



**Part Number: OD-015090-8**

Revision 20190529 - Generated 2019-May-29



(If coated, Max./Min. includes coating)

|                            |  |                        |                      |
|----------------------------|--|------------------------|----------------------|
| <b>OD</b>                  | (nom. - bare core)<br>(max.)   | 3.94 mm<br>4.14 mm     | 0.155 in<br>0.163 in |
| <b>ID</b>                  | (nom. - bare core)<br>(min.)   | 2.21 mm<br>2.01 mm     | 0.087 in<br>0.079 in |
| <b>HT</b>                  | (nom. - bare core)<br>(max.)   | 2.54 mm<br>2.74 mm     | 0.100 in<br>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   | 0.0317 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)   | 90                     |                      |
|                            | A <sub>L</sub> value (nominal)   | 25 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=1.000E+06, b=7.629E+08, c=4.688E+06, d=4.273E-14                         |                        |                      |
|                            | B <sub>pk</sub>  | 1000 G                 |                      |
|                            | frequency  | 50 kHz                 |                      |
|                            | Core Loss (nominal)  | 443 mW/cm <sup>3</sup> |                      |
| Core Loss (maximum)        | 510 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=4.343E-07, c=2.124, d=0.000  |                        |                      |
|                            | H <sub>DC</sub>  | 50 Oe                  |                      |
|                            | Percent Initial Perm(nom.)   | 85.0%                  |                      |
| Percent Initial Perm(min.) | 79.4%  |                        |                      |
| <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  | -     | - |   |

