

Micro Brushless DC-Motors

0,014 mNm

Electronic Commutation

For combination with
Gearheads:
03A
Drive Electronics:
BLD 05002 S, SC 1801 F

Series 0308 ... B

	0308 H	003 B	
Nominal voltage ¹⁾	U_N	3	Volt
Terminal resistance, phase-phase	R	33,8	Ω
Output power ¹⁾	$P_{2 \text{ max.}}$	6,3	mW
Efficiency	$\eta_{\text{ max.}}$	16,5	%
No-load speed	n_o	15 000	rpm
No-load current (with shaft \varnothing 0,6 mm)	I_o	0,047	A
Stall torque	M_H	0,017	mNm
Friction torque, static	C_o	0,017	mNm
Speed constant	k_n	25 758	rpm/V
Back-EMF constant	k_E	0,039	mV/rpm
Torque constant	k_M	0,371	mNm/A
Current constant	k_i	2,697	A/mNm
Slope of n-M curve	$\Delta n / \Delta M$	$2,3 \cdot 10^6$	rpm/mNm
Terminal inductance, phase-phase	L	65	μH
Mechanical time constant	τ_m	14	ms
Rotor inertia	J	$2 \cdot 10^{-4}$	gcm^2
Angular acceleration	$\alpha_{\text{ max.}}$	609	$\cdot 10^3 \text{ rad/s}^2$
Thermal resistance	$R_{\text{th} 1} / R_{\text{th} 2}$	29 / 186	K/W
Thermal time constant	τ_{w1} / τ_{w2}	2 / 20	s
Operating temperature range		- 20 ... + 60	$^{\circ}\text{C}$
Shaft bearings		jewel bearings	
Shaft load max.:			
- radial at 3 000 (1 mm from mounting flange)		0,2	N
- axial at 3 000 rpm (push-on only)		0,2	N
- axial at standstill (push-on only)		2	N
Shaft play:			
- radial	\leq	0,03	mm
- axial	\leq	0,15	mm
Housing material		Nickel alloy	
Weight		0,33	g
Direction of rotation		electronically reversible	
Recommended values - mathematically independent of each other			
Speed up to	$n_{e \text{ max.}}$	15 000	rpm
Torque up to ²⁾	$M_{e \text{ max.}}$	0,014	mNm
Current up to (thermal limits) ²⁾	$I_{e \text{ max.}}$	0,085	A

¹⁾ effective value of pure sinus voltage

²⁾ thermal resistance $R_{\text{th} 2}$ by 55% reduced

