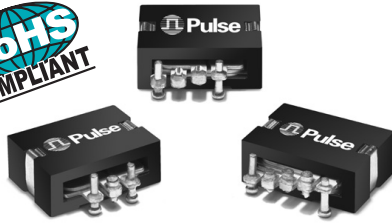


SMT POWER INDUCTORS

Military/Aerospace Grade



- Height:** 7.4mm Max
- Footprint:** 19.8mm x 19.6mm Max
- Current Rating:** up to 73A
- Inductance Range:** .405μH to 6.2μH

Electrical Specifications @ 25°C — Operating Temperature -40°C to +130°C⁸

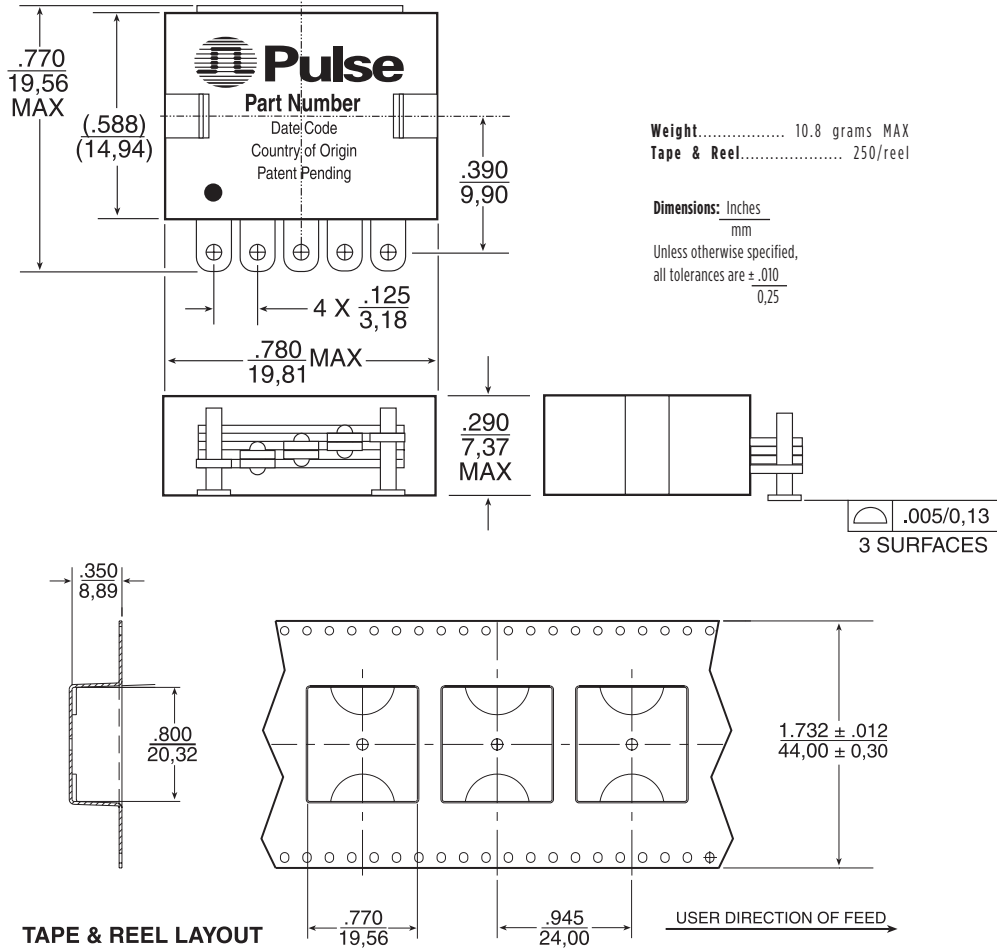
Part Number ^{5,7}	Inductance @ Irated (μH ±15%)	Irated ¹ (A _{DC})	DCR (mΩ)		Inductance @ 0 A _{DC} (μH ±15%)	Saturation Current ²		Heating ³ Current (A)
			TYP	MAX		25°C	100°C	
2-TURN (Low - Loss) SERIES								
PL10100	0.45	73	.38	.48	0.45	95	80	73
PL10101	0.63	54	.38	.48	0.65	63	53	73
PL10102	0.85	39	.38	.48	0.91	46	37	73
PL10103	1.05	30	.38	.48	1.10	35	30	73
PL10104	1.25	25	.38	.48	1.30	29	26	73
PL10105	1.45	21	.38	.48	1.50	24	22	73
2-TURN SERIES								
PL10106	0.45	52	.78	.98	0.45	95	80	52
PL10107	0.63	52	.78	.98	0.65	63	53	52
PL10108	0.85	39	.78	.98	0.91	46	37	52
PL10109	1.05	30	.78	.98	1.10	35	30	52
PL10110	1.25	25	.78	.98	1.30	29	26	52
PL10111	1.45	21	.78	.98	1.50	24	22	52
3-TURN SERIES								
PL10112	0.95	42	1.15	1.43	1.0	68	54	42
PL10113	1.40	36	1.15	1.43	1.5	43	35	42
PL10114	1.90	25	1.15	1.43	2.0	29	25	42
PL10115	2.40	20	1.15	1.43	2.5	23	21	42
PL10116	2.80	15	1.15	1.43	3.0	18	16	42
PL10117	3.40	12	1.15	1.43	3.5	15	13	42
4-TURN SERIES								
PL10118	1.60	37	1.44	1.80	1.60	55	43	37
PL10119	2.40	30	1.44	1.80	2.42	35	27	37
PL10120	3.30	17	1.44	1.80	3.60	20	18	37
PL10121	4.00	14	1.44	1.80	4.40	16	15	37
PL10122	4.90	11	1.44	1.80	5.34	13	12	37
PL10123	5.80	9	1.44	1.80	6.20	11	10	37

NOTES:

- The rated current as listed is either 85% of the saturation current or the heating current, depending on which value is lower.
- The saturation current is the current which causes the inductance to drop by 15% at the stated ambient temperatures (25°C and 100°C). This current is determined by placing the component in the specified ambient environment and applying a short duration pulse current (to eliminate self-heating effects) to the component.
- The heating current is the DC current which causes the temperature of the part to increase by approximately 45°C. This current is determined by mounting the component on a PCB with .25" wide, 2 oz. equivalent copper traces, and applying the current to the device for 30 minutes with no forced air cooling.
- In high volt*time applications, additional heating in the component can occur due to core losses in the inductor which may necessitate derating the current in order to limit the temperature rise of the component. In order to determine the approximate total losses (or temperature rise) for a given application, the total copper and core losses should be taken into account. For approximate value of core losses, in a given application, use the core loss graph on page 24.
- Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the part number (i.e. PL10118 becomes PL10118T). Pulse complies to industry standard tape and reel specification EIA481.
- Meets solderability test per IPC/EIA J-STD-002B using flux type ORLO.
- The temperature of the component (ambient plus temperature rise) must be within the stated operating temperature range.

Mechanical

PL101XX

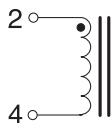
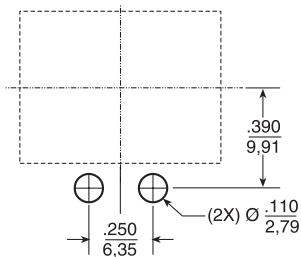


Suggested Pad Layouts and Schematics

PL101XX

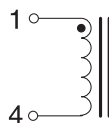
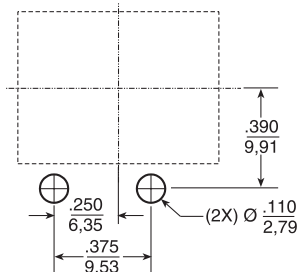
PL10100 - PL10111

.405 to 1.50 μ H
21 to 73 Adc



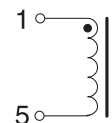
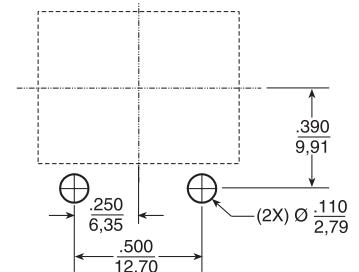
PL10112 - PL10117

1.00 to 3.40 μ H
12 to 42 Adc



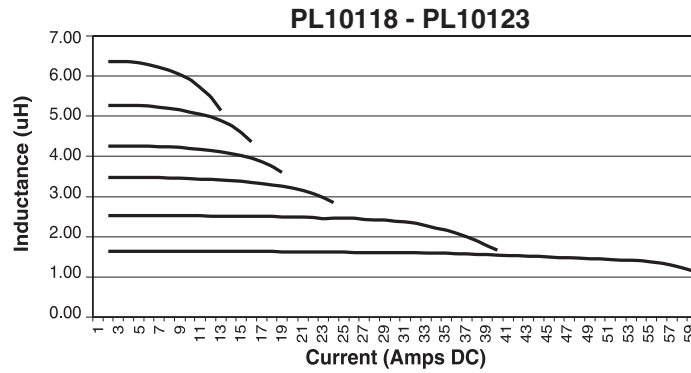
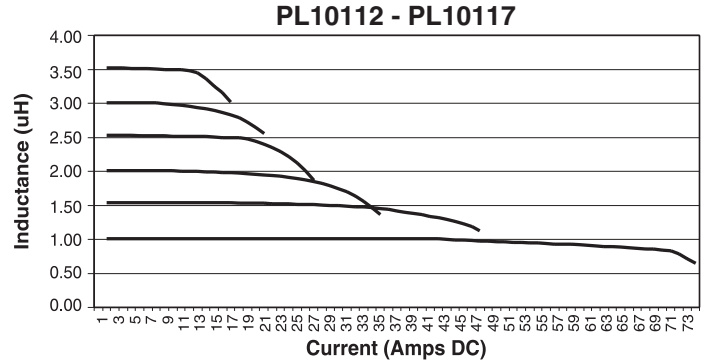
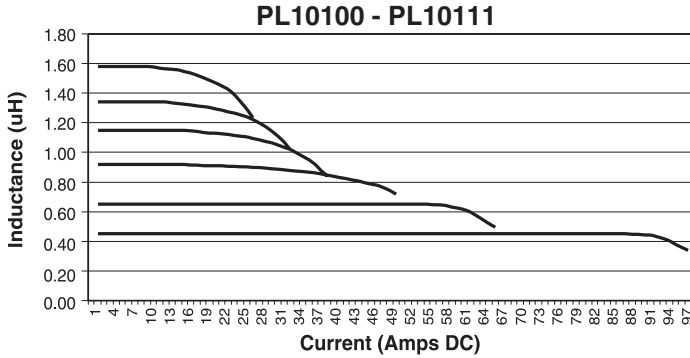
PL10118 - PL10123

1.60 to 6.20 μ H
9 to 37 Adc



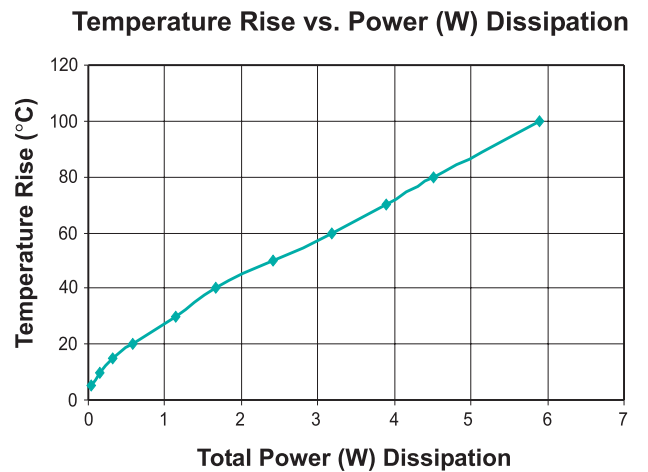
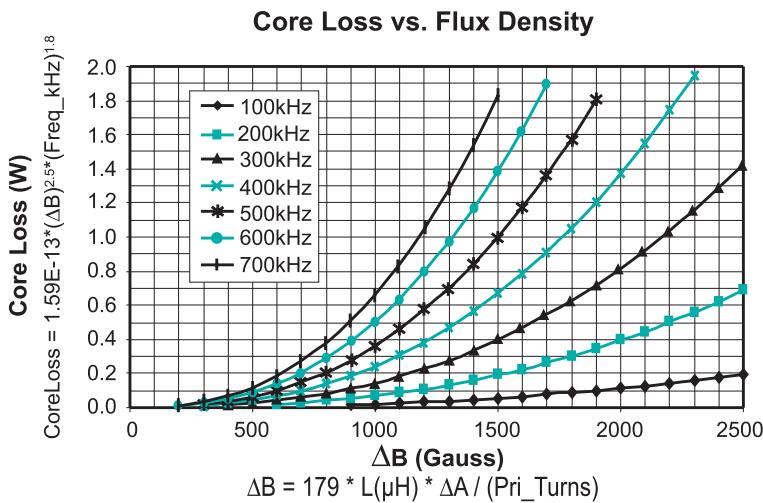
Inductance vs. Current Characteristics (25°C)

PL101XX



Measurements Charts

PL101XX



Total Power Dissipation = Copper Loss (W) + Core Loss (W)

Copper Loss (W) = $\text{Current (rms)}^2 * \text{DCR (m}\Omega) / 1000$
Core Loss (W) = per table

For More Information

Pulse North America Headquarters

Two Pearl Buck Court
Bristol, PA 19007
U.S.A.

Tel: 215 781 6400
Fax: 215 781 6403

Pulse Europe

Zeppelinstrasse 15
71083 Herrenberg
Germany

Tel: 49 7032 7806 0
Fax: 49 7032 7806 12

Pulse China Headquarters

B402, Shenzhen Academy of
Aerospace Technology Bldg.
10th Kejinan Road
High-Tech Zone
Nanshan District
Shenzhen, PR China 518057

Tel: 86 755 33966678
Fax: 86 755 33966700

Pulse North China

Room 2704/2705
Super Ocean Finance Ctr.
2067 Yan An Road West
Shanghai 200336
China

Tel: 86 21 62787060
Fax: 86 2162786973

Pulse South Asia

135 Joo Seng Road
#03-02
PM Industrial Bldg.
Singapore 368363

Tel: 65 6287 8998
Fax: 65 6287 8998

Pulse North Asia

3F No. 198, Zhongyuan Road
Zhongli City
Taoyuan County (32068)
Taiwan

Tel: 886 3 4356768
Fax: 886 3 4356823

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