

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 <sub>L</sub>
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<sub>R</sub>) (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



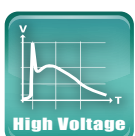
Designed for High Q-values



Exceptionally High Q-values

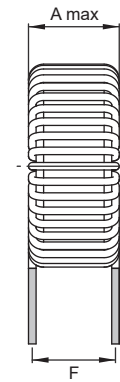
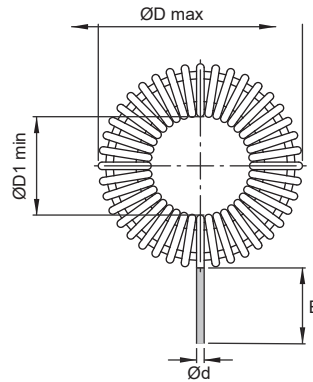


Optimized for High Currents



Optimized for High Voltages

**TLC/1A**



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/1A-100M-00	10	9.6	20	38	3	15	6	6.5	10	0.45	5	1500
TLC/1A-150M-00	15	14.2	20	48	3.2	15.5	6	7	10	0.45	5	1500
TLC/1A-220M-00	22	20.5	20	57	3.3	15.5	6	7	10	0.45	5	1500
TLC/1A-330M-00	33	29.8	20	70	3.4	15.5	6	7	10	0.45	5	1500
TLC/1A-470M-00	47	41.1	20	78	3.5	15.5	6	7	10	0.45	5	1500
TLC/1A-680M-00	68	61.9	20	96	6.2	20	6	7	10	0.45	7	1000
TLC/1A-101M-00	100	88.2	20	115	6.5	20	6	7	10	0.45	7	1000
TLC/1A-151M-00	150	133.2	20	158	10.3	23	8.5	9.5	10	0.45	9.5	750
TLC/1A-221M-00	220	187.4	20	192	10.6	23	8.5	9.5	10	0.45	9.5	750
TLC/1A-331M-00	330	264.7	20	236	11.2	23	8.5	9.5	10	0.45	9.5	750
TLC/1A-471M-00	470	417.4	20	325	33.3	31	13	14	10	0.45	11	280
TLC/1A-681M-00	680	579.4	20	393	34	31	13	14	10	0.45	11	280
TLC/1A-102M-00	1000	807	20	430	35	31	13	14	10	0.45	11	280

**Core Material:** Iron dust

Revision date: 26 Aug 2016

**Remarks:** Customized versions available upon request.