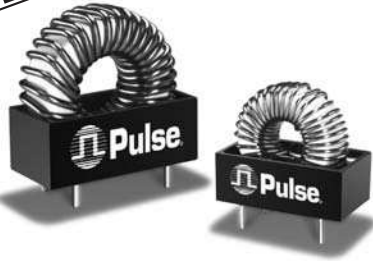






# TOROIDAL INDUCTORS

## High Current



-  Cost-effective designs
-  Semi-encapsulated construction
-  Maximum operation temperature of 130°C (Ambient + Rise)
-  A 2:1 inductance swing from zero to maximum current

### Electrical Specifications @ 25°C

| Part Number | REFERENCE OPERATING VALUES           |                        |  |       |                                      | DESIGN CONTROL VALUES        |                                  |             |           |                          |
|-------------|--------------------------------------|------------------------|--|-------|--------------------------------------|------------------------------|----------------------------------|-------------|-----------|--------------------------|
|             | Inductance Typical (μH) <sup>2</sup> | I <sub>DC</sub> (AMPS) | ET <sub>OP</sub> <sup>1</sup> (V-μSec) |       | Energy Storage (μJ MIN) <sup>3</sup> | Inductance No DC (μH) (±20%) | 50kHz Test mV No DC <sup>5</sup> | DCR (Ω MAX) | Size Code | Lead Diameter (in ±.003) |
|             |                                      |                        | 20kHz                                  | 40kHz |                                      |                              |                                  |             |           |                          |
| PE-51506    | 17.0                                 | 17.0                   | 190                                    | 130   | 2460                                 | 40.0                         | 140                              | 0.0065      | 3         | 0.081                    |
| PE-51507    | 32.0                                 | 16.0                   | 290                                    | 200   | 4100                                 | 70.7                         | 270                              | 0.0092      | 4         | 0.081                    |
| PE-51508    | 60.0                                 | 16.0                   | 390                                    | 270   | 7700                                 | 120.0                        | 470                              | 0.012       | 5         | 0.081                    |
| PE-51509    | 14.0                                 | 10.0                   | 135                                    | 95    | 700                                  | 28.5                         | 73                               | 0.009       | 1         | 0.057                    |
| PE-51510    | 23.0                                 | 11.0                   | 170                                    | 120   | 1400                                 | 43.5                         | 130                              | 0.012       | 2         | 0.057                    |
| PE-51511    | 43.0                                 | 10.0                   | 280                                    | 195   | 2150                                 | 85.5                         | 210                              | 0.018       | 3         | 0.057                    |
| PE-51512    | 90.0                                 | 10.0                   | 430                                    | 300   | 4500                                 | 158.0                        | 420                              | 0.028       | 4         | 0.057                    |
| PE-51513    | 144.0                                | 10.0                   | 570                                    | 400   | 7200                                 | 262.0                        | 700                              | 0.032       | 5         | 0.057                    |
| PE-51514    | 32.0                                 | 6.6                    | 200                                    | 140   | 700                                  | 60.5                         | 110                              | 0.025       | 1         | 0.040                    |
| PE-51515    | 52.0                                 | 7.0                    | 230                                    | 160   | 1275                                 | 92.0                         | 190                              | 0.032       | 2         | 0.040                    |
| PE-51516    | 98.0                                 | 6.0                    | 400                                    | 280   | 1765                                 | 188.0                        | 310                              | 0.048       | 3         | 0.040                    |
| PE-51517    | 175.0                                | 6.0                    | 620                                    | 425   | 3150                                 | 315.0                        | 560                              | 0.068       | 4         | 0.040                    |
| PE-51518    | 335.0                                | 6.0                    | 840                                    | 580   | 6030                                 | 571.0                        | 1000                             | 0.095       | 5         | 0.040                    |
| PE-51520    | 400                                  | 3.6                    | 600                                    | 420   | 2700                                 | 688.0                        | 640                              | 0.130       | 3         | 0.036                    |

#### NOTES:

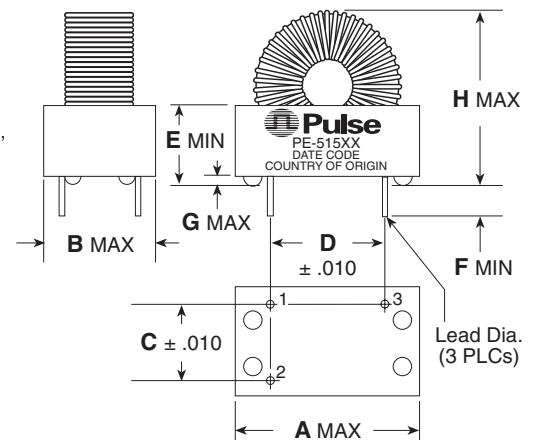
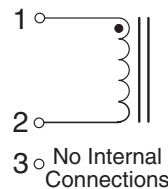
- To prevent excessive temperature rise, limit ET<sub>OP</sub> to the rated ET<sub>OP</sub> specified. This is not a saturation limit. Temperature rise of inductors is 40°C MAX at MAX current and rated ET<sub>OP</sub>.
- A 2:1 nominal inductance swing from no I<sub>DC</sub> to operating I<sub>DC</sub> gives improved protection against current discontinuities at light loading. Inductance increases with greater ET<sub>OP</sub>. Reference values occur at I<sub>DC</sub> and low flux density.
- $\frac{LI^2}{2}$  rating is the ability of the inductor to store energy.
- Design control test voltage is critical. Inductance increases with voltage.
- RoHS compliant parts are available. Order RoHS compliant parts by adding the suffix "NL" to the part number (i.e. PE-51506 becomes PE-51506NL).

| Size Code | 1          | 2          | 3          | 4          | 5          |
|-----------|------------|------------|------------|------------|------------|
| A         | 1.20/30,48 | 1.44/36,57 | 1.60/40,64 | 1.95/49,53 | 2.30/58,42 |
| B         | 0.60/15,24 | 0.80/20,32 | 0.80/20,32 | 0.91/23,11 | 1.11/28,19 |
| C         | 0.40/10,16 | 0.60/15,24 | 0.60/15,24 | 0.70/17,78 | 0.90/22,85 |
| D         | 0.80/20,32 | 0.90/22,86 | 0.90/22,86 | 1.20/30,48 | 1.50/38,10 |
| E         | 0.45/11,43 | 0.70/17,78 | 0.70/17,78 | 0.90/22,86 | 1.00/25,40 |
| F         | 0.20/5,08  | 0.20/5,08  | 0.20/5,08  | 0.20/5,08  | 0.20/5,08  |
| G         | .015/0,381 | 0.03/0,76  | 0.03/0,76  | 0.03/0,76  | 0.03/0,76  |
| H         | 1.20/30,48 | 1.44/36,57 | 1.72/43,68 | 2.00/50,80 | 2.30/58,42 |

### Mechanical

Dimensions:  $\frac{\text{Inches}}{\text{mm}}$   
 Unless otherwise specified, all tolerances are  $\pm \frac{.010}{0,25}$

### Schematic



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P589.B (11/06)