



**Part Number: MS-108075-2**  
Revision 20160816 - Generated 2016-Aug-16



|                             |  |                         |                      |
|-----------------------------|--|-------------------------|----------------------|
| <b>OD</b>                   | (nom. - bare core)<br>(max. - after coating)   | 26.92 mm<br>27.81 mm    | 1.060 in<br>1.095 in |
| <b>ID</b>                   | (nom. - bare core)<br>(min. - after coating)   | 14.73 mm<br>14.10 mm    | 0.580 in<br>0.555 in |
| <b>Ht</b>                   | (nom. - bare core)<br>(max. - after coating)   | 14.00 mm<br>15.00 mm    | 0.551 in<br>0.591 in |
| <b>Mass</b>                 | (approximate)  | 30 grams                |                      |
| <b>Magnetic Dimensions</b>  | A <sub>e</sub> - Eff. Mag. Cross Section   | 0.819 cm <sup>2</sup>   |                      |
|                             | L <sub>e</sub> - Eff. Mag. Path Length   | 6.35 cm                 |                      |
|                             | V <sub>e</sub> - Eff. Core Volume  | 5.20 cm <sup>3</sup>    |                      |
|                             | WA - Min. Eff. Window Area   | 1.56 cm <sup>2</sup>    |                      |
|                             | sa - Surface Area  | 31.9 cm <sup>2</sup>    |                      |
|                             | mlt - mean length per turn   | 5.08 cm                 |                      |
| <b>Inductance</b>           | μ <sub>i</sub> (reference)   | 75                      |                      |
|                             | A <sub>L</sub> value (nominal)   | 117.5 nH/N <sup>2</sup> |                      |
|                             | Test Winding   | N=80, #26 AWG           |                      |
|                             | Frequency  | 10 kHz                  |                      |
|                             | Voltage on Agilent 4284A   | 0.29 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=7.890E+09, b=7.111E+08, c=8.980E+06, d=2.846E-14                         |                         |                      |
|                             | B <sub>pk</sub>  | 1000 G                  |                      |
|                             | frequency  | 50 kHz                  |                      |
|                             | Core Loss (nominal)  | 323 mW/cm <sup>3</sup>  |                      |
| Core Loss (maximum)         | 372 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=3.414E-06, c=1.841, d=0.000  |                         |                      |
|                             | H <sub>DC</sub>  | 80 Oe                   |                      |
|                             | Percent Initial Perm.(nom.)  | 47.9%                   |                      |
| Percent Initial Perm.(min.) | 39.6%  |                         |                      |
| <b>Coating/Pkg</b>          | Coating Type:  | Blue Epoxy              |                      |
|                             | Voltage Breakdown (min.)   | 1000 Vrms               |                      |
|                             | Limit  | 0.1 mA, 5 s             |                      |
|                             | Package Quantity   | 500 Pcs/Box             |                      |

|                      |                     |        |       |        |        |        |         |         |         |         |         |       |       |
|----------------------|---------------------|--------|-------|--------|--------|--------|---------|---------|---------|---------|---------|-------|-------|
| <b>Winding Table</b> | <b>Wire Size</b>    | AWG    | 10    | 12     | 14     | 16     | 18      | 20      | 22      | 24      | 26      | 28    | 30    |
|                      |                     | mm     | 2.500 | 2.000  | 1.600  | 1.250  | 1.000   | 0.800   | 0.630   | 0.500   | 0.400   | 0.315 | 0.250 |
|                      | <b>Single Layer</b> | Turns  | 12    | 16     | 20     | 26     | 33      | 41      | 52      | 66      | 82      | 103   | 129   |
|                      |                     | Rdc(Ω) | 2.0 m | 4.2 m  | 8.4 m  | 17.4 m | 35.0 m  | 69.2 m  | 139.7 m | 281.9 m | 557.1 m | 1.1   | 2.2   |
| <b>Full Winding</b>  | Turns               | 13     | 20    | 30     | 47     | 73     | 112     | 174     | 269     | 417     | 645     | 998   |       |
|                      | Rdc(Ω)              | 2.2 m  | 5.3 m | 12.6 m | 31.4 m | 77.5 m | 189.2 m | 467.3 m | 1.1     | 2.8     | 7.0     | 17.1  |       |

