



Part Number:

MS-650026-2

Revision:

2023-Dec-06



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

|                            |                                                                                                                                          | mm          | in                 |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------|
| <b>OD</b>                  | (nom. - bare core)                                                                                                                       | 165.10      | 6.500              |
|                            | (max.)                                                                                                                                   | 166.37      | 6.550              |
| <b>ID</b>                  | (nom. - bare core)                                                                                                                       | 102.40      | 4.031              |
|                            | (min.)                                                                                                                                   | 101.13      | 3.981              |
| <b>HT</b>                  | (nom. - bare core)                                                                                                                       | 31.75       | 1.250              |
|                            | (max.)                                                                                                                                   | 33.02       | 1.300              |
| <b>Mass</b>                | (approximate)                                                                                                                            | 2,050       | grams              |
| <b>Magnetic Dimensions</b> | $A_e$ - Eff. Mag. Cross Section                                                                                                          | 9.87        | cm <sup>2</sup>    |
|                            | $L_e$ - Eff. Mag. Path Length                                                                                                            | 41.2        | cm                 |
|                            | $V_e$ - Eff. Core Volume                                                                                                                 | 415         | cm <sup>3</sup>    |
|                            | $W_A$ - Min. Eff. Window Area                                                                                                            | 80.3        | cm <sup>2</sup>    |
|                            | $s_a$ - Surface Area                                                                                                                     | 838         | cm <sup>2</sup>    |
|                            | $m_{lt}$ - mean length per turn                                                                                                          | 18.2        | cm                 |
| <b>Inductance</b>          | $\mu_i$ (reference)                                                                                                                      | 26          |                    |
|                            | $A_L$ value (nominal)                                                                                                                    | 78          | nH/N <sup>2</sup>  |
|                            | Test Winding                                                                                                                             | 100 Turns   | AWG# 22            |
|                            | Frequency                                                                                                                                | 10k         | Hz                 |
|                            | Voltage on Agilent 4284A                                                                                                                 | 4.4         | V                  |
|                            | AL tolerance                                                                                                                             | ±8%         |                    |
| <b>Core Loss</b>           | $\text{Core Loss (mW/cm}^3\text{)} = \frac{a}{B_{pk}^3} + \frac{b}{B_{pk}^{2.3}} + \frac{c}{B_{pk}^{1.65}} + d \cdot B_{pk}^2 \cdot f^2$ |             |                    |
|                            | where $B_{pk}$ expressed in gauss, $f$ expressed in hertz, and:                                                                          |             |                    |
|                            | $a=1.000E+06$ , $b=3.991E+08$ , $c=2.565E+06$ , $d=3.320E-14$                                                                            |             |                    |
|                            | $B_{pk}$                                                                                                                                 | 500         | G                  |
|                            | frequency                                                                                                                                | 100 k       | Hz                 |
|                            | Core Loss (nominal)                                                                                                                      | 379         | 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:                                                                                                      |             |                    |
|                            | $a=1.000E-02$ , $b=4.158E-06$ , $c=1.508$ , $d=0.000$                                                                                    |             |                    |
|                            | $H_{dc}$                                                                                                                                 | 200         | Oe                 |
| <b>Coating/Pkg</b>         | Coating Type:                                                                                                                            | Blue Epoxy  |                    |
|                            | Voltage Breakdown (min.)                                                                                                                 | 1000 Vrms   |                    |
|                            | Limit                                                                                                                                    | 0.1 mA, 5 s |                    |
|                            | Package Quantity                                                                                                                         | 3 Pcs/Box   |                    |

| Winding Table | Wire Size    | AWG    | 8       | 10      | 12      | 14    | 16    | 18    | 20    | 22    | 24     | 26     | 28     |
|---------------|--------------|--------|---------|---------|---------|-------|-------|-------|-------|-------|--------|--------|--------|
|               |              | mm     | 3.150   | 2.500   | 2.000   | 1.600 | 1.250 | 1.000 | 0.800 | 0.630 | 0.500  | 0.400  | 0.315  |
|               | Single Layer | Turns  | 83      | 104     | 130     | 162   | 203   | 253   | 315   | 393   | 489    | 609    | 758    |
|               | Full Winding | Turns  | 420     | 651     | 1,007   | 1,559 | 2,413 | 3,734 | 5,780 | 8,946 | 13,846 | 21,429 | 33,167 |
|               |              | Rdc(Ω) | 157.0 m | 387.1 m | 952.3 m | 2.3   | 5.8   | 14.2  | 35.0  | 86.1  | 211.9  | 521.5  | 1.3 k  |

