

DC-Micromotors

Graphite Commutation

10.5 Watt

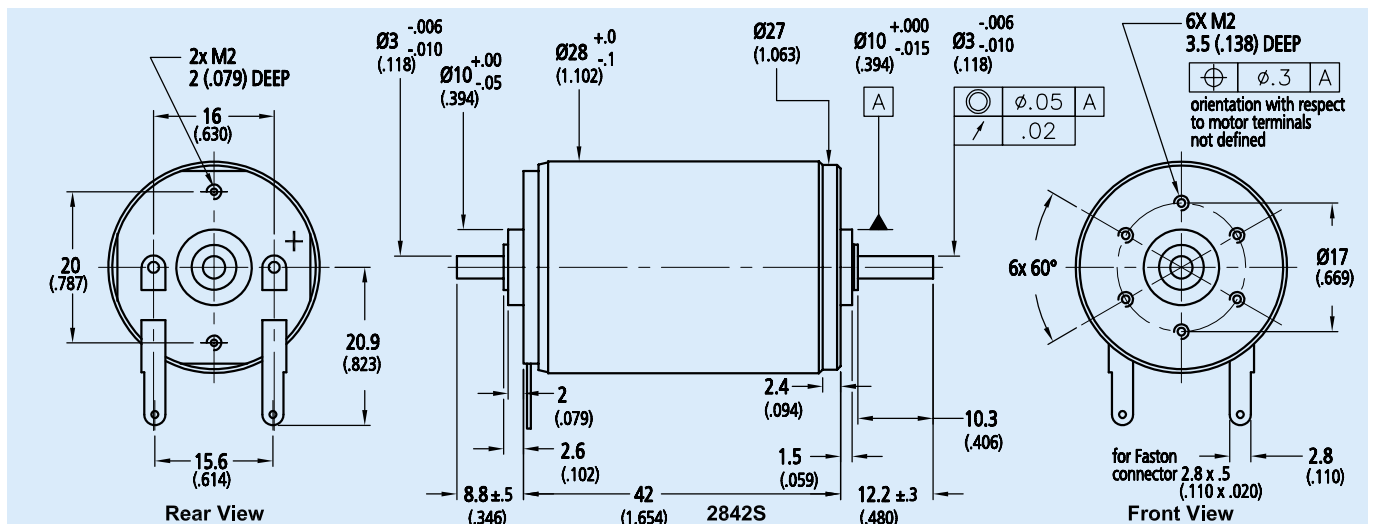
For combination with:
 Gearheads: 23/1, 26/1, 30/1, 32PG, 38/1, 38/2, 38/3
 Encoders: HE, 5500, 5540

Series 2842 ... C

See beginning of the Motor Section for Ordering Information

	2842 S	006 C	012 C	024 C	028 C	036 C		
1 Nominal voltage	U_N		6	12	24	28	36	Volt
2 Terminal resistance	R	$\pm 12\%$	1.6	5.3	21.0	28.5	46.0	Ω
3 Output power	$P_{2 \text{ max.}}$		5.33	6.50	6.56	6.57	6.74	W
4 Efficiency	$\eta_{\text{max.}}$		72	74	74	74	74	%
5 No-load speed	n_o	$\pm 12\%$	5,100	5,100	5,000	5,100	5,200	rpm
6 No-load current (with shaft \varnothing 0.12 in)	I_o	$\pm 50\%$	0.100	0.050	0.025	0.022	0.017	A
7 Stall torque	M_H		5.65	6.88	7.09	6.98	7.01	oz-in
8 Friction torque	M_R		0.156	0.156	0.156	0.156	0.156	oz-in
9 Speed constant	k_n		873	435	213	186	148	rpm/V
10 Back-EMF constant	k_E		1.150	2.300	4.700	5.370	6.770	mV/rpm
11 Torque constant	k_M		1.544	3.115	6.344	7.265	9.162	oz in /A
12 Current constant	k_I		0.648	0.321	0.158	0.138	0.109	A/oz-in
13 Slope of n-M curve	$\Delta n/\Delta M$		903	741	705	731	742	rpm/oz-in
14 Rotor inductance	L		145	580	2,500	3,200	5,000	μH
15 Mechanical time constant	τ_m		13	15	15	15	15	ms
16 Rotor inertia	J		$1.374 \cdot 10^{-4}$	$1.983 \cdot 10^{-4}$	$1.983 \cdot 10^{-4}$	$1.983 \cdot 10^{-4}$	$1.983 \cdot 10^{-4}$	oz-in-sec ²
17 Angular acceleration	$\alpha_{\text{max.}}$		41	36	35	36	36	$\cdot 10^3 \text{rad/s}^2$
18 Thermal resistance	R_{th1} / R_{th2}	2 / 16						$^{\circ}\text{C/W}$
19 Thermal time constant	τ_{w1} / τ_{w2}	8 / 831						s
20 Operating temperature range:								
- motor			- 30 to +125 (- 22 to +257)					$^{\circ}\text{C} (^{\circ}\text{F})$
- rotor, max. permissible			+125 (+257)					$^{\circ}\text{C} (^{\circ}\text{F})$
21 Shaft bearings			ball bearings, preloaded					
22 Shaft load max.:								
- with shaft diameter			0.1181					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	\leq		0.0006					in
- axial	$=$		0					in
24 Housing material			steel, zinc galvanized and passivated					
25 Weight			4.66					oz
26 Direction of rotation			clockwise, viewed from the front face					
Recommended values								
27 Speed up to	$n_{e \text{ max.}}$		5,000	5,000	5,000	5,000	5,000	rpm
28 Torque up to ¹⁾	$M_{e \text{ max.}}$		2.832	2.832	2.832	2.832	2.832	oz-in
29 Current up to (thermal limits)	$I_{e \text{ max.}}$		1.550	0.870	0.430	0.370	0.290	A

¹⁾ thermal resistance R_{th2} by 40% reduced



For notes on technical data refer to "Technical Information". Specifications subject to change without notice. MIME0402