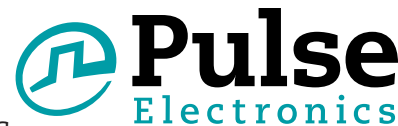


SMT POWER INDUCTOR

Toroid - Polecat Series



- Storage Temperature:** -55°C to +130°C
- Reflow Temperature:** +235°C Max
- ITAR:** No **MSL:** 1
- MTBF:** 2,880 Years IAW Mil-HBK-217F Ground Benign Environment
- Height:** 7.6mm Max
- Footprint:** 18.2mm x 15.0mm Max
- Current Rating:** up to 14.4A
- Inductance Range:** 1.5μH to 139μH

Electrical Specifications 25°C — Operating Temperature -40°C to +130°C ¹¹

Part Number	Inductance @ I _{rated} (μH)	I _{rated} (A)	DCR (TYP) (mΩ)	ET (V-μsec)	Storage Capacity (μJoules)	Inductance @ 0A _{dc} (V-μsec)	100 Gauss ET ₁₀₀ (V-μsec)	1 Amp DC H ¹ (Orsted)	Connection
X-1575	48.5	2.70	93.0	27.70	176.62	74.1	9.84	21.66	Series

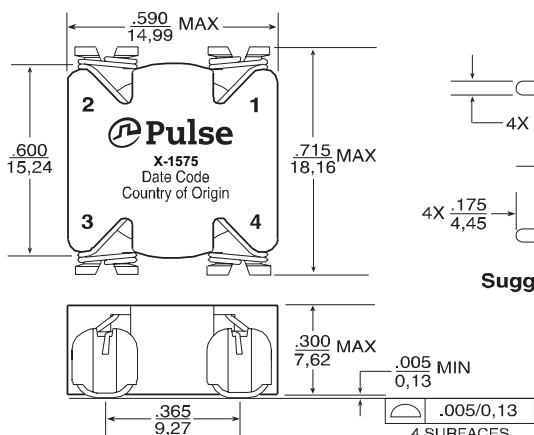
Notes:

- The reference inductance is a typical value at the AC and DC excitation listed.
- Temperature rise is 55°C in typical buck or boost circuits at 100kHz and with the reference ET applied to the inductor.
- Total loss in the inductor is 634mW for a 55°C temperature rise above ambient.
- To estimate temperature rise in a given application, determine copper and core losses, divide by 634 and multiply by 50.
- For the copper loss (mW), calculate $IDC^2 \times RN$.
- For core loss (mW), using frequency (f in Hertz) and operating flux density (B in Gauss), calculate $2.24 \times 10^{-10} \times B^2 \times f \times l$.
- For flux density (B in Gauss), calculate ET (V-μsec) for the application, divide by ET₁₀₀ from the table, and multiply by 100.
- Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the part number (i.e. X-1575 becomes X-1575T). Pulse complies to industry standard tape and reel specification EIA481.
- The "NL" suffix indicates an RoHS-compliant part number. Non-NL suffixed parts are not necessarily RoHS compliant, but are electrically and mechanically equivalent to NL versions. If a part number does not have the "NL" suffix, but an RoHS compliant version is required, please contact Pulse for availability.
- The temperature of the component (ambient plus temperature rise) must be within the stated operating temperature range.

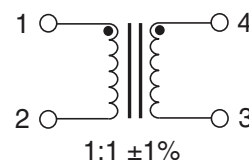
Mechanical

Schematic

X-1575



Suggested Pad Layout



Weight 4.2 grams
 Tube 35/tube
 Tape & Reel 300/reel

Dimensions: Inches
 mm
 Unless otherwise specified, all tolerances are ± .010
 0.25

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