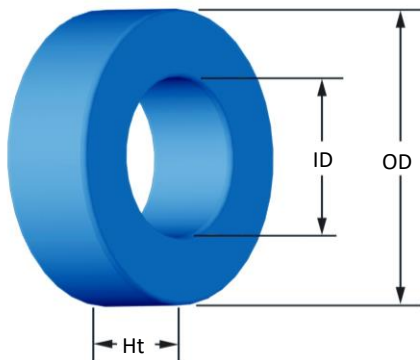




Part Number:

**MS-080014-2H127**

Revision 2021-Dec-01 - Generated 2021-Dec-01



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

|                            |                                                                                                                                          |                        |                      |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------|------------------------|----------------------|
| <b>OD</b>                  | (nom. - bare core)<br>(max.)                                                                                                             | 20.32 mm<br>21.08 mm   | 0.800 in<br>0.830 in |
| <b>ID</b>                  | (nom. - bare core)<br>(min.)                                                                                                             | 12.70 mm<br>12.07 mm   | 0.500 in<br>0.475 in |
| <b>HT</b>                  | (nom. - bare core)<br>(max.)                                                                                                             | 12.70 mm<br>13.46 mm   | 0.500 in<br>0.530 in |
| <b>Mass</b>                | (approximate)                                                                                                                            | 11 grams               |                      |
| <b>Magnetic Dimensions</b> | $A_e$ - Eff. Mag. Cross Section                                                                                                          | 0.452 cm <sup>2</sup>  |                      |
|                            | $L_e$ - Eff. Mag. Path Length                                                                                                            | 5.09 cm                |                      |
|                            | $V_e$ - Eff. Core Volume                                                                                                                 | 2.30 cm <sup>3</sup>   |                      |
|                            | WA - Min. Eff. Window Area                                                                                                               | 1.14 cm <sup>2</sup>   |                      |
|                            | sa - Surface Area                                                                                                                        | 20.3 cm <sup>2</sup>   |                      |
| <b>Inductance</b>          | mlt - mean length per turn                                                                                                               | 4.20 cm                |                      |
|                            | $\mu_i$ (reference)                                                                                                                      | 14                     |                      |
|                            | $A_L$ value (nominal)                                                                                                                    | 15.6 nH/N <sup>2</sup> |                      |
|                            | Test Winding                                                                                                                             | N=90, #28 AWG          |                      |
|                            | Frequency                                                                                                                                | 10 kHz                 |                      |
| <b>Core Loss</b>           | Voltage on Agilent 4284A                                                                                                                 | 0.18 V                 |                      |
|                            | AL tolerance                                                                                                                             | ±8%                    |                      |
|                            | $\text{Core Loss (mW/cm}^3\text{)} = \frac{f}{B_{pk}^3} + \frac{b}{B_{pk}^{2.3}} + \frac{c}{B_{pk}^{1.65}} + d \cdot B_{pk}^2 \cdot f^2$ |                        |                      |
|                            | where $B_{pk}$ expressed in gauss, $f$ expressed in hertz, and:<br>$a=1.000E+06$ , $b=1.814E+08$ , $c=3.377E+06$ , $d=2.628E-14$         |                        |                      |
|                            | $B_{pk}$                                                                                                                                 | 300 G                  |                      |
| <b>DC Saturation</b>       | frequency                                                                                                                                | 100 kHz                |                      |
|                            | Core Loss (nominal)                                                                                                                      | 180 mW/cm <sup>3</sup> |                      |
|                            | Core Loss (maximum)                                                                                                                      | 207 mW/cm <sup>3</sup> |                      |
|                            | $\% \mu_i = \frac{1}{a + b \cdot H^c} + d$                                                                                               |                        |                      |
|                            | where H expressed in oersteds, and:<br>$a=1.000E-02$ , $b=9.443E-07$ , $c=1.533$ , $d=0.000$                                             |                        |                      |
| <b>Coating/Pkg</b>         | $H_{dc}$                                                                                                                                 | 200 Oe                 |                      |
|                            | Percent Initial Perm(nom.)                                                                                                               | 75.9%                  |                      |
|                            | Percent Initial Perm(min.)                                                                                                               | 70.4%                  |                      |
|                            | Coating Type:                                                                                                                            | Blue Epoxy             |                      |
|                            | Voltage Breakdown (min.)                                                                                                                 | 1000 Vrms              |                      |
| <b>Winding Table</b>       | Limit                                                                                                                                    | 0.1 mA, 5 s            |                      |
|                            | Package Quantity                                                                                                                         | 900 Pcs/Box            |                      |
|                            |                                                                                                                                          |                        |                      |
|                            |                                                                                                                                          |                        |                      |
|                            |                                                                                                                                          |                        |                      |

| Wire Size    | 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 |
| Single Layer | Turns  | 10    | 13    | 17    | 22     | 28     | 35      | 44      | 56      | 70      | 88      | 110   |
|              | Rdc(Ω) | 1.4 m | 2.8 m | 5.9 m | 12.1 m | 24.6 m | 48.9 m  | 97.7 m  | 197.8 m | 393.2 m | 786.0 m | 1.6   |
| Full Winding | Turns  | 9     | 14    | 22    | 34     | 53     | 82      | 127     | 197     | 305     | 472     | 731   |
|              | Rdc(Ω) | 1.2 m | 3.1 m | 7.6 m | 18.8 m | 46.5 m | 114.5 m | 282.0 m | 695.7 m | 1.7     | 4.2     | 10.4  |

