



**Part Number: MS-025160-8**  
Revision 20160816 - Generated 2016-Aug-16



|                             |  |                        |          |
|-----------------------------|--|------------------------|----------|
| <b>OD</b>                   | (nom. - bare core)   | 6.35 mm                | 0.250 in |
|                             | (max. - after coating)   | 6.99 mm                | 0.275 in |
| <b>ID</b>                   | (nom. - bare core)   | 2.79 mm                | 0.110 in |
|                             | (min. - after coating)   | 2.29 mm                | 0.090 in |
| <b>Ht</b>                   | (nom. - bare core)   | 2.79 mm                | 0.110 in |
|                             | (max. - after coating)   | 3.43 mm                | 0.135 in |
| <b>Mass</b>                 | (approximate)  | 0.38 grams             |          |
| <b>Magnetic Dimensions</b>  | A <sub>e</sub> - Eff. Mag. Cross Section   | 0.0476 cm <sup>2</sup> |          |
|                             | L <sub>e</sub> - Eff. Mag. Path Length   | 1.36 cm                |          |
|                             | V <sub>e</sub> - Eff. Core Volume  | 0.0642 cm <sup>3</sup> |          |
|                             | WA - Min. Eff. Window Area   | 0.0410 cm <sup>2</sup> |          |
|                             | sa - Surface Area  | 1.80 cm <sup>2</sup>   |          |
|                             | mlt - mean length per turn   | 1.27 cm                |          |
| <b>Inductance</b>           | μ <sub>i</sub> (reference)   | 160                    |          |
|                             | A <sub>L</sub> value (nominal)   | 64 nH/N <sup>2</sup>   |          |
|                             | Test Winding   | N=30, #32 AWG          |          |
|                             | Frequency  | 10 kHz                 |          |
|                             | Voltage on Agilent 4284A   | 0.006 V                |          |
|                             | AL tolerance   | ±12%                   |          |
| <b>Core Loss</b>            | Core Loss(mW/cm <sup>3</sup> )= $\frac{f}{\frac{a}{B_{pk}^3} + \frac{b}{B_{pk}^{2.3}} + \frac{c}{B_{pk}^{1.65}}} + d \cdot B_{pk}^2 \cdot f^2$ |                        |          |
|                             | where B <sub>pk</sub> expressed in gauss, f expressed in hertz, and:<br>a=3.679E+10, b=1.150E+09, c=1.004E+07, d=2.851E-14                     |                        |          |
|                             | B <sub>pk</sub>  | 1000 G                 |          |
|                             | frequency  | 50 kHz                 |          |
|                             | Core Loss (nominal)  | 241 mW/cm <sup>3</sup> |          |
| Core Loss (maximum)         | 277 mW/cm <sup>3</sup>   |                        |          |
| <b>DC Saturation</b>        | %μ <sub>i</sub> = $\frac{1}{a + b \cdot H^c} + d$  |                        |          |
|                             | where H expressed in oersteds, and:<br>a=1.000E-02, b=4.439E-05, c=1.627, d=0.000  |                        |          |
|                             | H <sub>DC</sub>  | 40 Oe                  |          |
|                             | Percent Initial Perm.(nom.)  | 35.8%                  |          |
| Percent Initial Perm.(min.) | 29.3%  |                        |          |
| <b>Coating/Pkg</b>          | Coating Type:  | Parylene N             |          |
|                             | Voltage Breakdown (min.)   | 500 Vrms               |          |
|                             | Limit  | 0.1 mA, 5 s            |          |
|                             | Package Quantity   | 21,600 Pcs/Box         |          |

|                      |                     |        |        |         |         |         |         |         |       |       |       |       |   |
|----------------------|---------------------|--------|--------|---------|---------|---------|---------|---------|-------|-------|-------|-------|---|
| <b>Winding Table</b> | <b>Wire Size</b>    | AWG    | 26     | 28      | 30      | 32      | 34      | 36      | 38    | 40    | 42    | 44    | - |
|                      |                     | mm     | 0.400  | 0.315   | 0.250   | 0.200   | 0.160   | 0.125   | 0.100 | 0.080 | 0.063 | 0.050 | - |
|                      | <b>Single Layer</b> | Turns  | 11     | 14      | 19      | 24      | 30      | 38      | 49    | 61    | 77    | 96    | - |
|                      |                     | Rdc(Ω) | 18.7 m | 37.9 m  | 81.7 m  | 164.2 m | 326.3 m | 657.4 m | 1.3   | 2.7   | 5.4   | 10.6  | - |
| <b>Full Winding</b>  | Turns               | 11     | 17     | 26      | 41      | 63      | 98      | 151     | 234   | 362   | 560   | -     |   |
|                      | Rdc(Ω)              | 18.7 m | 46.0 m | 111.8 m | 280.4 m | 685.3 m | 1.7     | 4.2     | 10.2  | 25.2  | 62.0  | -     |   |

