SMT POWER INDUCTORS

Shielded Drum Core - PL93XX Series
Ruggedized

- Height: 0.157 inches (4.0mm) Max
- Footprint: 0.410 inches x 0.410 inches (10.5mm x 10.5mm) Max
- Inductance Range: 0.62µH to 278µH
- Current Rating: up to 7.6A
- Moisture Sensitivity Level: 1

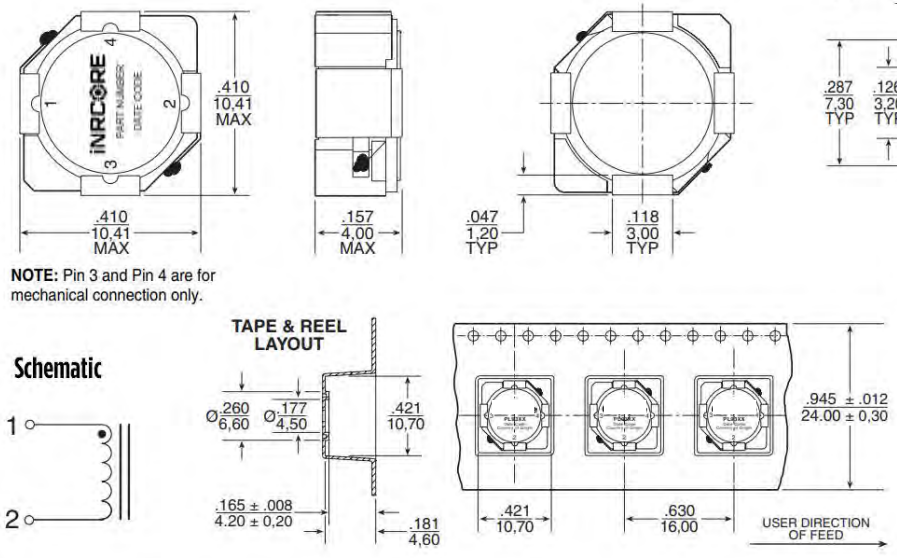
Electrical Specifications @ 25 °C – Operating Temperature – 55 °C to +130 °C

Part Numbers	Inductance @Irated (µH TYP)	Irated [2] (A)	DCR (mΩ) TYP	DCR (mΩ) MAX	Inductance @0ADC (µH)	Saturation [3] Current (A) @25°C	Heating [4] Current (A)
PL9301	0.62	7.60	4.2	5.5	0.68±25%	10.00	7.60
PL9302	1.2	7.10	5.6	7.3	1.3±25%	8.00	7.10
PL9303	1.9	5.80	8.4	10.9	2.2±25%	6.15	5.80
PL9304	2.8	5.20	10.2	13.3	3.3±25%	5.80	5.20
PL9305	4.0	4.70	15.1	19.6	4.7±25%	5.40	4.70
PL9306	5.4	3.70	20.8	27.0	6.0±25%	4.50	3.70
PL9307	6.9	3.50	23.7	30.8	7.6±25%	4.00	3.50
PL9308	8.0	3.40	26.5	33.2	10±20%	3.80	3.40
PL9309	11	3.00	36.1	45.2	12±20%	3.40	3.00
PL9310	12	2.80	39.5	49.4	15±20%	3.10	2.80
PL9311	19	2.30	62	77	22±20%	2.80	2.30
PL9312	25	2.10	71	89	27±20%	2.30	2.10
PL9313	38	1.65	113	142	47±20%	2.10	1.65
PL9314	55	1.32	170	212	68±20%	1.50	1.32
PL9315	83	1.10	262	328	100±20%	1.35	1.10
PL9316	123	0.88	400	500	150±20%	1.15	0.88
PL9317	178	0.73	591	739	220±20%	0.92	0.73
PL9318	278	0.60	906	1133	330±20%	0.70	0.60

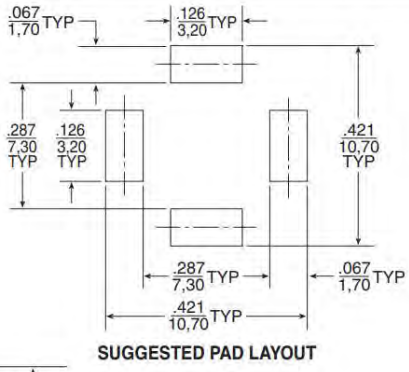
*Inductance at 0ADC tolerance on indicated part numbers is ±30%; tolerance is ±20% on all other parts.
Optional Tape & Reel packaging can be ordered by adding a "**T**" suffix to the part number (i.e. PL9301 becomes **PL9301T**).

NOTES FROM TABLE: *(See back page)*

Mechanical



Electrical Schematic



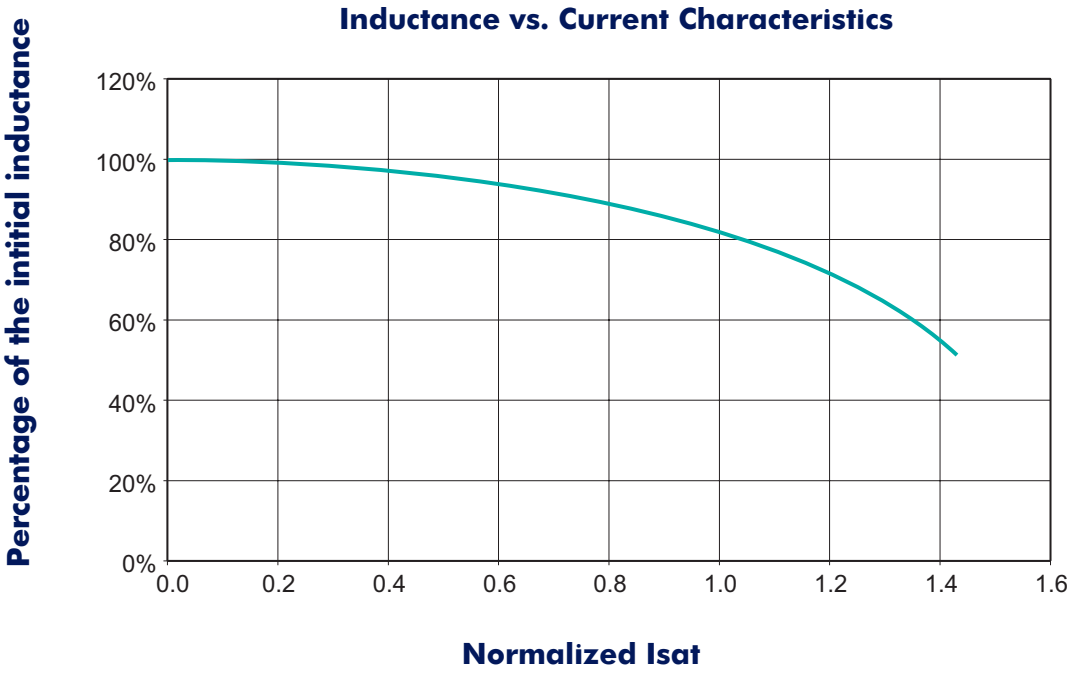
Weight . . . . . 2.5 grams
Tape & Reel 400/reel

Dimensions: Inches / mm

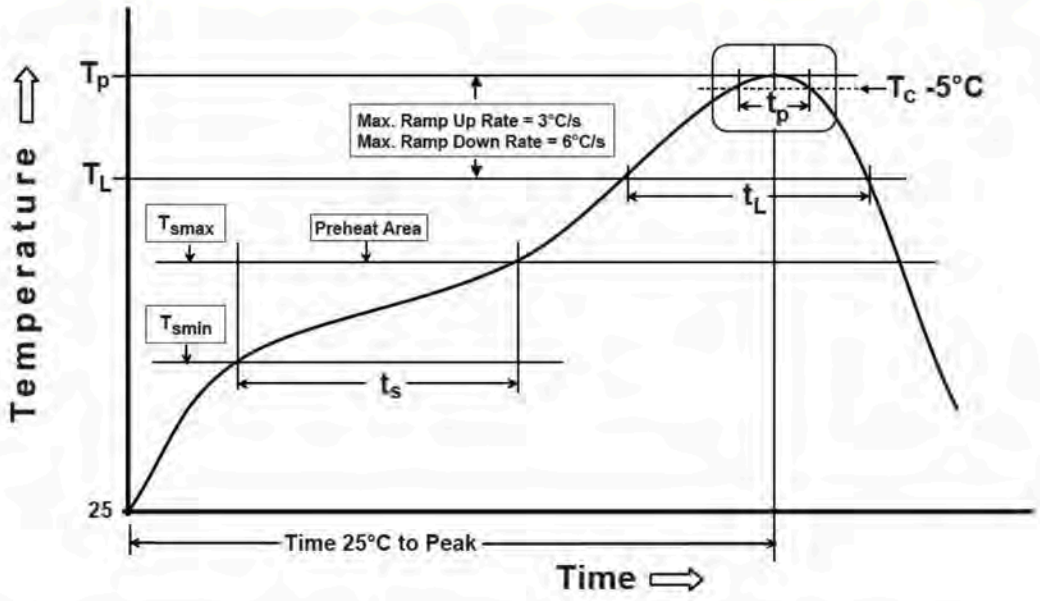
Unless otherwise specified, all tolerances are ± .010 / 0,25

Notes from Tables

1. Temperature of the component (ambient plus temperature rise) must be within specified operating temperature range.
2. The rated current as listed is either the saturation current or the heating current depending on which value is lower.
3. The saturation current is the current which causes the inductance to drop to 75% of its initial inductance at zero bias. This current is determined by placing the component at room ambient (25°C), and applying a short duration pulse current (to eliminate self-heating effects) to the component.
4. The heating current is the DC current, which causes the temperature of the part to increase
   by approximately 40°C. This current is determined by extending the terminals of the component with 30mm length 28 gauge buss wires and applying the current to the device for 30 minutes. The temperature is measured by placing the thermo-couple between the winding and the shield.
5. 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 compo-nent. In order to determine the approximate total loss (or temperature rise) for a given application, both copper losses and core losses should be taken into account.



Tin/Lead Recommended Reflow Profile (Based on J-STD-020D)



T_{SMIN} (°C)	T_{SMAX} (°C)	T_L (°C)	T_P (°C MAX)	t_S (s)	t_L (s)	t_P (s MAX)	Ramp-up rate (T_L to T_P)	Ramp-down rate (T_P to T_L)	Time 25°C to peak temperature (s MAX)
100	150	183	235	60-120	60-150	20	3°C/s MAX	6°C/s MAX	360

Notes:

1. All temperatures measured on the package leads.
2. Maximum times of reflow cycle: 2.

For More Information

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