

# Thin Profile DC-Micromotors

with flat ironless rotor

3 mNm

## Series 2607 ... SR

	2607 T	003 SR	006 SR	012 SR	024 SR	
Nominal voltage	$U_N$	3	6	12	24	Volt
Terminal resistance	$R$	1,9	8,2	36,5	128	$\Omega$
Output power	$P_{2 \text{ max.}}$	1,16	1,08	0,97	1,1	W
Efficiency	$\eta_{\text{ max.}}$	80	81	80	81	%
No-load speed	$n_o$	6 300	6 600	5 900	6 200	rpm
No-load current (with shaft $\varnothing$ 1,5 mm)	$I_o$	0,017	0,007	0,004	0,002	A
Stall torque	$M_H$	7,01	6,26	6,21	6,77	mNm
Friction torque	$M_R$	0,08	0,06	0,07	0,07	mNm
Speed constant	$k_n$	2 129	1 111	500	261	rpm/V
Back-EMF constant	$k_E$	0,47	0,9	2	3,83	mV/rpm
Torque constant	$k_M$	4,49	8,59	19,09	36,54	mNm/A
Current constant	$k_i$	0,223	0,116	0,052	0,027	A/mNm
Slope of n-M curve	$\Delta n/\Delta M$	902	1 055	957	917	rpm/mNm
Rotor inductance	$L$	120	465	2 200	8 400	$\mu\text{H}$
Mechanical time constant	$\tau_m$	6,4	7,5	6,8	6,5	ms
Rotor inertia	$J$	0,68	0,68	0,68	0,68	$\text{gcm}^2$
Angular acceleration	$\alpha_{\text{ max.}}$	103	92	92	100	$\cdot 10^3 \text{ rad/s}^2$
Thermal resistance	$R_{\text{th} 1} / R_{\text{th} 2}$	2,7 / 24,45				K/W
Thermal time constant	$\tau_{w1} / \tau_{w2}$	1,8 / 163				s
Operating temperature range:						
– motor		– 30 ... + 80				$^{\circ}\text{C}$
– rotor, max. permissible		+100				$^{\circ}\text{C}$
Shaft bearings		sintered sleeves bearings	ball bearings			
Shaft load max.:		(standard)	(optional)			
– with shaft diameter		1,5	1,5			mm
– radial at 3000 rpm (3 mm from bearing)		1,2	5			N
– axial at 3000 rpm		0,2	0,5			N
– axial at standstill		20	10			N
Shaft play:						
– radial	$\leq$	0,03	0,015			mm
– axial	$\leq$	0,2	0,2			mm
Housing material		plastic				
Weight		16,1				g
Direction of rotation		clockwise, viewed from the front face				
<b>Recommended values - mathematically independent of each other</b>						
Speed up to	$n_{e \text{ max.}}$	5 500	5 500	5 500	5 500	rpm
Torque up to	$M_{e \text{ max.}}$	3	3	3	3	mNm
Current up to (thermal limits)	$I_{e \text{ max.}}$	0,669	0,348	0,156	0,081	A

