

maxon motor

415-8556.

NOMINAL VALUES AND TOLERANCE LIMITS

Motor type: 203889 /
RE-max d13, metal brushes CLL, 1.2W, sleeve bearing, 1 shaft

Applied voltage : 6.00 [V]
Rotor temperature: 25.0 [°C]

	MAX	NOMINAL	MIN		
R	: 12.13	11.32	10.52	[Ohm]	terminal resistance at IH
RUEA	: 0.06	0.05	0.04	[Ohm]	brush contact resistance
L	: 231.9	193.3	154.6	[µH]	terminal inductance
kM	: 5.48	5.08	4.67	[mNm/A]	torque constant
kn	: 2044	1881	1741	[rpm/V]	speed constant
JR	: 0.3	0.3	0.3	[gcm ²]	rotor inertia
Tm	: 15.4	12.7	10.5	[ms]	mech. time constant
TthW	:	5.0		[s]	therm. time constant winding
dn/dM	: 5305.85	4193.96	3341.09	[rpm/mNm]	speed-torque gradient
ni	: 12264	11283	10447	[rpm]	ideal no load speed
aMax	: 119851	92805	72487	[rad/s ²]	max. angular acceleration
IH	: 570	530	495	[mA]	starting current
MIH	: 3.1	2.7	2.3	[mNm]	ideal stall torque
n0	: 12093	11061	10188	[rpm]	no load speed
IO	: 15.7	10.4	6.2	[mA]	no load current
	14.2			[mA]	no load current statistical
MVA	: 0.033	0.025	0.017	[mNm]	fictive starting friction torque
C5	: 3.4E-006	2.6E-006	1.7E-006	[mNm/rpm]	dynamical friction torque
MR	: 0.073	0.053	0.034	[mNm]	no load friction torque
nMax	:	19000		[rpm]	max. permissible speed
PVMax	:	976		[mW]	max. continuous power loss 25 °C TU
IMax	:	264		[mA]	max. continuous current 25 °C TU
MZul	:	1.342		[mNm]	max. continuous torque 25 °C TU
TWMax	:	85		[°C]	max. rotor temperature
Rth1	:	14.00		[K/W]	thermal resistance winding-housing
Rth2	:	47.50		[K/W]	thermal resistance housing-ambient
P2Max	:	772		[mW]	max. output power
MP2Max	:	1.33		[mNm]	torque at P2Max
nP2Max	:	5531		[rpm]	speed at P2Max
IP2Max	:	270		[mA]	current at P2Max
EtaP2Max	:	47.6		[%]	efficiency at P2Max
EtaMax	:	74.7		[%]	max. efficiency
PEtaMax	:	333		[mW]	power at EtaMax
MEtaMax	:	0.33		[mNm]	torque at EtaMax
nEtaMax	:	9700		[rpm]	speed at EtaMax
IEtaMax	:	74		[mA]	current at EtaMax

RCu ± 7% RUE ± 25% L ± 20% BL ± 8% JR ± 10% MR ± 33%