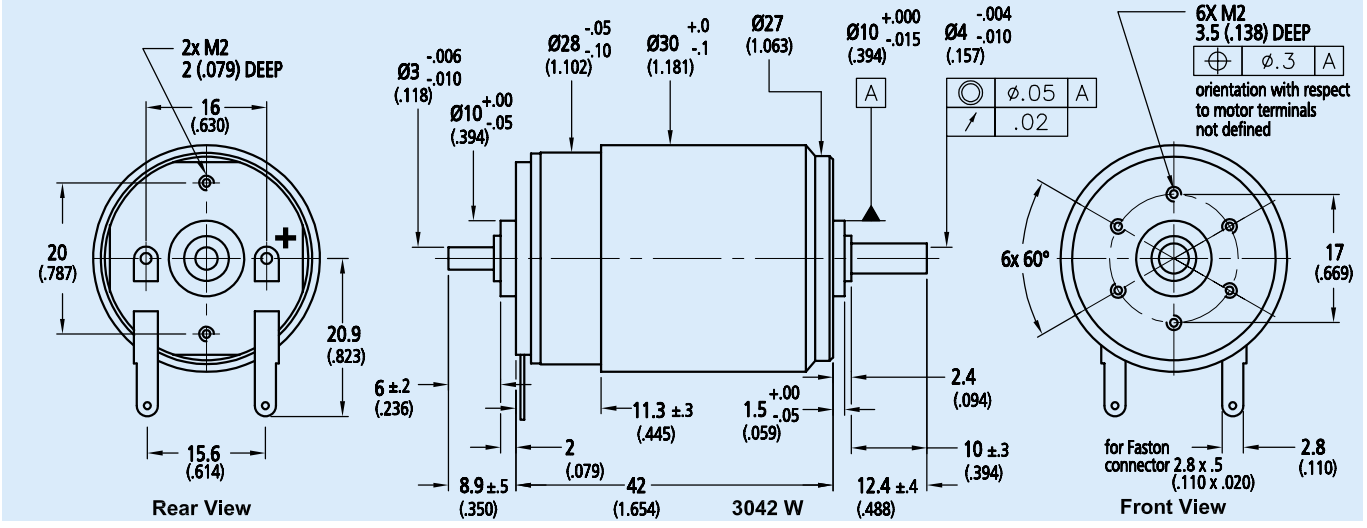
For combination with:
Gearheads: 30/1, 32PG, 38/1, 38/2
Encoders: HE, 5500, 5540

Series 3042 ... C

See beginning of the Motor Section for Ordering Information

		3042 W		006 C	012 C	018 C	024 C	036 C	
1	Nominal voltage	U_N		6	12	18	24	36	Volt
2	Terminal resistance	R	± 12%	0.6	1.7	3.8	6.8	14.0	Ω
3	Output power	$P_{2\ max.}$		14.5	20.6	20.7	20.6	22.5	W
4	Efficiency	$\eta_{max.}$		76	80	78	79	79	%
5	No-load speed	n_o	± 12%	5,100	5,400	5,600	5,700	5,500	rpm
6	No-load current (with shaft ø 0.16 in)	I_o	± 50%	0.180	0.093	0.070	0.050	0.035	A
7	Stall torque	M_H		15.29	20.68	19.97	19.54	22.09	oz-in
8	Friction torque	M_R		0.283	0.269	0.297	0.283	0.312	oz-in
9	Speed constant	k_n		866	456	316	241	155	rpm/V
10	Back-EMF constant	k_E		1.16	2.19	3.17	4.15	6.46	mV/rpm
11	Torque constant	k_M		1.558	2.960	4.277	5.608	8.737	oz-in/A
12	Current constant	k_I		0.642	0.338	0.234	0.178	0.114	A/oz-in
13	Slope of n-M curve	$\Delta n/\Delta M$		334	261	280	292	249	rpm/oz-in
14	Rotor inductance	L		44	165	360	620	1,450	µH
15	Mechanical time constant	τ_m		7	7	7	7	7	ms
16	Rotor inertia	J		$1.983 \cdot 10^{-4}$	$2.549 \cdot 10^{-4}$	$2.407 \cdot 10^{-4}$	$2.266 \cdot 10^{-4}$	$2.691 \cdot 10^{-4}$	oz-in-sec²
17	Angular acceleration	$\alpha_{max.}$		76	81	84	85	82	$\cdot 10^3$rad/s²
18	Thermal resistance	$R_{th\ 1}$ / $R_{th\ 2}$	3 / 14						°C/W
19	Thermal time constant	τ_{w1} / τ_{w2}	17.6 / 832						s
20	Operating temperature range:								
	– motor		– 30 to +125 (– 22 to +257)						°C (°F)
	– rotor, max. permissible		+125 (+257)						°C (°F)
21	Shaft bearings		ball bearings, preloaded						
22	Shaft load max.:								
	– with shaft diameter		0.157						in
	– radial at 3,000 rpm (0.12 in from bearing)		72						oz
	– axial at 3,000 rpm		7.2						oz
	– axial at standstill		72						oz
23	Shaft play:								
	– radial	≤	0.0006						in
	– axial	=	0						in
24	Housing material		steel, zinc galvanized and passivated						
25	Weight		5.51						oz
26	Direction of rotation		clockwise, viewed from the front face						
Recommended values									
27	Speed up to	$n_{e\ max.}$		5,000	5,000	5,000	5,000	5,000	rpm
28	Torque up to [1]	$M_{e\ max.}$		4.248	4.248	4.248	4.248	4.248	oz-in
29	Current up to (thermal limits)	$I_{e\ max.}$		2.650	1.550	1.050	0.790	0.550	A

[1] thermal resistance $R_{th\ 2}$ by 40% reduced



For notes on technical data refer to "Technical Information". Specifications subject to change without notice. MME0402