



Part Number: **FS-039090-8**
 Revision 20160816 - Generated 2016-Aug-16



| | | | |
|-----------------------------|--|------------------------|----------------------|
| OD | (nom. - bare core) (max. - after coating) | 9.65 mm 10.29 mm | 0.380 in 0.405 in |
| ID | (nom. - bare core) (min. - after coating) | 4.78 mm 4.27 mm | 0.188 in 0.168 in |
| Ht | (nom. - bare core) (max. - after coating) | 3.18 mm 3.81 mm | 0.125 in 0.150 in |
| Mass | (approximate) | 1.1 grams | |
| Magnetic Dimensions | A _e - Eff. Mag. Cross Section | 0.0752 cm ² | |
| | L _e - Eff. Mag. Path Length | 2.18 cm | |
| | V _e - Eff. Core Volume | 0.164 cm ³ | |
| | WA - Min. Eff. Window Area | 0.143 cm ² | |
| | sa - Surface Area | 3.61 cm ² | |
| | mlt - mean length per turn | 1.58 cm | |
| Inductance | μ _i (reference) | 90 | |
| | A _L value (nominal) | 38 nH/N ² | |
| | Test Winding | N=45, #30 AWG | |
| | Frequency | 10 kHz | |
| | Voltage on Agilent 4284A | 0.015 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: | Parylene N | |
| | Voltage Breakdown (min.) | 500 Vrms | |
| | Limit | 0.1 mA, 5 s | |
| | Package Quantity | 10,800 Pcs/Box | |

| | | | | | | | | | | | | | |
|----------------------|---------------------|--------|--------|--------|--------|---------|---------|---------|---------|---------|-------|-------|-------|
| Winding Table | Wire Size | AWG | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 |
| | | mm | 0.800 | 0.630 | 0.500 | 0.400 | 0.315 | 0.250 | 0.200 | 0.160 | 0.125 | 0.100 | 0.080 |
| | Single Layer | Turns | 11 | 14 | 18 | 23 | 29 | 37 | 47 | 59 | 74 | 93 | 116 |
| | | Rdc(Ω) | 5.8 m | 11.7 m | 23.9 m | 48.6 m | 97.4 m | 197.6 m | 399.2 m | 796.9 m | 1.6 | 3.2 | 6.3 |
| Full Winding | Turns | 10 | 16 | 25 | 38 | 59 | 92 | 142 | 219 | 339 | 525 | 813 | |
| | Rdc(Ω) | 5.2 m | 13.4 m | 33.2 m | 80.2 m | 198.1 m | 491.3 m | 1.2 | 3.0 | 7.3 | 17.9 | 44.2 | |

