

Toroid Line Chokes (TLC)

FASTRON's Toroid Line Chokes offer a wide range of inductance values from 10 μ H 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 $\leq 30^\circ\text{C}$ / 85% relative humidity
Solderability	Using lead free solder (Sn 99.9) at $260^\circ\text{C} \pm 5^\circ\text{C}$ for 5 ± 0.5 seconds, min 90% solder coverage of metallization Standard: IEC 68-2-20 (Ta)
Resistance to Soldering Heat	Resistant to $260^\circ\text{C} \pm 5^\circ\text{C}$ for 10 ± 1 seconds Standard: IEC 68-2-20 (Tb)
Resistance to Solvent	Resistant to isopropyl alcohol for 5 ± 0.5 minutes at $23^\circ\text{C} \pm 5^\circ\text{C}$ 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: $+125^\circ\text{C}$ 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 $+125^\circ\text{C}$ 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

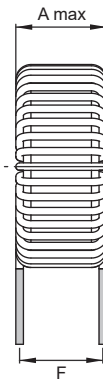
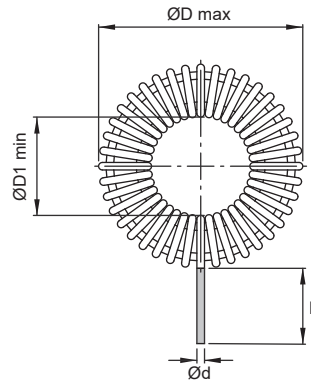


Optimized for High Currents



Optimized for High Voltages

TLC/0.5A



Part No	Inductance (fL = 1 kHz)		Tol ± (%)	DCR max (mΩ)	Weight (grams)	Dimensions					SPQ: Loose / Box	
	At Idc=0A (μH)	At rated current (μH)				ØD max	F	A max	E	Ød		ØD1 min
TLC/0.5A-100M-00	10	9.9	20	75	2.8	14.5	5.5	6.5	10	0.32	5	1500
TLC/0.5A-150M-00	15	14.8	20	100	2.9	14.5	5.5	6.5	10	0.32	5	1500
TLC/0.5A-220M-00	22	21.5	20	120	2.9	14.5	5.5	6.5	10	0.32	5	1500
TLC/0.5A-330M-00	33	32	20	145	3	14.5	5.5	6.5	10	0.32	5	1500
TLC/0.5A-470M-00	47	45	20	170	3	15	6	7	10	0.32	5	1500
TLC/0.5A-680M-00	68	64.2	20	210	3.1	15	6	7	10	0.32	5	1500
TLC/0.5A-101M-00	100	92.5	20	220	3.2	15	6	7	10	0.32	5	1500
TLC/0.5A-151M-00	150	134.2	20	300	3.4	15	6	7	10	0.32	5	1500
TLC/0.5A-221M-00	220	203.7	20	340	6.1	19.5	6	7	10	0.32	7	1000
TLC/0.5A-331M-00	330	296.7	20	440	6.4	19.5	6	7	10	0.32	7	1000
TLC/0.5A-471M-00	470	426.3	20	510	10	22.5	7.5	8.5	10	0.32	10	750
TLC/0.5A-681M-00	680	595.7	20	700	10.3	22.5	7.5	8.5	10	0.32	10	750
TLC/0.5A-102M-00	1000	836	20	786	10.8	23	7.5	8.5	10	0.32	10	750

Core Material: Iron dust

Revision date: 08 Sept 2016

Remarks: Customized versions available upon request.

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