

Brushless DC-Micromotors

0,023 mNm

sensorless
smoovy® Technology

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

Series 0308 ... B

	0308 H		003 B		
1 Nominal voltage	U_N		3		Volt
2 Terminal resistance, phase-phase	R		33,5		Ω
3 Output power ¹⁾	$P_{2 \text{ max.}}$		0,04		W
4 Efficiency	$\eta \text{ max.}$		16,94		%
5 No-load speed	n_0		60 500		rpm
6 No-load current (with shaft \varnothing 0,6 mm)	I_0		0,029		A
7 Stall torque	M_H		0,024		mNm
8 Friction torque, static	C_0		$1,77 \cdot 10^{-3}$		mNm
9 Friction torque, dynamic	C_v		$1,09 \cdot 10^{-7}$		mNm/rpm
10 Speed constant	k_n		33 043		rpm/V
11 Back-EMF constant	k_E		0,03		mV/rpm
12 Torque constant	k_M		0,289		mNm/A
13 Current constant	k_I		3,46		A/mNm
14 Slope of n-M curve	$\Delta n / \Delta M$		$3,8 \cdot 10^6$		rpm/mNm
15 Terminal inductance, phase-phase	L		60		μH
16 Mechanical time constant	τ_m		8		ms
17 Rotor inertia	J		$2 \cdot 10^{-4}$		gcm^2
18 Angular acceleration	$\alpha \text{ max.}$		1 200		$\cdot 10^3 \text{ rad/s}^2$
19 Thermal resistance	$R_{th 1} / R_{th 2}$	29 / 188			K/W
20 Thermal time constant	τ_{w1} / τ_{w2}	0,4 / 8			s
21 Operating temperature range		- 30 ... + 60			$^{\circ}\text{C}$
22 Shaft bearings		jewel bearings			
23 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
24 Shaft play:					
- radial	\leq	0,03			mm
- axial	\leq	0,15			mm
25 Housing material		Nickel alloy			
26 Weight		0,31			g
27 Direction of rotation		electronically reversible			
Recommended values - mathematically independent of each other					
28 Speed up to ²⁾	$n_e \text{ max.}$		84 000		rpm
29 Torque up to ^{1) 2)}	$M_e \text{ max.}$		0,023		mNm
30 Current up to (thermal limits) ^{1) 2)}	$I_e \text{ max.}$		0,1		A

¹⁾ at 15 000 rpm

²⁾ thermal resistance $R_{th 2}$ not reduced

