SMT POWER INDUCTORS

Shielded Drum Core - PL92XX Series
Ruggedized

- Height: 0.201 inches (5.1mm) Max
- Footprint: 0.413 inches x 0.413 inches (10.5mm x 10.5mm) Max
- Inductance Range: 0.95µH to 890µH
- Current Rating: up to 8.7A
- Moisture Sensitivity Level: 1

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

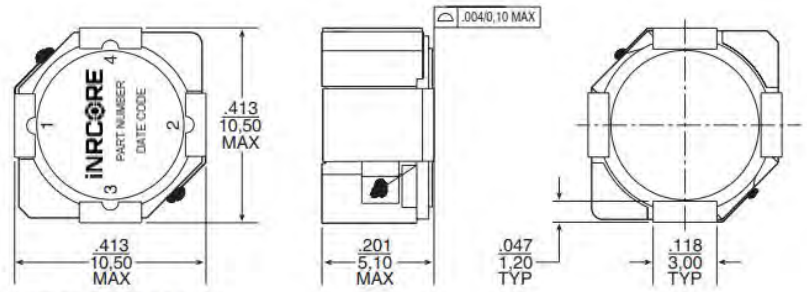
Part Numbers	Inductance @Irated (µH TYP)	Irated [2] (A)	DCR (mΩ) TYP	DCR (mΩ) MAX	Inductance@OA_{DC} (µH)	Saturation [3]Current (A) @25°C	Heating [4] Current (A)
PL9201	0.95	8.7	4.0	5.7	1.0*	11	8.7
PL9202	1.55	7.4	5.5	7.9	1.6*	8.8	7.4
PL9203	2.32	6.6	6.9	10.0	2.7*	7.3	6.6
PL9204	3.24	5.5	10.0	14.5	3.6*	6.3	5.5
PL9205	4.26	5.1	11.7	16.5	4.5*	5.5	5.1
PL9206	5.64	4.4	15.6	22	6.0*	4.9	4.4
PL9207	7.17	4.2	17.5	25	7.6*	4.4	4.2
PL9208	9.3	3.6	23	35	10	4.0	3.6
PL9209	10.8	3.3	27	37	12	3.7	3.3
PL9210	13.4	3.0	34	47	15	3.4	3.0
PL9211	17.5	2.7	40	58	18	2.9	2.7
PL9212	19.4	2.6	43	67	22	2.8	2.6
PL9213	24.2	2.2	61	79	27	2.4	2.2
PL9214	30.6	2.1	69	94	33	2.2	2.1
PL9215	38.5	1.8	93	126	39	2.0	1.8
PL9216	46.1	1.7	104	140	47	1.8	1.7
PL9217	53.2	1.6	119	157	56	1.7	1.6
PL9218	63.1	1.45	147	202	68.0	1.6	1.45
PL9219	76.6	1.36	165	232	82.0	1.4	1.36
PL9220	88	1.29	184	270	100.0	1.3	1.29
PL9221	112	1.07	264	316	120.0	1.2	1.07
PL9222	135	1.02	294	456	150.0	1.05	1.02
PL9223	132	0.87	328	497	180.0	0.96	0.87
PL9224	198	0.82	450	681	220.0	0.86	0.82
PL9225	237	0.78	502	775	270	0.79	0.78
PL9226	296	0.66	691	955	330	0.71	0.66
PL9227	355	0.58	916	1087	390	0.66	0.58
PL9228	445	0.54	1037	1403	470	0.59	0.54
PL9229	495	0.53	1095	1623	560	0.54	0.53
PL9230	610	0.49	1220	1824	680	0.49	0.50
PL9231	702	0.43	1656	2355	820	0.45	0.43
PL9232	890	0.40	1885	2850	1000	0.41	0.40

*Inductance at OADC 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. PL9201 becomes **PL9201T)**.

Notes from Tables

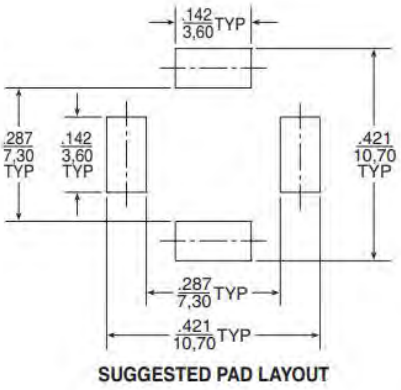
1. Temperature of the component (ambient plus temperature rise) must be within specified operating temperature range.
2. The rated current as listed is either the saturation current or the heating current depending on which value is lower.
3. The saturation current is the current which causes the inductance 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.

Mechanical



NOTE: Pin 3 and Pin 4 are for mechanical connection only.

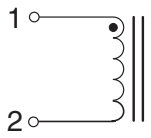
Electrical Schematic

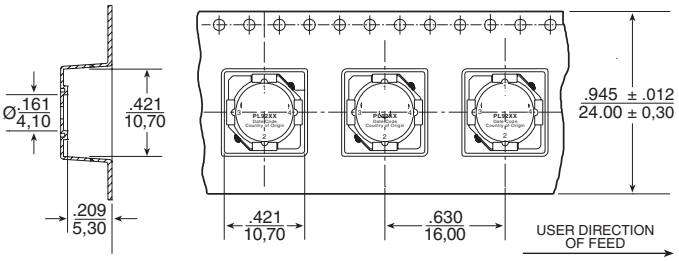


SUGGESTED PAD LAYOUT

TAPE & REEL LAYOUT

Schematic

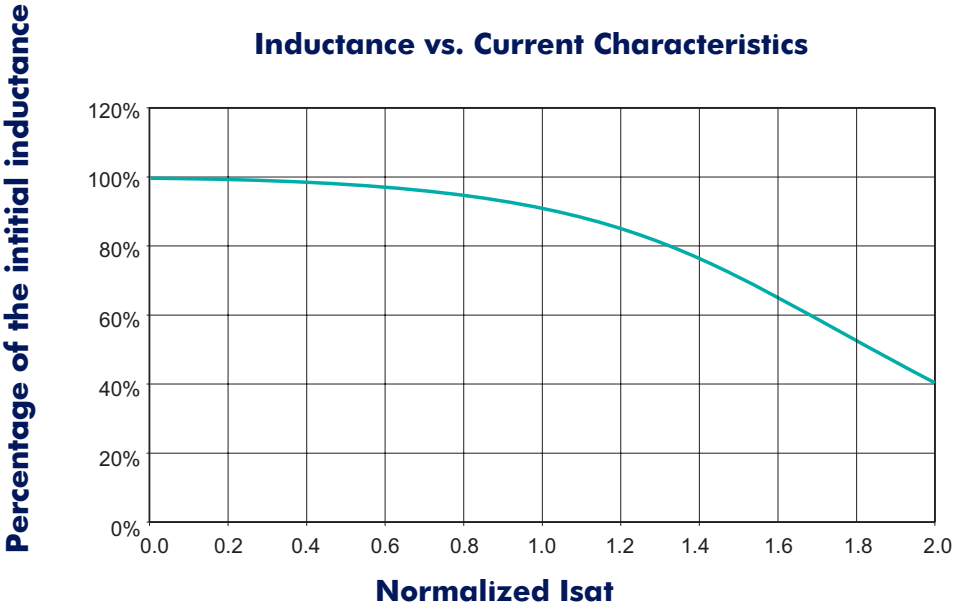




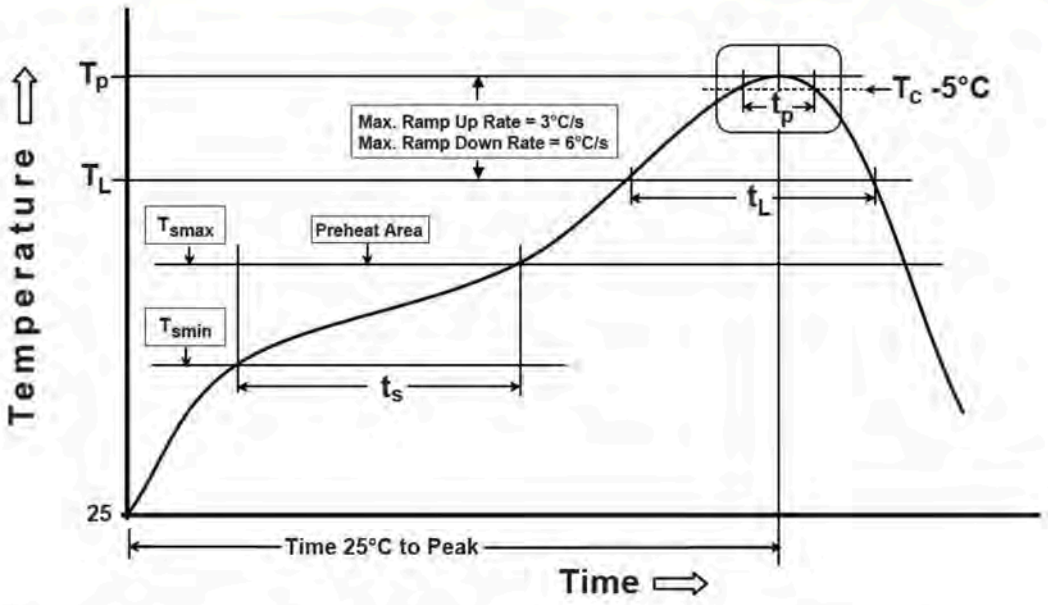
Dimensions: Inches / mm

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

Inductance vs. Current Characteristics



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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