



Part Number: **FS-400090-2**
 Revision 20160816 - Generated 2016-Aug-16



| | | | |
|-----------------------------|--|------------------------|----------------------|
| OD | (nom. - bare core) (max. - after coating) | 101.60 mm 102.87 mm | 4.000 in 4.050 in |
| ID | (nom. - bare core) (min. - after coating) | 57.15 mm 55.75 mm | 2.250 in 2.195 in |
| Ht | (nom. - bare core) (max. - after coating) | 16.51 mm 17.78 mm | 0.650 in 0.700 in |
| Mass | (approximate) | 590 grams | |
| Magnetic Dimensions | A _e - Eff. Mag. Cross Section | 3.52 cm ² | |
| | L _e - Eff. Mag. Path Length | 24.271 cm | |
| | V _e - Eff. Core Volume | 85.5 cm ³ | |
| | WA - Min. Eff. Window Area | 24.4 cm ² | |
| | sa - Surface Area | 303 cm ² | |
| | mlt - mean length per turn | 11.1 cm | |
| Inductance | μ _i (reference) | 90 | |
| | A _L value (nominal) | 164 nH/N ² | |
| | Test Winding | N=140, #18 AWG | |
| | Frequency | 10 kHz | |
| | Voltage on Agilent 4284A | 2.2 V | |
| AL tolerance | ±8% | | |
| Core Loss | $\text{Core Loss (mW/cm}^3\text{)} = \frac{f}{\frac{a}{B_{pk}^3} + \frac{b}{B_{pk}^{2.3}} + \frac{c}{B_{pk}^{1.65}}} + d \cdot B_{pk}^2 \cdot f^2$ | | |
| | where B _{pk} expressed in gauss, f expressed in hertz, and: a=1.000E+06, b=5.648E+08, c=7.440E+04, d=6.942E-14 | | |
| | B _{pk} | 1000 G | |
| | frequency | 50 kHz | |
| | Core Loss (nominal) | 869 mW/cm ³ | |
| Core Loss (maximum) | 999 mW/cm ³ | | |
| DC Saturation | $\% \mu_i = \frac{1}{a + b \cdot H^c} + d$ | | |
| | where H expressed in oersteds, and: a=1.000E-02, b=8.566E-06, c=1.584, d=0.000 | | |
| | H _{DC} | 50 Oe | |
| | Percent Initial Perm.(nom.) | 70.4% | |
| Percent Initial Perm.(min.) | 64.0% | | |
| Coating/Pkg | Coating Type: | Blue Epoxy | |
| | Voltage Breakdown (min.) | 1000 Vrms | |
| | Limit | 0.1 mA, 5 s | |
| | Package Quantity | 16 Pcs/Box | |

| | | | | | | | | | | | | | |
|----------------------|---------------------|--------|--------|---------|---------|--------|---------|---------|---------|-------|-------|--------|-------|
| Winding Table | Wire Size | AWG | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 |
| | | mm | 3.150 | 2.500 | 2.000 | 1.600 | 1.250 | 1.000 | 0.800 | 0.630 | 0.500 | 0.400 | 0.315 |
| | Single Layer | Turns | 44 | 56 | 70 | 88 | 110 | 138 | 172 | 215 | 268 | 335 | 417 |
| | | Rdc(Ω) | 10.0 m | 20.2 m | 40.2 m | 80.5 m | 160.0 m | 319.2 m | 632.7 m | 1.3 | 2.5 | 5.0 | 9.8 |
| Full Winding | Turns | 128 | 198 | 306 | 474 | 733 | 1,135 | 1,756 | 2,719 | 4,208 | 6,512 | 10,079 | |
| | Rdc(Ω) | 29.1 m | 71.6 m | 175.9 m | 433.4 m | 1.1 | 2.6 | 6.5 | 15.9 | 39.1 | 96.4 | 237.2 | |

