

DC-Micromotors

Precious Metal Commutation

0,11 mNm

For combination with
Gearheads:
06/1
Encoders:
PA2-50, HXM3-64

Series 0615 ... S

	0615 N	1,5 S	003 S	4,5 S	
1 Nominal voltage	U_N	1,5	3,0	4,5	Volt
2 Terminal resistance	R	3,9	16,2	37,7	Ω
3 Output power	$P_2 \text{ max.}$	0,12	0,12	0,11	W
4 Efficiency	$\eta \text{ max.}$	52	50	48	%
5 No-load speed	n_o	19 100	20 200	20 000	rpm
6 No-load current (with shaft \varnothing 0,8 mm)	I_o	0,030	0,016	0,012	A
7 Stall torque	M_H	0,24	0,22	0,21	mNm
8 Friction torque	M_R	0,02	0,02	0,02	mNm
9 Speed constant	k_n	13 840	7 346	4 872	rpm/V
10 Back-EMF constant	k_E	0,072	0,136	0,205	mV/rpm
11 Torque constant	k_M	0,69	1,30	1,96	mNm/A
12 Current constant	k_I	1,449	0,769	0,510	A/mNm
13 Slope of n-M curve	$\Delta n/\Delta M$	78 224	91 538	93 713	rpm/mNm
14 Rotor inductance	L	12	39	95	μH
15 Mechanical time constant	τ_m	8	10	10	ms
16 Rotor inertia	J	0,01	0,01	0,01	gcm^2
17 Angular acceleration	$\alpha \text{ max.}$	244	221	213	$\cdot 10^3 \text{rad/s}^2$
18 Thermal resistance	R_{th1} / R_{th2}	35 / 76			K/W
19 Thermal time constant	τ_{w1} / τ_{w2}	2,6 / 110			s
20 Operating temperature range:					
- motor		- 30 ... + 85			$^{\circ}\text{C}$
- rotor, max. permissible		+ 85			$^{\circ}\text{C}$
21 Shaft bearings		sintered bronze sleeves			
22 Shaft load max.:					
- with shaft diameter		0,8			mm
- radial at 3 000 rpm (1,5 mm from bearing)		0,5			N
- axial at 3 000 rpm		0,1			N
- axial at standstill		20			N
23 Shaft play:					
- radial	\leq	0,03			mm
- axial	\leq	0,15			mm
24 Housing material		steel, black coated			
25 Weight		2			g
26 Direction of rotation		clockwise, viewed from the front face			
Recommended values - mathematically independent of each other					
27 Speed up to	$n_e \text{ max.}$	13 000	13 000	13 000	rpm
28 Torque up to	$M_e \text{ max.}$	0,11	0,11	0,11	mNm
29 Current up to (thermal limits)	$I_e \text{ max.}$	0,341	0,167	0,110	A

