

maxon motor

415-8568

NOMINAL VALUES AND
TOLERANCE LIMITS

Motor type: 203892 /

RE-max d13, metal brushes CLL, 1.2W, sleeve bearing, 1 shaft

Applied voltage : 12.00 [V]

Rotor temperature: 25.0 [°C]

| | MAX | NOMINAL | MIN | | |
|----------|------------|----------|----------|-----------------------|-------------------------------------|
| R | : 34.91 | 32.62 | 30.33 | [Ohm] | terminal resistance at IH |
| RUEA | : 0.06 | 0.05 | 0.04 | [Ohm] | brush contact resistance |
| L | : 630.8 | 525.6 | 420.5 | [µH] | terminal inductance |
| km | : 9.04 | 8.37 | 7.70 | [mNm/A] | torque constant |
| kn | : 1239 | 1140 | 1056 | [rpm/V] | speed constant |
| JR | : 0.3 | 0.3 | 0.2 | [gcm ²] | rotor inertia |
| Tm | : 15.5 | 12.8 | 10.6 | [ms] | mech. time constant |
| TthW | : | 5.0 | | [s] | therm. time constant winding |
| dn/dM | : 5616.98 | 4442.05 | 3540.70 | [rpm/mNm] | speed-torque gradient |
| ni | : 14874 | 13684 | 12670 | [rpm] | ideal no load speed |
| aMax | : 144297 | 111797 | 87363 | [rad/s ²] | max. angular acceleration |
| IH | : 396 | 368 | 344 | [mA] | starting current |
| MIH | : 3.6 | 3.1 | 2.6 | [mNm] | ideal stall torque |
| n0 | : 14671 | 13422 | 12365 | [rpm] | no load speed |
| IO | : 10.6 | 7.0 | 4.2 | [mA] | no load current |
| | | 9.6 | | [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 | : 0.082 | 0.059 | 0.038 | [mNm] | no load friction torque |
| nMax | : | 19000 | | [rpm] | max. permissible speed |
| PVMax | : | 976 | | [mW] | max. continuous power loss 25 °C TU |
| IMax | : | 156 | | [mA] | max. continuous current 25 °C TU |
| MZul | : | 1.304 | | [mNm] | max. continuopus 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 | : | 1074 | | [mW] | max. output power |
| MP2Max | : | 1.53 | | [mNm] | torque at P2Max |
| nP2Max | : | 6711 | | [rpm] | speed at P2Max |
| IP2Max | : | 187 | | [mA] | current at P2Max |
| EtaP2Max | : | 47.7 | | [%] | efficiency at P2Max |
| EtaMax | : | 75.1 | | [%] | max. efficiency |
| PEtaMax | : | 459 | | [mW] | power at EtaMax |
| MEtaMax | : | 0.37 | | [mNm] | torque at EtaMax |
| nEtaMax | : | 11791 | | [rpm] | speed at EtaMax |
| IEtaMax | : | 51 | | [mA] | current at EtaMax |

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