

- ⊗ Height: 0.122 inches (3.1mm) Max
- ⊗ Footprint: 0.256 inches x 0.256 inches (6.5mm x 6.5mm) Max
- ⊗ Inductance Range: 2.15μH to 85.39μH
- ⊗ Current Rating: up to 2.60A
- ⊗ Moisture Sensitivity Level: 1

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

| Part Numbers | Inductance @I _{rated} (μH TYP) | I _{rated} ² (A) | DCR (mΩ) | | Saturation ³ @OADC (μH) | Current (A) @25°C | Heating ⁴ Current (A) |
|--------------|---|-------------------------------------|-----------|------|------------------------------------|-------------------|----------------------------------|
| | | | TYP | MAX | | | |
| PL9501 | 2.15 | 2.60 | 15.3 | 17.6 | 2.5* | 2.60 | 3.45 |
| PL9502 | 2.58 | 2.30 | 16.6 | 20.3 | 3.3* | 2.30 | 3.31 |
| PL9503 | 3.43 | 2.10 | 22.5 | 27.0 | 4.0* | 2.10 | 2.84 |
| PL9504 | 4.63 | 1.85 | 24.9 | 31.1 | 5.0* | 1.85 | 2.70 |
| PL9505 | 5.22 | 1.70 | 32.3 | 41.9 | 6.0* | 1.70 | 2.37 |
| PL9506 | 6.57 | 1.50 | 37.9 | 49.9 | 8.0* | 1.50 | 2.19 |
| PL9507 | 8.65 | 1.30 | 45 | 54 | 10 | 1.30 | 2.01 |
| PL9508 | 9.78 | 1.20 | 59 | 72 | 12 | 1.20 | 1.76 |
| PL9509 | 12.13 | 1.10 | 66 | 82 | 15 | 1.10 | 1.65 |
| PL9510 | 15.23 | 1.05 | 88 | 102 | 18 | 1.05 | 1.44 |
| PL9511 | 18.70 | 0.95 | 103 | 119 | 22 | 0.95 | 1.33 |
| PL9512 | 21.54 | 0.85 | 114 | 146 | 27 | 0.85 | 1.26 |
| PL9513 | 27.71 | 0.76 | 155 | 183 | 33 | 0.76 | 1.08 |
| PL9514 | 33.57 | 0.68 | 193 | 210 | 39 | 0.68 | 0.97 |
| PL9515 | 40.15 | 0.60 | 196 | 230 | 47 | 0.60 | 0.96 |
| PL9516 | 49.68 | 0.55 | 248 | 305 | 56 | 0.55 | 0.86 |
| PL9517 | 60.66 | 0.48 | 278 | 351 | 68 | 0.48 | 0.81 |
| PL9518 | 74.71 | 0.45 | 323 | 419 | 82 | 0.45 | 0.75 |
| PL9519 | 85.39 | 0.40 | 417 | 520 | 100 | 0.40 | 0.66 |

*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. PL9501 becomes **PL9501T**).

Notes from Tables

- Temperature of the component (ambient plus temperature rise) must be within specified operating temperature range.
- The rated current as listed is either 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 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.
- 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.
- 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 loss (or temperature rise) for a given application, both copper losses and core losses should be taken into account.



SMT POWER INDUCTORS

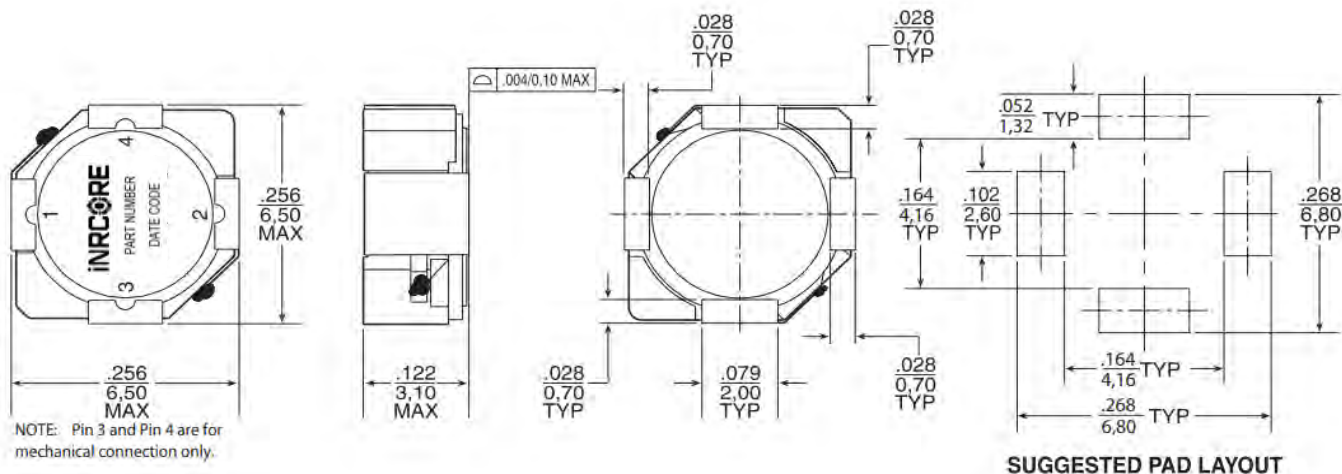
Shielded Drum Core - PL95XX Series

Ruggedized

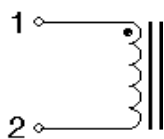


Mechanical

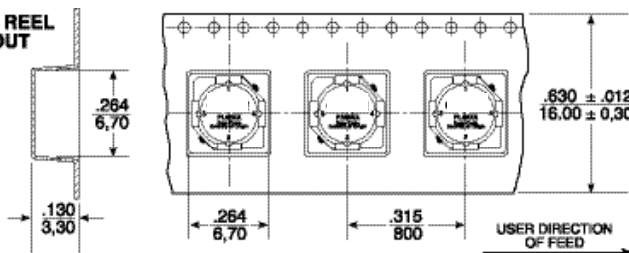
Electrical Schematic



Schematic



TAPE & REEL LAYOUT

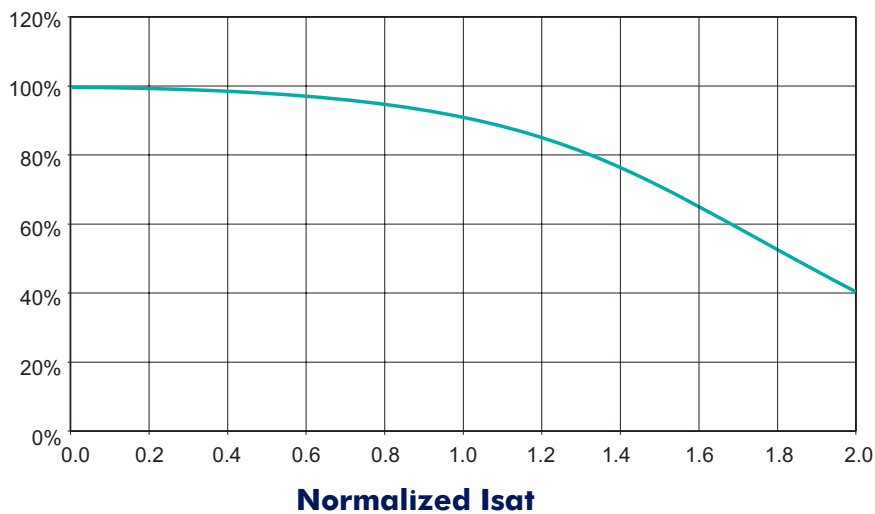


Dimensions: Inches / mm

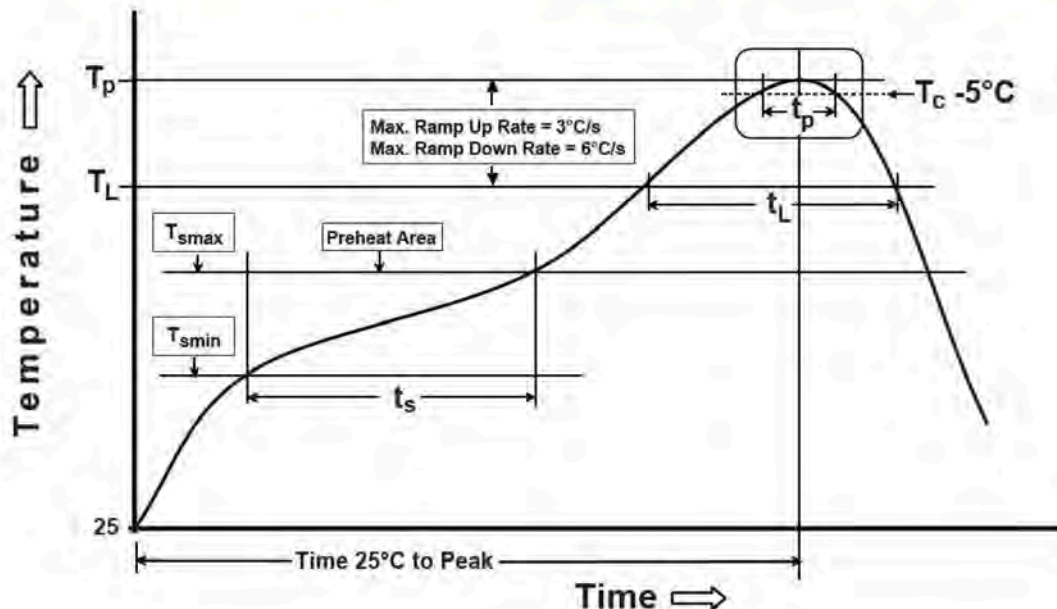
Unless otherwise specified, all tolerances are: ± .010 / 0,25

Inductance vs. Current Characteristics

Percentage of the initial inductance



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 | $3^\circ C/s$ MAX | $6^\circ C/s$ MAX | 360 |

Notes:

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

For More Information

iNRCORE, LLC
311 Sinclair Road Bristol,
PA 19007-6812 U.S.A
Tel: + 1.215.781.6400
Fax: +1.215.781.6430

Global Sales Representatives and Locations:
<http://www.inrcore.com>

Performance warranty of products offered on this data sheet is limited to the parameters specified. Data is subject to change without notice. Other brand and product names mentioned herein may be trademarks or registered trademarks of their respective owners. © Copyright, 2020. iNRCORE, LLC. All rights reserved.

