

Thin Profile DC-Micromotors

with flat ironless rotor

0,3 mNm

Series 1506 ... SR

	1506 N	003 SR	006 SR	012 SR	
Nominal voltage	U _N	3	6	12	Volt
Terminal resistance	R	13,5	54,7	155	Ω
Output power	P _{2 max.}	0,15	0,15	0,22	W
Efficiency	η _{max.}	62	63	67	%
No-load speed	n _o	11 100	11 800	12 800	rpm
No-load current (with shaft ø 0,8 mm)	I _o	0,010	0,005	0,003	A
Stall torque	M _H	0,52	0,49	0,64	mNm
Friction torque	M _R	0,02	0,02	0,02	mNm
Speed constant	k _n	3 884	2 053	1 107	rpm/V
Back-EMF constant	k _E	0,257	0,487	0,903	mV/rpm
Torque constant	k _M	2,46	4,65	8,63	mNm/A
Current constant	k _I	0,407	0,215	0,116	A/mNm
Slope of n-M curve	Δn/ΔM	21 333	24 135	19 947	rpm/mNm
Rotor inductance	L	275	1 157	3 550	μH
Mechanical time constant	τ _m	17	19	16	ms
Rotor inertia	J	0,08	0,08	0,08	gcm ²
Angular acceleration	α _{max.}	68	63	83	·10 ³ rad/s ²
Thermal resistance	R _{th 1} / R _{th 2}	25 / 35			K/W
Thermal time constant	τ _{w1} / τ _{w2}	4,5 / 48,4			s
Operating temperature range:					
– motor		– 30 ... + 80			°C
– rotor, max. permissible		+ 85			°C
Shaft bearings					
sintered sleeves bearings					
Shaft load max.:					
– with shaft diameter		0,8			mm
– radial at 3000 rpm (3 mm from bearing)		0,5			N
– axial at 3000 rpm		0,1			N
– axial at standstill		10			N
Shaft play:					
– radial	≤	0,03			mm
– axial	≤	0,2			mm
Housing material					
plastic					
Weight					
4,3					
g					
Direction of rotation					
clockwise, viewed from the front face					
Recommended values - mathematically independent of each other					
Speed up to	n _{e max.}	10 000	10 000	10 000	rpm
Torque up to	M _{e max.}	0,3	0,3	0,3	mNm
Current up to (thermal limits)	I _{e max.}	0,122	0,064	0,035	A

