



**Part Number:** **HF-015160-8**  
 Revision 20160816 - Generated 2016-Aug-16



|                             |  |                        |          |
|-----------------------------|--|------------------------|----------|
| <b>OD</b>                   | (nom. - bare core)   | 3.94 mm                | 0.155 in |
|                             | (max. - after coating)   | 4.14 mm                | 0.163 in |
| <b>ID</b>                   | (nom. - bare core)   | 2.21 mm                | 0.087 in |
|                             | (min. - after coating)   | 2.01 mm                | 0.079 in |
| <b>Ht</b>                   | (nom. - bare core)   | 2.54 mm                | 0.100 in |
|                             | (max. - after coating)   | 2.74 mm                | 0.108 in |
| <b>Mass</b>                 | (approximate)  | 0.15 grams             |          |
| <b>Magnetic Dimensions</b>  | A <sub>e</sub> - Eff. Mag. Cross Section   | 0.0211 cm <sup>2</sup> |          |
|                             | L <sub>e</sub> - Eff. Mag. Path Length   | 0.942 cm               |          |
|                             | V <sub>e</sub> - Eff. Core Volume  | 0.0197 cm <sup>3</sup> |          |
|                             | WA - Min. Eff. Window Area   | 0.0316 cm <sup>2</sup> |          |
|                             | sa - Surface Area  | 0.776 cm <sup>2</sup>  |          |
|                             | mlt - mean length per turn   | 0.862 cm               |          |
| <b>Inductance</b>           | μ <sub>i</sub> (reference)   | 160                    |          |
|                             | A <sub>L</sub> value (nominal)   | 45 nH/N <sup>2</sup>   |          |
|                             | Test Winding   | N=30, #32 AWG          |          |
|                             | Frequency  | 10 kHz                 |          |
|                             | Voltage on Agilent 4284A   | 0.003 V                |          |
|                             | AL tolerance   | ±8%                    |          |
| <b>Core Loss</b>            | $\text{Core Loss (mW/cm}^3\text{)} = \frac{f}{\frac{a}{B_{pk}^3} + \frac{b}{B_{pk}^{2.3}} + \frac{c}{B_{pk}^{1.65}}} + d \cdot B_{pk}^2 \cdot f^2$ |                        |          |
|                             | where B <sub>pk</sub> expressed in gauss, f expressed in hertz, and:<br>a=4.299E+10, b=6.671E+08, c=3.114E+06, d=8.003E-14                         |                        |          |
|                             | B <sub>pk</sub>  | 1000 G                 |          |
|                             | frequency  | 50 kHz                 |          |
|                             | Core Loss (nominal)  | 509 mW/cm <sup>3</sup> |          |
| Core Loss (maximum)         | 585 mW/cm <sup>3</sup>   |                        |          |
| <b>DC Saturation</b>        | $\% \mu_i = \frac{1}{a + b \cdot H^c} + d$   |                        |          |
|                             | where H expressed in oersteds, and:<br>a=1.000E-02, b=1.434E-06, c=2.169, d=0.000  |                        |          |
|                             | H <sub>DC</sub>  | 40 Oe                  |          |
|                             | Percent Initial Perm (nom.)  | 70.0%                  |          |
| Percent Initial Perm (min.) | 61.1%  |                        |          |
| <b>Coating/Pkg</b>          | Coating Type:  | Parylene N             |          |
|                             | Voltage Breakdown (min.)   | 500 Vrms               |          |
|                             | Limit  | 0.1 mA, 5 s            |          |
|                             | Package Quantity   | 27,000 Pcs/Box         |          |

|                      |                     |        |        |         |         |         |         |         |       |       |       |   |   |
|----------------------|---------------------|--------|--------|---------|---------|---------|---------|---------|-------|-------|-------|---|---|
| <b>Winding Table</b> | <b>Wire Size</b>    | AWG    | 28     | 30      | 32      | 34      | 36      | 38      | 40    | 42    | 44    | - | - |
|                      |                     | mm     | 0.315  | 0.250   | 0.200   | 0.160   | 0.125   | 0.100   | 0.080 | 0.063 | 0.050 | - | - |
|                      | <b>Single Layer</b> | Turns  | 12     | 16      | 21      | 26      | 33      | 42      | 53    | 67    | 84    | - | - |
|                      |                     | Rdc(Ω) | 22.0 m | 46.7 m  | 97.4 m  | 191.8 m | 387.1 m | 783.6 m | 1.6   | 3.2   | 6.3   | - | - |
| <b>Full Winding</b>  | Turns               | 13     | 20     | 31      | 49      | 75      | 116     | 180     | 279   | 431   | -     | - |   |
|                      | Rdc(Ω)              | 23.8 m | 58.3 m | 143.8 m | 361.4 m | 879.8 m | 2.2     | 5.3     | 13.2  | 32.3  | -     | - |   |

