

DC-Micromotors

1,5 mNm

Precious Metal Commutation

For combination with:
DC-Gearmotors: 2034

Series 2025 ... S

	2025 T	003 S	006 S	009 S	012 S	024 S	
1 Nominal voltage	U_N	3	6	9	12	24	Volt
2 Terminal resistance	R	1,3	9,0	12,0	27,0	102	Ω
3 Output power	$P_{2 \max.}$	1,69	0,96	1,64	1,29	1,35	W
4 Efficiency	$\eta_{\max.}$	79	76	79	76	74	%
5 No-load speed	n_o	8 600	7 500	10 600	9 200	11 400	rpm
6 No-load current (with shaft \varnothing 1,5 mm)	I_o	0,030	0,012	0,010	0,008	0,005	A
7 Stall torque	M_H	7,49	4,91	5,92	5,34	4,53	mNm
8 Friction torque	M_R	0,10	0,09	0,08	0,10	0,10	mNm
9 Speed constant	k_n	2 900	1 270	1 190	781	485	rpm/V
10 Back-EMF constant	k_E	0,344	0,786	0,838	1,280	2,060	mV/rpm
11 Torque constant	k_M	3,29	7,50	8,00	12,20	19,70	mNm/A
12 Current constant	k_I	0,304	0,133	0,125	0,082	0,051	A/mNm
13 Slope of n-M curve	$\Delta n/\Delta M$	1 150	1 530	1 790	1 720	2 520	rpm/mNm
14 Rotor inductance	L	50	350	350	700	2 000	μH
15 Mechanical time constant	τ_m	28	28	21	31	30	ms
16 Rotor inertia	J	2,30	1,80	1,10	1,70	1,10	gcm^2
17 Angular acceleration	$\alpha_{\max.}$	32	28	53	31	40	$\cdot 10^3 rad/s^2$
18 Thermal resistance	$R_{th 1} / R_{th 2}$	6 / 33					K/W
19 Thermal time constant	τ_{w1} / τ_{w2}	4 / 479					s
20 Operating temperature range:							
- motor		- 30 ... + 85 (optional - 55 ... + 125)					$^{\circ}C$
- rotor, max. permissible		+ 125					$^{\circ}C$
21 Shaft bearings		sintered bronze sleeves	ball bearings	ball bearings, preloaded			
22 Shaft load max.:		(standard)	(optional)	(optional)			
- with shaft diameter		1,5	2,0	2,0		mm	
- radial at 3000 rpm (3 mm from bearing)		1,2	8	8		N	
- axial at 3000 rpm		0,2	0,8	0,8		N	
- axial at standstill		20	10	10		N	
23 Shaft play:							
- radial	\leq	0,03	0,015	0,015		mm	
- axial	\leq	0,2	0,2	0		mm	
24 Housing material		steel, zinc galvanized and passivated					
25 Weight		42				g	
26 Direction of rotation		clockwise, viewed from the front face					
Recommended values							
27 Speed up to	$n_{e \max.}$	8 000	8 000	8 000	8 000	8 000	rpm
28 Torque up to	$M_{e \max.}$	1,5	1,5	1,5	1,5	1,5	mNm
29 Current up to (thermal limits)	$I_{e \max.}$	1,190	0,450	0,390	0,260	0,130	A

