



Part Number:

MS-226075-2

Revision:

2023-Dec-06



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

| (If coated, Max./Min. includes coating) |                                                                                                                                                                         | mm                 | in                 |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------|
| OD                                      | (nom. - bare core)                                                                                                                                                      | 57.15              | 2.250              |
|                                         | (max.)                                                                                                                                                                  | 58.04              | 2.285              |
| ID                                      | (nom. - bare core)                                                                                                                                                      | 26.39              | 1.039              |
|                                         | (min.)                                                                                                                                                                  | 25.58              | 1.007              |
| HT                                      | (nom. - bare core)                                                                                                                                                      | 15.24              | 0.600              |
|                                         | (max.)                                                                                                                                                                  | 16.13              | 0.635              |
| Mass                                    | (approximate)                                                                                                                                                           | 170                | grams              |
| Magnetic Dimensions                     | A <sub>e</sub> - Eff. Mag. Cross Section                                                                                                                                | 2.29               | cm <sup>2</sup>    |
|                                         | L <sub>e</sub> - Eff. Mag. Path Length                                                                                                                                  | 12.506             | cm                 |
|                                         | V <sub>e</sub> - Eff. Core Volume                                                                                                                                       | 28.6               | cm <sup>3</sup>    |
|                                         | WA - Min. Eff. Window Area                                                                                                                                              | 5.14               | cm <sup>2</sup>    |
|                                         | sa - Surface Area                                                                                                                                                       | 105                | cm <sup>2</sup>    |
|                                         | mlt - mean length per turn                                                                                                                                              | 7.75               | cm                 |
| Inductance                              | μ <sub>i</sub> (reference)                                                                                                                                              | 75                 |                    |
|                                         | A <sub>L</sub> value (nominal)                                                                                                                                          | 172                | nH/N <sup>2</sup>  |
|                                         | Test Winding                                                                                                                                                            | 60 Turns           | AWG# 18            |
|                                         | Frequency                                                                                                                                                               | 10k                | Hz                 |
|                                         | Voltage on Agilent 4284A                                                                                                                                                | 0.61               | V                  |
|                                         | AL tolerance                                                                                                                                                            | ±8%                |                    |
| Core Loss                               | $\text{Core Loss (mW/cm}^3\text{)} = \frac{a}{B_{pk}^3} + \frac{b}{B_{pk}^{2.3}} + \frac{c}{B_{pk}^{1.65}} + d \cdot B_{pk}^2 \cdot f^2$                                |                    |                    |
|                                         | where <i>B<sub>pk</sub></i> expressed in gauss, <i>f</i> expressed in hertz, and:<br><i>a</i> =7.890E+09, <i>b</i> =7.111E+08, <i>c</i> =8.980E+06, <i>d</i> =2.846E-14 |                    |                    |
|                                         | B <sub>pk</sub>                                                                                                                                                         | 1000               | G                  |
|                                         | frequency                                                                                                                                                               | 50 k               | Hz                 |
|                                         | Core Loss (nominal)                                                                                                                                                     | 323                | mW/cm <sup>3</sup> |
| Core Loss (maximum)                     | 372                                                                                                                                                                     | mW/cm <sup>3</sup> |                    |
| DC Saturation                           | $\% \mu_i \frac{1}{a + b \cdot H^c} + d$                                                                                                                                |                    |                    |
|                                         | where H expressed in oersteds, and:<br><i>a</i> =1.000E-02, <i>b</i> =3.414E-06, <i>c</i> =1.841, <i>d</i> =0.000                                                       |                    |                    |
|                                         | H <sub>DC</sub>                                                                                                                                                         | 80                 | Oe                 |
|                                         | Percent Initial Perm.(nom.)                                                                                                                                             | 47.9               | %                  |
|                                         | Percent Initial Perm.(min.)                                                                                                                                             | 39.6               | %                  |
| Coating/Pkg                             | Coating Type: Blue Epoxy                                                                                                                                                |                    |                    |
|                                         | Voltage Breakdown (min.)                                                                                                                                                | 1000               | Vrms               |
|                                         | Limit                                                                                                                                                                   | 0.1 mA, 5 s        |                    |
|                                         | Package Quantity                                                                                                                                                        | 60 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  | 19    | 24     | 31     | 39     | 49      | 62      | 78      | 97      | 122     | 152   | 190   |
|               | Full Winding | Turns  | 27    | 42     | 64     | 100    | 154     | 239     | 370     | 572     | 886     | 1,371 | 2,122 |
|               |              | Rdc(Ω) | 3.0 m | 6.1 m  | 12.5 m | 25.0 m | 50.0 m  | 100.5 m | 201.2 m | 397.8 m | 795.8 m | 1.6   | 3.1   |
|               |              | Rdc(Ω) | 4.3 m | 10.6 m | 25.8 m | 64.1 m | 157.0 m | 387.5 m | 954.2 m | 2.3     | 5.8     | 14.2  | 35.0  |

