

THT POWER INDUCTORS

Toroid - Vertical, Low Profile and *KlipMount*[™]



- Available in vertical, low profile and *KlipMount*[™]
- SMPS averaging filter
- Characterized for general purpose use and ripple filters
- Single-layer designs
- Can be used as differential mode inductors in EMI filters³

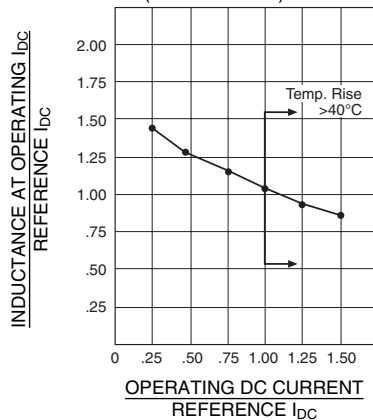
Electrical Specifications @ 25°C — Operating Temperature -40°C to 130°C

| REFERENCE OPERATING VALUES | | | | | | DESIGN CONTROL VALUES | | | | | |
|-----------------------------------------|-------------------------------|--------------------------------------------------|---------------------------|-------------------------------------|----------------------------------------------|---------------------------------------------|----------------------------------------|-------------------------------------|----------------------|---------------------------|-------------------------------------|
| Vertical ⁶ Part Number | Low Profile Part Number | Inductance ¹ Typical (μ H) | I _{DC} (AMPS) | ET _{TOP} (V- μ Sec) | Energy ⁴ Storage (μ J) | Inductance No DC (μ H) \pm 20% | 20kHz Test mV No DC ² | DCR ⁵ (Ω MAX) | Coil Size Code | Klip* Mount Package | Lead Diameter (In) \pm .003 |
| PE-51591 | — | 20 | 2.0 | 52 | 40 | 32.8 | 33 | .060 | H | — | .020 |
| PE-92100 | — | 25 | 2.6 | 30 | 85 | 20.7 | 22 | .043 | A | KM1 | .020 |
| PE-92101 | PE-92401 | 50 | 2.6 | 50 | 169 | 45.7 | 45 | .071 | B | KM2 | .020 |
| PE-92102 | PE-92402 | 100 | 2.6 | 90 | 338 | 94.1 | 90 | .100 | C | KM3 | .020 |
| PE-92103 | — | 35 | 2.6 | 55 | 118 | 28.4 | 36 | .037 | B | KM2 | .025 |
| PE-92104 | PE-92404 | 70 | 3.0 | 85 | 315 | 61.0 | 73 | .052 | C | KM3 | .025 |
| PE-92105 | PE-92405 | 145 | 3.0 | 140 | 653 | 141.8 | 140 | .087 | D | KM4 | .025 |
| PE-92106 | — | 285 | 3.0 | 300 | 1283 | 264.1 | 340 | .140 | E | KM5 | .025 |
| PE-92107 | — | 450 | 3.0 | 425 | 2025 | 436.3 | 500 | .200 | F | — | .025 |
| PE-92108 | PE-92408 | 67 | 3.6 | 130 | 648 | 90.7 | 110 | .045 | D | KM4 | .032 |
| PE-92109 | — | 165 | 4.0 | 240 | 1320 | 152.0 | 260 | .070 | E | KM5 | .032 |
| PE-92110 | — | 270 | 4.0 | 350 | 2160 | 263.9 | 400 | .100 | F | — | .032 |
| PE-92111 | — | 40 | 4.0 | 70 | 320 | 37.9 | 57 | .027 | C | KM3 | .032 |
| PE-51590 | — | 22 | 5.0 | 44 | 275 | 20.3 | 37 | .020 | G | — | .032 |
| PE-92112 | PE-92412 | 100 | 5.0 | 200 | 1250 | 90.7 | 180 | .034 | E | KM5 | .042 |
| PE-92113 | — | 170 | 5.0 | 300 | 2125 | 159.7 | 310 | .050 | F | — | .042 |
| PE-92114 | PE-92414 | 35.6 | 5.0 | 100 | 688 | 55.6 | 88 | .023 | D | KM4 | .042 |
| PE-92115 | — | 95 | 7.0 | 225 | 2328 | 96.0 | 200 | .025 | F | — | .051 |
| PE-92116 | PE-92416 | 55 | 7.0 | 150 | 1348 | 49.1 | 100 | .017 | E | KM5 | .051 |
| PE-92117 | — | 55 | 10.0 | 175 | 2750 | 55.9 | 120 | .013 | F | — | .064 |

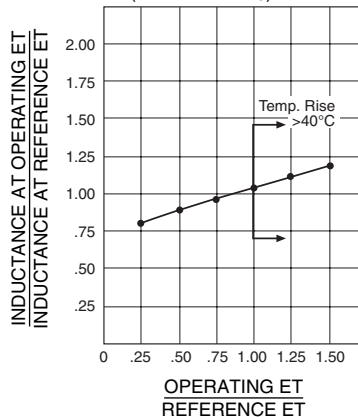
*Parts available with *KlipMount* option can be ordered by adding a "K" suffix to the part number (i.e. PE-92100K).

Relationships Between Reference and Operating Conditions

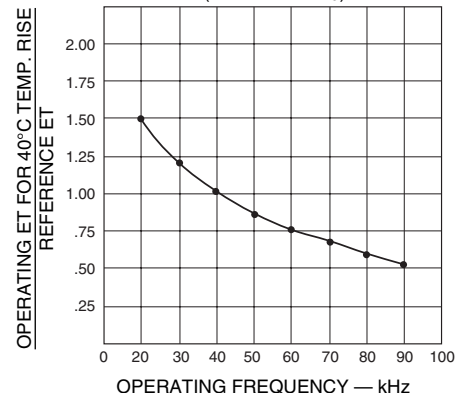
Inductance vs. DC Current
(at reference ET)



Inductance vs. Operating ET
(at reference I_{DC})



Max. Operating ET vs. Frequency
(at reference I_{DC})



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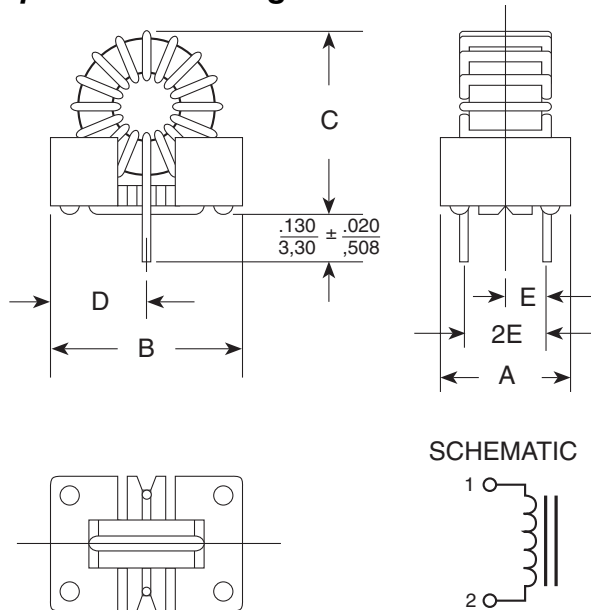
Toroid - Vertical, Low Profile and *KlipMount™*



Mechanicals

- Base material meets flammability requirements of UL 94V-0
- Mechanically rigid mount
- PC board — automatic insertability
- Lowest cost

KlipMount™ Package



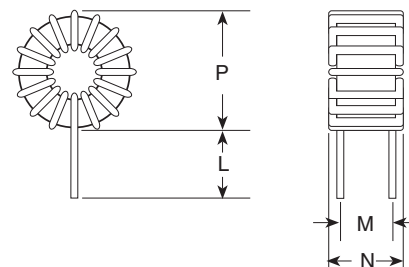
| Standard Package | A | B | C | D | E |
|------------------|---------------|---------------|---------------|---------------|--------------|
| | Maximum | | | Typical | |
| KM-1 | .340 8,64 | .580 14,73 | .650 16,51 | .29 7,37 | .110 2,79 |
| KM-2 | .450 11,43 | .650 16,51 | .700 17,78 | .325 8,26 | .150 3,81 |
| KM-3 | .450 11,43 | .850 21,59 | .950 24,13 | .415 10,54 | .150 3,81 |
| KM-4 | .620 15,50 | .970 24,64 | 1.10 27,94 | .475 12,07 | .225 5,72 |
| KM-5 | .700 17,78 | 1.30 33,02 | 1.40 35,56 | .625 15,88 | .250 6,35 |

Note: Units with large wire sizes may exceed B dimension.
KLIPMOUNT™ is a trademark of Pulse Engineering, Inc.

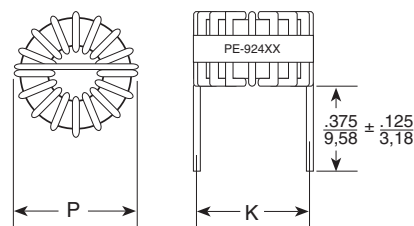
Dimensions: Inches / mm Unless otherwise specified, all tolerances are ± .010 / 0,25

| Coil Size | P (MAX) | N (MAX) | L (+.125/-.025) | M | K |
|-----------|----------------|---------------|-----------------|---------------|------------------------------|
| A | .550 13,97 | .250 6,35 | .375 9,53 | .180 4,57 | — |
| B | .700 17,78 | .380 9,65 | .375 9,53 | .280 7,11 | .530 ± .050 13,46 ± 1,27 |
| C | .850 21,59 | .410 10,41 | .375 9,53 | .280 7,11 | .720 ± .050 18,29 ± 1,27 |
| D | 1.050 26,67 | .550 13,97 | .375 9,53 | .400 10,16 | .840 ± .020 21,24 ± 0,51 |
| E | 1.400 35,56 | .700 17,78 | .375 9,53 | .500 12,7 | 1.100 ± .100 27,94 ± 2,54 |
| F | 1.650 41,91 | .700 17,78 | .375 9,53 | .500 12,7 | — |
| G | .850 21,59 | .330 8,38 | .875 22,23 | .330 8,38 | — |
| H | .640 16,26 | .280 7,11 | .875 22,23 | .280 7,11 | — |

Vertical Package



Low Profile Package



NOTES:

1. Typical Inductance occurs at I_{DC} and E_{TOP} values shown.
2. Design control test voltage is critical. Inductance increases with voltage.
3. For line filter applications, RMS line current is limited to specified reference DC Current.
4. $\frac{LI^2}{2}$ rating is the ability of the inductor to store energy.
5. DCR for vertical part measured close to coil. Add 10% more for low profile part.
6. RoHS compliant parts are available. Order RoHS compliant parts by adding the suffix "NL" to the part number (i.e. PE-51591 becomes PE-51591NL).

For More Information:

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|--------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
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