

# SMT POWER INDUCTORS

## Unshielded Drum Core - PF0504NL Series



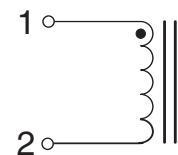
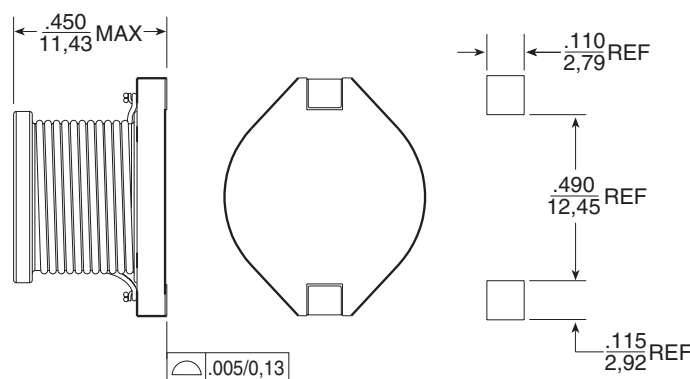
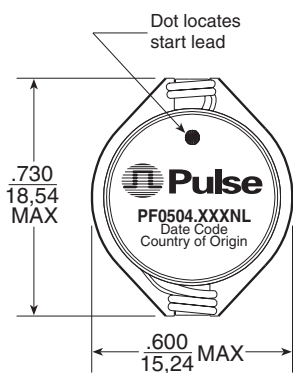
- Height:** 11.43mm Max
- Footprint:** 18.54mm x 15.24mm Max
- Current Rating:** up to 20A
- Inductance Range:** 0.68μH to 150μH
- 260°C reflow peak temperature qualified**
- Leaded technology compatible**

### Electrical Specifications @ 25°C — Operating Temperature -40°C to +125°C <sup>6</sup>

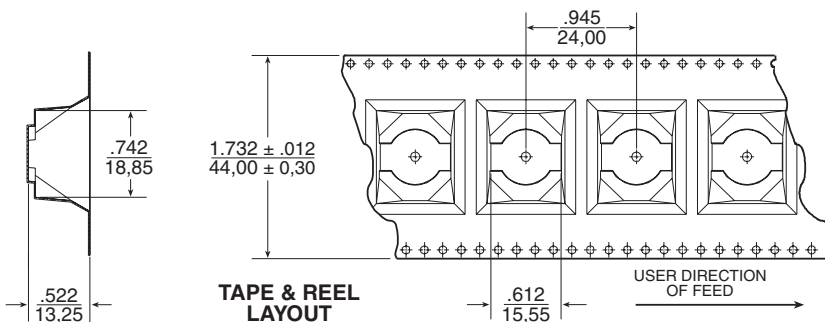
Part <sup>5</sup> Number	Inductance <sup>1</sup> @ I <sub>rated</sub> (μH TYP)	I <sub>rated</sub> <sup>2</sup> (A)	DCR (mΩ MAX)	Inductance @ 0A <sub>DC</sub> (μH ±20%)	Saturation Current <sup>3</sup> I <sub>SAT</sub> (A)	Heating Current <sup>4</sup> I <sub>bc</sub> (A)
PF0504.681NL	0.68	20.0	2.0	0.68	64	20.0
PF0504.122NL	1.2	17.7	2.6	1.2	48	17.7
PF0504.222NL	2.2	14.7	3.7	2.2	35	14.7
PF0504.332NL	3.3	13.7	4.3	3.3	29	13.7
PF0504.392NL	3.9	11.7	6.7	3.9	26	11.7
PF0504.472NL	4.7	10.8	6.9	4.7	24	10.8
PF0504.682NL	6.8	9.0	9.8	6.8	20	9.0
PF0504.103NL	10	7.1	15	10	16	7.1
PF0504.183NL	18	6.0	25	18	13	6.0
PF0504.223NL	22	5.4	27	22	11	5.4
PF0504.333NL	33	4.4	42	33	9	4.4
PF0504.403NL	40	4.0	50	40	8	4.0
PF0504.473NL	47	3.5	55	47	7	3.5
PF0504.104NL	100	2.3	153	100	5	2.3
PF0504.154NL	150	2	200	150	4	2

### Mechanical

### Schematic



### SUGGESTED PAD LAYOUT



Weight ..... 6.0 grams  
Tape & Reel ..... .160/reel  
Dimensions:  $\frac{\text{Inches}}{\text{mm}}$   
Unless otherwise specified,  
all tolerances are  $\pm \frac{.004}{0.10}$

### Notes from Tables

1. Inductance at Irated is a typical inductance value measured when the inductor is subjected to the rated current.
2. The rated current listed is the lower of the saturation current @ 25°C or the heating current.
3. The saturation current, Isat, is the current at which the component inductance drops by 20% (maximum) at an ambient temperature of 25°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.
4. The heating current, I<sub>DC</sub>, is the DC current required to raise the component temperature by approximately 40°C. The heating current is determined by mounting the component on a typical PCB and applying current for 30 minutes.
5. Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the part number (i.e. PF0504.681NL becomes PF0504.681NLT). Pulse complies to industry standard tape and reel specification EIA481.
6. The temperature of the component (ambient plus temperature rise) must be within the stated operating temperature range.

### Inductance vs Current Characteristics

