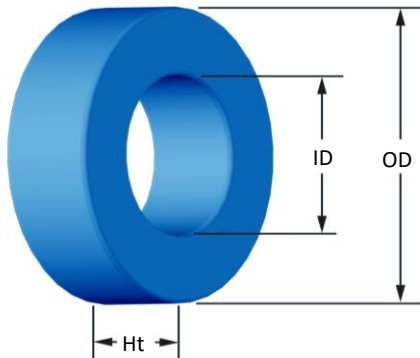




Part Number:

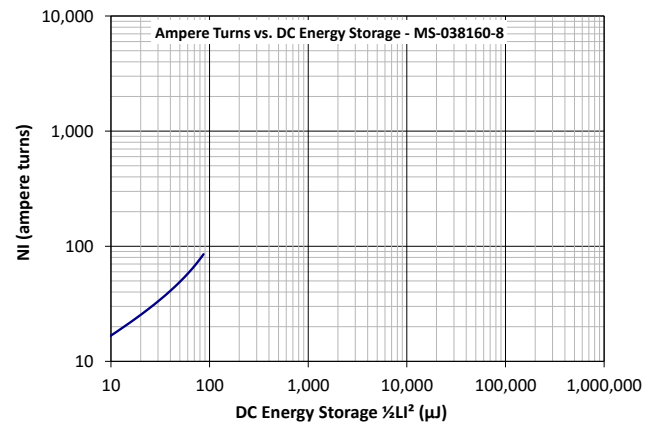
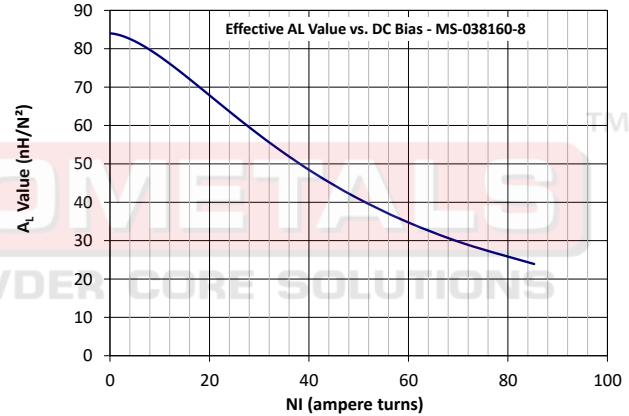
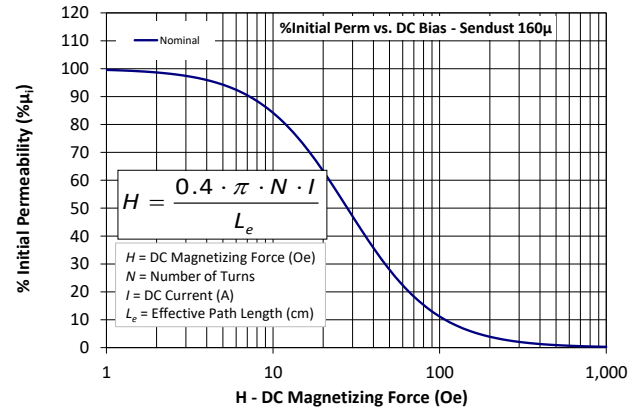
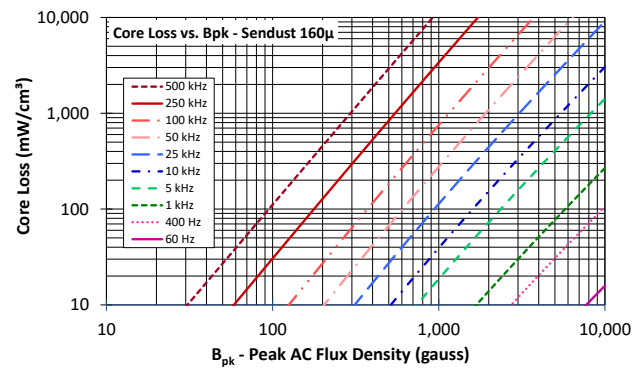
**MS-038160-8**

Revision 2022-Apr-28



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

|                            |                                                                      |                                                                                                      |                      |
|----------------------------|----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|----------------------|
| <b>OD</b>                  | (nom. - bare core)<br>(max.)                                         | 9.65 mm<br>10.29 mm                                                                                  | 0.380 in<br>0.405 in |
| <b>ID</b>                  | (nom. - bare core)<br>(min.)                                         | 4.78 mm<br>4.27 mm                                                                                   | 0.188 in<br>0.168 in |
| <b>HT</b>                  | (nom. - bare core)<br>(max.)                                         | 3.96 mm<br>4.57 mm                                                                                   | 0.156 in<br>0.180 in |
| <b>Mass</b>                | (approximate)                                                        | 1.2 grams                                                                                            |                      |
| <b>Magnetic Dimensions</b> | A <sub>e</sub> - Eff. Mag. Cross Section                             | 0.0945 cm <sup>2</sup>                                                                               |                      |
|                            | L <sub>e</sub> - Eff. Mag. Path Length                               | 2.18 cm                                                                                              |                      |
|                            | V <sub>e</sub> - Eff. Core Volume                                    | 0.206 cm <sup>3</sup>                                                                                |                      |
|                            | WA - Min. Eff. Window Area                                           | 0.143 cm <sup>2</sup>                                                                                |                      |
|                            | sa - Surface Area                                                    | 3.88 cm <sup>2</sup>                                                                                 |                      |
| <b>Inductance</b>          | mlt - mean length per turn                                           | 1.73 cm                                                                                              |                      |
|                            | μ <sub>i</sub> (reference)                                           | 160                                                                                                  |                      |
|                            | A <sub>L</sub> value (nominal)                                       | 84 nH/N <sup>2</sup>                                                                                 |                      |
|                            | Test Winding                                                         | N=45, #30 AWG                                                                                        |                      |
|                            | Frequency                                                            | 10 kHz                                                                                               |                      |
| <b>Core Loss</b>           | Voltage on Agilent 4284A                                             | 0.019 V                                                                                              |                      |
|                            | AL tolerance                                                         | ±12%                                                                                                 |                      |
|                            | Core Loss(mW/cm <sup>3</sup> ):                                      | $\frac{a}{B_{pk}^3} + \frac{b}{B_{pk}^{2.3}} + \frac{c}{B_{pk}^{1.65}} + d \cdot B_{pk}^2 \cdot f^2$ |                      |
|                            | where B <sub>pk</sub> expressed in gauss, f expressed in hertz, and: | a=1.394E+10, b=1.034E+09, c=1.244E+07, d=4.007E-14                                                   |                      |
|                            | B <sub>pk</sub>                                                      | 1000 G                                                                                               |                      |
| <b>DC Saturation</b>       | frequency                                                            | 50 kHz                                                                                               |                      |
|                            | Core Loss (nominal)                                                  | 276 mW/cm <sup>3</sup>                                                                               |                      |
|                            | Core Loss (maximum)                                                  | 318 mW/cm <sup>3</sup>                                                                               |                      |
|                            | %μ <sub>i</sub>                                                      | $\frac{1}{a + b \cdot H^c} + d$                                                                      |                      |
|                            | where H expressed in oersteds, and:                                  | a=1.000E-02, b=4.439E-05, c=1.627, d=0.000                                                           |                      |
| <b>Coating/Pkg</b>         | H <sub>DC</sub>                                                      | 40 Oe                                                                                                |                      |
|                            | Percent Initial Perm(nom.)                                           | 35.8%                                                                                                |                      |
|                            | Percent Initial Perm(min.)                                           | 29.3%                                                                                                |                      |
|                            | Coating Type:                                                        | Parylene N                                                                                           |                      |
|                            | Voltage Breakdown (min.)                                             | 500 Vrms                                                                                             |                      |
| <b>Winding Table</b>       | Limit                                                                | 0.1 mA, 5 s                                                                                          |                      |
|                            | Package Quantity                                                     | 10,800 Pcs/Box                                                                                       |                      |
|                            | Wire Size                                                            | AWG                                                                                                  | 20                   |
|                            | Wire Size                                                            | mm                                                                                                   | 0.800                |
|                            | Single Layer                                                         | Turns                                                                                                | 11                   |
|                            | Full Winding                                                         | Turns                                                                                                | 10                   |



|                      |                     |        |       |        |        |        |         |         |         |         |       |       |       |
|----------------------|---------------------|--------|-------|--------|--------|--------|---------|---------|---------|---------|-------|-------|-------|
| <b>Winding Table</b> | <b>Wire Size</b>    | AWG    | 20    | 22     | 24     | 26     | 28      | 30      | 32      | 34      | 36    | 38    | 40    |
|                      |                     | mm     | 0.800 | 0.630  | 0.500  | 0.400  | 0.315   | 0.250   | 0.200   | 0.160   | 0.125 | 0.100 | 0.080 |
|                      | <b>Single Layer</b> | Turns  | 11    | 14     | 18     | 23     | 29      | 37      | 47      | 59      | 74    | 93    | 116   |
|                      |                     | Rdc(Ω) | 6.3 m | 12.8 m | 26.2 m | 53.2 m | 106.8 m | 216.6 m | 437.6 m | 873.7 m | 1.7   | 3.5   | 6.9   |
|                      | <b>Full Winding</b> | Turns  | 10    | 16     | 25     | 38     | 59      | 92      | 142     | 219     | 339   | 525   | 813   |
|                      |                     | Rdc(Ω) | 5.8 m | 14.6 m | 36.4 m | 88.0 m | 217.2 m | 538.6 m | 1.3     | 3.2     | 8.0   | 19.7  | 48.4  |