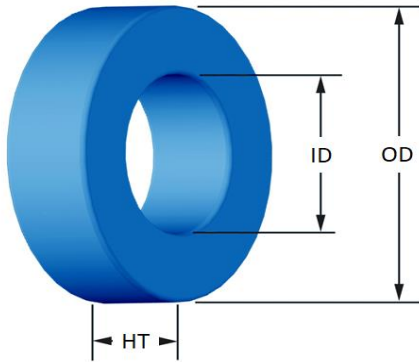




Part Number: **MP-130125-2**

Revision: 2024-Apr-10



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

| | mm | in |
|-----------|--|----------------|
| OD | (nom. - bare core) 33.02 (max.) 33.83 | 1.300 1.332 |
| ID | (nom. - bare core) 19.94 (min.) 19.30 | 0.785 0.760 |
| HT | (nom. - bare core) 10.67 (max.) 11.61 | 0.420 0.457 |

| Mass | (approximate) | 42 | grams |
|----------------------------|---------------------------------|-------|-----------------|
| Magnetic Dimensions | A_e - Eff. Mag. Cross Section | 0.672 | cm ² |
| | L_e - Eff. Mag. Path Length | 8.15 | cm |
| | V_e - Eff. Core Volume | 5.48 | cm ³ |
| | W_A - Min. Eff. Window Area | 2.93 | cm ² |
| | s_a - Surface Area | 40.1 | cm ² |
| | m_{lt} - mean length per turn | 4.74 | cm |

| Inductance | μ_i (reference) | 125 | |
|-------------------|--------------------------|----------|-------------------|
| | A_L value (nominal) | 127 | nH/N ² |
| | Test Winding | 70 Turns | AWG# 22 |
| | Frequency | 10k | Hz |
| | Voltage on Agilent 4284A | 0.21 | 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 B_{pk} expressed in gauss, f expressed in hertz, and: $a=1.000E+06$, $b=2.001E+09$, $c=4.002E+06$, $d=2.070E-14$ | | |
| | B_{pk} | 1000 | G |
| | frequency | 50 k | Hz |
| | Core Loss (nominal) | 220 | mW/cm ³ |
| Core Loss (maximum) | 275 | mW/cm ³ | |

| DC Saturation | $\% \mu_i = \frac{1}{a + b \cdot H^c} + d$ | |
|----------------------------|--|--------|
| | where H expressed in oersteds, and: $a=1.000E-02$, $b=6.960E-07$, $c=2.451$, $d=0.000$ | |
| | H_{DC} | 40 Oe |
| | Percent Initial Perm(nom.) | 63.0 % |
| Percent Initial Perm(min.) | 52.1 % | |

| Coating/Pkg | Coating Type: | Blue Epoxy |
|--------------------|--------------------------|-------------|
| | Voltage Breakdown (min.) | 1000 Vrms |
| | Limit | 0.1 mA, 5 s |
| | Package Quantity | 336 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 | 14 | 18 | 22 | 29 | 36 | 46 | 58 | 73 | 91 | 114 | 142 |
| | | Rdc(Ω) | 1.4 m | 2.8 m | 5.4 m | 11.4 m | 22.4 m | 45.6 m | 91.5 m | 183.1 m | 363.0 m | 723.2 m | 1.4 |
| Full Winding | Turns | 15 | 24 | 37 | 57 | 88 | 136 | 211 | 326 | 504 | 780 | 1,208 | |
| | Rdc(Ω) | 1.5 m | 3.7 m | 9.1 m | 22.3 m | 54.9 m | 134.9 m | 332.8 m | 817.6 m | 2.0 | 4.9 | 12.2 | |

