Toroid Line Chokes (TLC)

FASTRON's Toroid Line Chokes offer a wide range of inductance values from 10µH to 1mH. Offering seven series, able to carry currents from 0.1A up to 10A. The core material is an iron-powder mixture optimized for high saturation currents. The copper wire current density is approximately 6.5A/mm2. FASTRON's TLCs are offered as vertical mounted versions for THT assembly only. Customized lead-forming is available upon request.

Applications

Switched mode power supplies and control units, EMI/RFI- suppression and filtering, line-filters, and output-chokes.

Technical Data

L – Value (rated inductance)	Measured with HP 4194A Impedance / Gain-phase Analyzer or equivalent at frequency f_L
DCR (max)	Measured at 25 °C
Rated DC Current	Isat, based on the Inductance Losses (Lo/L Load) where the Inductance decrease 30% max.
DC Isolation	Winding to core 1000Volt
Operating Temperature	-55°C to 115°C (including component self-heating)
Leads	Leadfree tinned, RoHS
Recommended Soldering Method	Wave
Moisture Sensitivity Levels (MSL)	MSL Level 1, indicating unlimited floor life at ≤ 30°C / 85% relative humidity
Solderability	Using lead free solder (Sn 99.9) at 260°C ± 5°C for 5 ± 0.5 seconds, min 90% solder coverage of metallization Standard: IEC 68-2-20 (Ta)
Resistance to Soldering Heat	Resistant to 260°C ± 5°C for 10 ± 1 seconds Standard: IEC 68-2-20 (Tb)
Resistance to Solvent	Resistant to isopropyl alcohol for 5 ± 0.5 minutes at 23°C ± 5°C Standard: IEC 68-2-45
Climatic Test	Defined by the following standards IEC 68-2-1 for cold test: -55°C for 96 hours IEC 68-2-2 for dry heat test: +125°C for 96 hours IEC 60068-2-78 for humidity test: 40°C at RH 95% for 4 days
Thermal Shock Test	Temperature cycle: -55°C to +125°C to -55°C Max/Min temperature duration: 15 minutes Temperature transition duration: 5 minutes Cycles: 25 Standard: MIL-STD-202G

Ordering Code

Example: **TLC/10A-102M-00**

TLC/10A - **102** - **M** - **00**
(Model/Current, I_R) (Inductance Value) (Tolerance) (Packaging Code)

Core Type - Iron dust
Tolerances - M (20%)
Packaging Code - 00 (Loose in box)

FASTRON's Component Key Characteristics

Approved according to AEC-Q200

Approved according to AEC-Q200 with High Temperature

Suitable for High Temperature

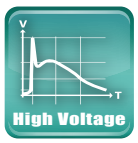
Part is RoHS conform and Halogen free

Mechanical Shock and Vibration Proof

Designed for High Q-values

Exceptionally High Q-values

Optimized for High Currents

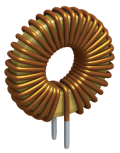


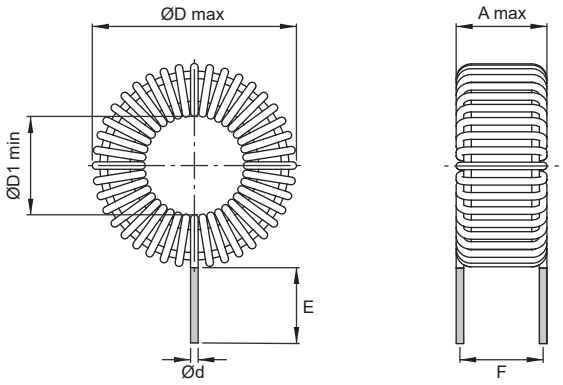
Optimized for High Voltages

TLC/2.5A

85°C AEC-Q200

RoHS Halogen Free





Part No	Inductance (fL = 1 kHz) At Idc=0A (µH)	Inductance (fL = 1 kHz) At rated current (µH)	Tol ± (%)	DCR max (mΩ)	Weight (grams)	Dimensions ØD max	Dimensions F	Dimensions A max	Dimensions E	Dimensions Ød	Dimensions ØD1 min	SPQ: Loose / Box
TLC/2.5A-100M-00	10	9.2	20	14.5	6.2	21	6.5	7.5	10	0.71	6.5	1000
TLC/2.5A-150M-00	15	13.2	20	19	6.7	21	6.5	7.5	10	0.71	6.5	1000
TLC/2.5A-220M-00	22	19.7	20	24.5	10.2	24	8.5	9.5	10	0.71	9	750
TLC/2.5A-330M-00	33	28.2	20	30	10.6	24	8.5	9.5	10	0.71	9	750
TLC/2.5A-470M-00	47	38.3	20	36	11	24	8.5	9.5	10	0.71	9	750
TLC/2.5A-680M-00	68	51.9	20	43.5	11.6	24	8.5	9.5	10	0.71	9	750
TLC/2.5A-101M-00	100	86	20	60	34	31	13	14	10	0.71	10.5	280
TLC/2.5A-151M-00	150	122.4	20	74	35	31	13	14	10	0.71	10.5	280
TLC/2.5A-221M-00	220	167.2	20	90	36.5	31	13	14	10	0.71	10.5	280
TLC/2.5A-331M-00	330	250	20	120	49.5	36.5	13	14	10	0.71	16	150
TLC/2.5A-471M-00	470	372	20	160	87	45	18	19	15	0.71	20	120
TLC/2.5A-681M-00	680	501	20	190	90	45	18	19	15	0.71	20	120
TLC/2.5A-102M-00	1000	786	20	230	170	51	21	22	15	0.71	20	75

Core Material: Iron dust

Revision date: 26 Aug 2016

Remarks: Customized versions available upon request.

● All dimensions in mm