

# SMT POWER INDUCTORS

## Unshielded Drum Core - PF0580NL Series



**Pulse**  
A TECHNITROL COMPANY



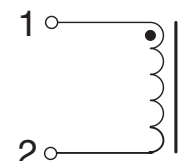
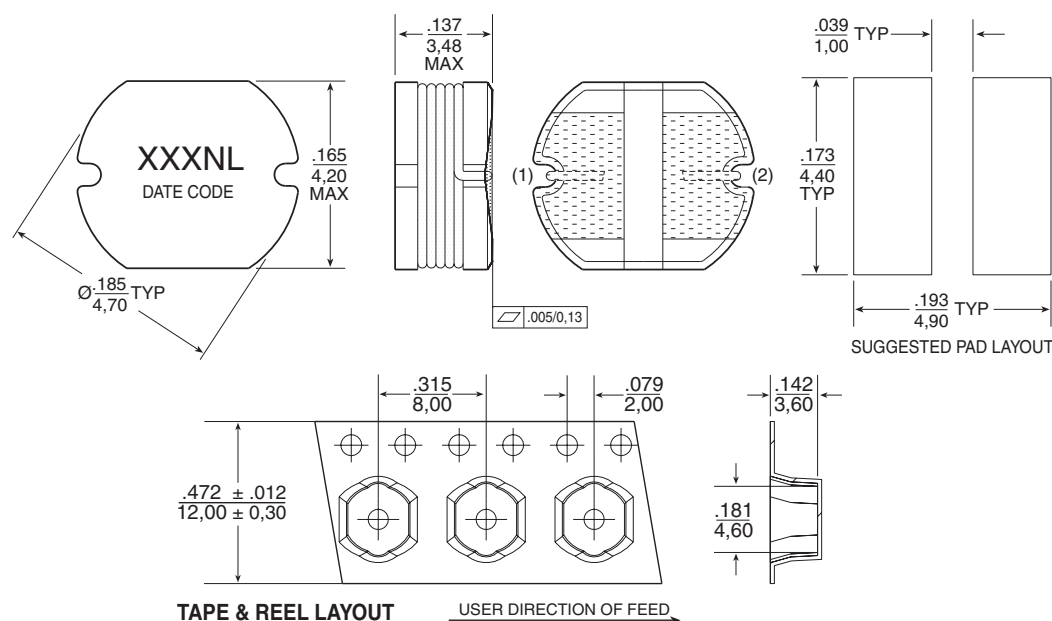
- Height: 3.48mm Max
- Footprint: 4.7mm Typ x 4.2mm Max
- Current Rating: up to 3.1A
- Inductance Range: 1μH to 65μH
- 260°C reflow peak temperature qualified

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

| Part <sup>5</sup> Number | Inductance<br>@I <sub>rated</sub> <sup>1</sup><br>(μH TYP) | I <sub>rated</sub> <sup>2</sup><br>(A) | DCR<br>(mΩ MAX) | Inductance<br>@0Adc<br>(μH ±15%) | Saturation <sup>3</sup><br>Current<br>I <sub>sat</sub> (A) | Heating <sup>4</sup><br>Current I <sub>dc</sub><br>(A) |
|--------------------------|------------------------------------------------------------|----------------------------------------|-----------------|----------------------------------|------------------------------------------------------------|--------------------------------------------------------|
| PF0580.102NL             | 1.0                                                        | 3.1                                    | 35              | 1.0                              | 3.6                                                        | 3.1                                                    |
| PF0580.152NL             | 1.4                                                        | 2.7                                    | 40              | 1.5                              | 2.7                                                        | 2.7                                                    |
| PF0580.182NL             | 1.7                                                        | 2.4                                    | 45              | 1.8                              | 2.4                                                        | 2.6                                                    |
| PF0580.222NL             | 2.1                                                        | 2.2                                    | 49              | 2.2                              | 2.2                                                        | 2.4                                                    |
| PF0580.272NL             | 2.6                                                        | 2.0                                    | 58              | 2.7                              | 2.0                                                        | 2.3                                                    |
| PF0580.332NL             | 3.1                                                        | 1.8                                    | 63              | 3.3                              | 1.8                                                        | 2.25                                                   |
| PF0580.382NL             | 3.6                                                        | 1.7                                    | 68              | 3.8                              | 1.7                                                        | 2.2                                                    |
| PF0580.472NL             | 4.5                                                        | 1.6                                    | 77              | 4.7                              | 1.6                                                        | 2.0                                                    |
| PF0580.562NL             | 5.3                                                        | 1.4                                    | 90              | 5.6                              | 1.4                                                        | 1.9                                                    |
| PF0580.682NL             | 6.5                                                        | 1.3                                    | 100             | 6.8                              | 1.3                                                        | 1.8                                                    |
| PF0580.822NL             | 7.8                                                        | 1.2                                    | 111             | 8.2                              | 1.2                                                        | 1.6                                                    |
| PF0580.103NL             | 9.5                                                        | 1.1                                    | 132             | 10                               | 1.1                                                        | 1.5                                                    |
| PF0580.123NL             | 11                                                         | 1.0                                    | 160             | 12                               | 1.0                                                        | 1.4                                                    |
| PF0580.153NL             | 14                                                         | 0.85                                   | 197             | 15                               | 0.85                                                       | 1.3                                                    |
| PF0580.183NL             | 17                                                         | 0.80                                   | 255             | 18                               | 0.80                                                       | 1.1                                                    |
| PF0580.223NL             | 21                                                         | 0.75                                   | 280             | 22                               | 0.75                                                       | 1.0                                                    |
| PF0580.273NL             | 26                                                         | 0.65                                   | 384             | 27                               | 0.65                                                       | 0.90                                                   |
| PF0580.333NL             | 31                                                         | 0.58                                   | 427             | 33                               | 0.58                                                       | 0.85                                                   |
| PF0580.393NL             | 37                                                         | 0.55                                   | 490             | 39                               | 0.55                                                       | 0.80                                                   |
| PF0580.473NL             | 45                                                         | 0.50                                   | 645             | 47                               | 0.50                                                       | 0.70                                                   |
| PF0580.563NL             | 53                                                         | 0.46                                   | 700             | 56                               | 0.46                                                       | 0.67                                                   |
| PF0580.683NL             | 65                                                         | 0.41                                   | 827             | 68                               | 0.41                                                       | 0.62                                                   |

### Mechanical

### Schematic



Weight ..... 0.22 grams  
Tape & Reel ..... 1950/reel

Dimensions: Inches  
mm  
Unless otherwise specified,  
all tolerances are ± .004  
0,10

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### Notes from Tables

1. Inductance at  $I_{rated}$  is a typical inductance value for the component taken at rated current.
2. The rated current listed is the lower of the saturation current @ 25°C or the heating current.
3. The saturation current,  $I_{sat}$ , is the current at which the component inductance drops by 10% (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,  $I_{bc}$ , is the DC current required to raise the component temperature by approximately 45°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. PF0580.102NL becomes PF0580.102NLT). 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.

### Typical Inductance vs Current Characteristics

