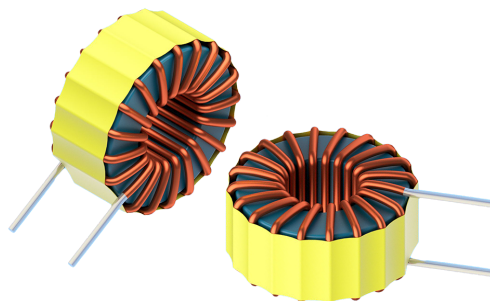


ITP Series

High Current Toroidal Inductors



FEATURES

- Inductance Range: 10μH to 1000μH
- Operating Temperature: -40°C to +105°C
- Current Rating: Up to 20A
- High Current Handling
- Low Loss Self Shielding Design
- Soft Roll-Off Reduces Risk of Saturation

APPLICATIONS

- DC/DC Converters
- EMI Filters
- Energy Storage Inductor

Part Number	L @ 0A ³	I _{DC} ⁴	L @ I _{DC} ³	DCR	K Factor *	Dim A	Dim B
	(μH, +/-15%)	(A)	(μH, +/-15%)	(Ω, Max.)		mm, Nom.	mm, Nom.
ITP-0010-020-V	10	20.0	6.7	0.005	1.94	14.22	1.68
ITP-0012-019-V	12	19.1	7.8	0.005	2.13	14.22	1.68
ITP-0015-018-V	15	18.0	9.5	0.006	2.52	14.22	1.68
ITP-0018-017-V	18	17.2	11.1	0.006	2.71	14.22	1.68
ITP-0022-016-V	22	16.4	13.2	0.007	2.90	14.22	1.68
ITP-0027-016-V	27	15.6	15.7	0.008	3.29	14.22	1.68
ITP-0033-012-V	33	11.7	21.3	0.013	3.68	13.46	1.35
ITP-0039-011-V	39	11.2	24.7	0.014	3.87	13.46	1.35
ITP-0047-011-V	47	10.7	29.0	0.016	4.26	13.46	1.35
ITP-0056-010-V	56	10.2	33.7	0.017	4.65	13.46	1.35
ITP-0068-008-V	68	7.7	45.2	0.030	5.23	13.21	1.07
ITP-0100-007-V	100	7.0	63.1	0.037	6.20	13.21	1.07
ITP-0120-007-V	120	6.7	73.9	0.040	6.97	13.21	1.07
ITP-0150-005-V	150	5.0	101.4	0.071	7.74	12.95	0.86
ITP-0180-005-V	180	4.8	118.9	0.078	8.52	12.95	0.86
ITP-0220-006-V	220	5.8	123.8	0.054	9.29	14.22	1.07
ITP-0270-006-V	270	5.5	147.2	0.060	10.30	14.22	1.07
ITP-0330-005-V	330	5.2	174.1	0.067	11.40	14.22	1.07
ITP-0390-005-V	390	5.0	200.2	0.072	12.40	14.22	1.07
ITP-0470-004-V	470	3.8	271.4	0.130	13.60	13.72	0.86
ITP-0560-004-V	560	3.6	314.8	0.140	14.90	13.72	0.86
ITP-0680-003-V	680	3.4	370.7	0.150	16.50	13.72	0.86
ITP-0820-003-V	820	2.6	500.9	0.270	18.00	13.46	0.69
ITP-1000-002-V	1000	2.4	593.6	0.300	19.90	13.46	0.69

*DC Bias Inductance Calculation:

$$\%L = \frac{0.95}{0.01 + 4.657 \times 10^{-6} (K \cdot I_{DC})^{1.84}}$$

Specifications subject to change without prior notice.

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Mechanical Drawing	Recommended PCB Layout
ITP-XXX-XXX-V YYWW 32.5 Max. 16.5 Max 12.7 Lead Length 1.6 Max Leads tinned to within 1.6mm Above the mounting plane. Notes: All dimensions are in mm. For Horizontal mounting options, please contact ICE.	B + 0.20 Drill Ø A
Schematic	
S F L	

General Data			
Ambient Operating Temperature ²	-40°C to +105°C	Flammability	UL-94 V-0
Ambient Storage Temperature	-40°C to +105°C	Certification(s)	RoHS, REACH

- All electrical specifications @ 25°C**
- Operating Temperature Range:** The combination of ambient temperature and temperature rise.
- Inductance:** Tested at 10kHz, 30 - 301 mV_{RMS}, Series
- I_{DC}:** Current to cause 30°C max temperature rise.

Reliability Testing	
<u>ICE Reliability Tests:</u> Dry Heat Test, Low Temp Test, Damp Heat Test, High Temp Operating Life Test, Thermal Shock, Solderability and Resistance to Soldering Heat Test	Pass

Wave Soldering Profile (Lead-Free)	
Max. Preheat Ramp Rate	1 - 4 °C/sec
Max. Preheat Temperature (T2)	80 -140 °C
Bottom Side Contact Time	< 9 sec
Cooling Rate	< 6 °C/sec
Time from T1 to T2	60 - 180 sec
Ambient Temperature (T1)	25 - 40 °C
Peak Wave Temperature (T3)	270 ± 5°C

Temperature (°C)

Time (s)

T3

T2

T1

Preheat

First Wave

Second Wave

< 9s

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Packaging Info		Design Files	
Pieces per Box	30	AutoCAD 3D Model	LTSpice Model
Boxes per Carton	12	EagleCAD Model	PSpice Model
Pieces per Carton	360	Cadence Files	SPICE Parameters
		Altium Files	

REFERENCE(S):

Series Page: <https://www.icecomponents.com/product/itp-series/>