

DC-Micromotors

0,8 mNm

Precious Metal Commutation

For combination with:
DC-Gearmotors: 2020

Series 2017 ... S

	2017 T	1,5 S	003 S	006 S	009 S	012 S	
1 Nominal voltage	U_N	1,5	3	6	9	12	Volt
2 Terminal resistance	R	0,65	5,0	18,0	50,0	86,0	Ω
3 Output power	$P_{2 \max.}$	0,80	0,39	0,44	0,34	0,36	W
4 Efficiency	$\eta_{\max.}$	68	57	60	56	56	%
5 No-load speed	n_o	13 200	14 600	12 200	13 000	12 700	rpm
6 No-load current (with shaft \varnothing 1,5 mm)	I_o	0,090	0,045	0,020	0,014	0,011	A
7 Stall torque	M_H	2,32	1,01	1,38	1,01	1,07	mNm
8 Friction torque	M_R	0,09	0,08	0,09	0,09	0,09	mNm
9 Speed constant	k_n	9 160	5 260	2 160	1 570	1 150	rpm/V
10 Back-EMF constant	k_E	0,109	0,190	0,462	0,638	0,870	mV/rpm
11 Torque constant	k_M	1,04	1,82	4,41	6,10	8,31	mNm/A
12 Current constant	k_I	0,959	0,551	0,227	0,164	0,120	A/mNm
13 Slope of n-M curve	$\Delta n/\Delta M$	5 690	14 500	8 840	12 900	11 900	rpm/mNm
14 Rotor inductance	L	18	60	300	500	1 000	μH
15 Mechanical time constant	τ_m	62	66	65	80	88	ms
16 Rotor inertia	J	1,00	0,44	0,70	0,59	0,71	gcm^2
17 Angular acceleration	$\alpha_{\max.}$	22	23	20	17	15	$\cdot 10^3 rad/s^2$
18 Thermal resistance	$R_{th 1} / R_{th 2}$	8 / 37					K/W
19 Thermal time constant	τ_{w1} / τ_{w2}	2,2 / 295					s
20 Operating temperature range:							
- motor		- 30 ... + 65 (optional - 55 ... + 125)					$^{\circ}C$
- rotor, max. permissible		+ 65 (optional + 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	1,5	1,5			mm
- radial at 3000 rpm (3 mm from bearing)		1,2	5	5			N
- axial at 3000 rpm		0,2	0,5	0,5			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		21					g
26 Direction of rotation		clockwise, viewed from the front face					
Recommended values							
27 Speed up to	$n_e \max.$	12 000	12 000	12 000	12 000	12 000	rpm
28 Torque up to ¹⁾	$M_e \max.$	0,8	0,8	0,8	0,8	0,8	mNm
29 Current up to (thermal limits)	$I_e \max.$	1,120	0,400	0,200	0,130	0,100	A

¹⁾ Only with option + 125 $^{\circ}C$

