



**Part Number:** **OP-068026-2**  
 Revision 20160816 - Generated 2016-Aug-16



|                             |                                                                                                                                                    |                        |                      |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|----------------------|
| <b>OD</b>                   | (nom. - bare core)<br>(max. - after coating)                                                                                                       | 17.27 mm<br>18.03 mm   | 0.680 in<br>0.710 in |
| <b>ID</b>                   | (nom. - bare core)<br>(min. - after coating)                                                                                                       | 9.65 mm<br>9.02 mm     | 0.380 in<br>0.355 in |
| <b>Ht</b>                   | (nom. - bare core)<br>(max. - after coating)                                                                                                       | 6.35 mm<br>7.11 mm     | 0.250 in<br>0.280 in |
| <b>Mass</b>                 | (approximate)                                                                                                                                      | 5.8 grams              |                      |
| <b>Magnetic Dimensions</b>  | A <sub>e</sub> - Eff. Mag. Cross Section                                                                                                           | 0.232 cm <sup>2</sup>  |                      |
|                             | L <sub>e</sub> - Eff. Mag. Path Length                                                                                                             | 4.14 cm                |                      |
|                             | V <sub>e</sub> - Eff. Core Volume                                                                                                                  | 0.961 cm <sup>3</sup>  |                      |
|                             | WA - Min. Eff. Window Area                                                                                                                         | 0.639 cm <sup>2</sup>  |                      |
|                             | sa - Surface Area                                                                                                                                  | 11.7 cm <sup>2</sup>   |                      |
|                             | mlt - mean length per turn                                                                                                                         | 2.77 cm                |                      |
| <b>Inductance</b>           | μ <sub>i</sub> (reference)                                                                                                                         | 26                     |                      |
|                             | A <sub>L</sub> value (nominal)                                                                                                                     | 19 nH/N <sup>2</sup>   |                      |
|                             | Test Winding                                                                                                                                       | N=70, #28 AWG          |                      |
|                             | Frequency                                                                                                                                          | 10 kHz                 |                      |
|                             | Voltage on Agilent 4284A                                                                                                                           | 0.072 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=4.732E+08, c=5.789E+06, d=7.000E-14                         |                        |                      |
|                             | B <sub>pk</sub>                                                                                                                                    | 300 G                  |                      |
|                             | frequency                                                                                                                                          | 100 kHz                |                      |
|                             | Core Loss (nominal)                                                                                                                                | 133 mW/cm <sup>3</sup> |                      |
| Core Loss (maximum)         | 153 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=1.566E-06, c=1.557, d=0.000                                                                  |                        |                      |
|                             | H <sub>DC</sub>                                                                                                                                    | 200 Oe                 |                      |
|                             | Percent Initial Perm.(nom.)                                                                                                                        | 62.5%                  |                      |
| Percent Initial Perm.(min.) | 55.7%                                                                                                                                              |                        |                      |
| <b>Coating/Pkg</b>          | Coating Type:                                                                                                                                      | Blue Epoxy             |                      |
|                             | Voltage Breakdown (min.)                                                                                                                           | 1000 Vrms              |                      |
|                             | Limit                                                                                                                                              | 0.1 mA, 5 s            |                      |
|                             | Package Quantity                                                                                                                                   | 2,340 Pcs/Box          |                      |

|                      |                     |        |       |        |        |         |         |         |         |         |         |       |       |
|----------------------|---------------------|--------|-------|--------|--------|---------|---------|---------|---------|---------|---------|-------|-------|
| <b>Winding Table</b> | <b>Wire Size</b>    | AWG    | 14    | 16     | 18     | 20      | 22      | 24      | 26      | 28      | 30      | 32    | 34    |
|                      |                     | mm     | 1.600 | 1.250  | 1.000  | 0.800   | 0.630   | 0.500   | 0.400   | 0.315   | 0.250   | 0.200 | 0.160 |
|                      | <b>Single Layer</b> | Turns  | 12    | 15     | 20     | 26      | 32      | 41      | 52      | 65      | 82      | 102   | 128   |
|                      |                     | Rdc(Ω) | 2.8 m | 5.5 m  | 11.6 m | 24.0 m  | 47.0 m  | 95.7 m  | 193.1 m | 383.8 m | 770.0 m | 1.5   | 3.0   |
| <b>Full Winding</b>  | Turns               | 12     | 19    | 30     | 46     | 71      | 110     | 170     | 264     | 408     | 632     | 978   |       |
|                      | Rdc(Ω)              | 2.8 m  | 6.9 m | 17.4 m | 42.5 m | 104.2 m | 256.8 m | 631.1 m | 1.6     | 3.8     | 9.4     | 23.2  |       |

