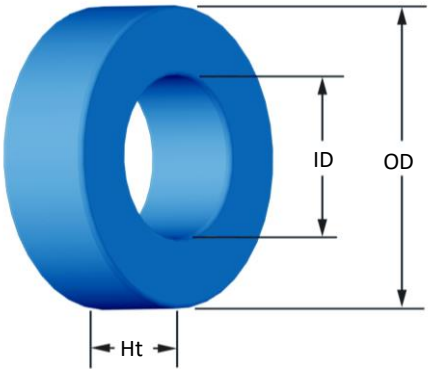
MICROMETALS™
POWDER CORE SOLUTIONS

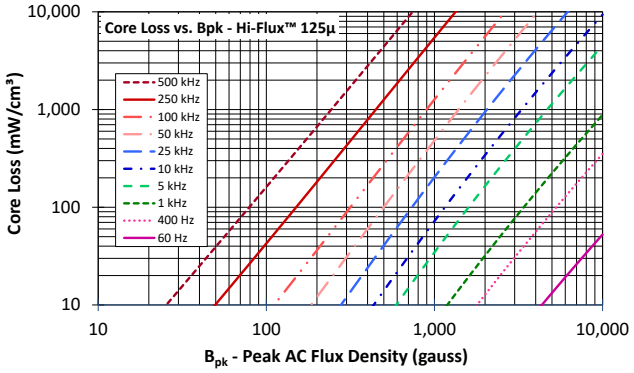
| Part Number: | HF-090125-2 |
|---|---|

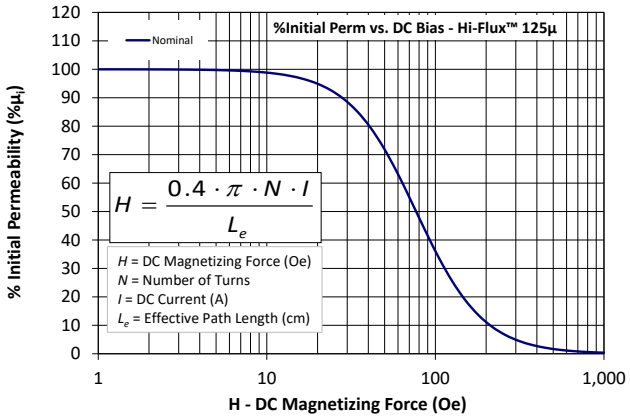
Revision 2021-Sep-15 - Generated 2021-Sep-15

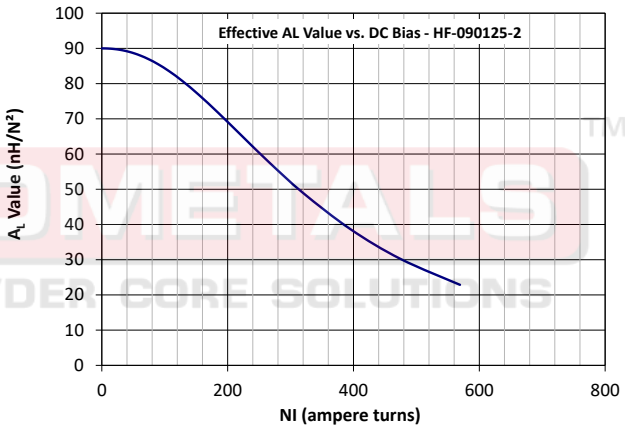


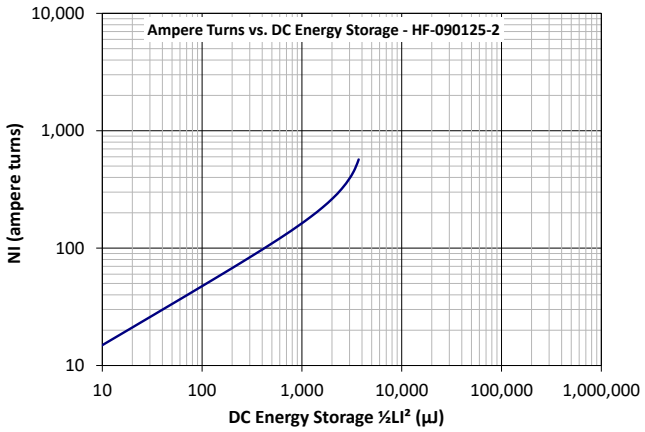

(If coated, Max./Min. includes coating)

| | | | |
|---|---|---|---|
| **OD** | (nom. - bare core) | 22.86 mm | 0.900 in |
| | (max.) | 23.62 mm | 0.930 in |
| **ID** | (nom. - bare core) | 13.97 mm | 0.550 in |
| | (min.) | 13.39 mm | 0.527 in |
| **HT** | (nom. - bare core) | 7.62 mm | 0.300 in |
| | (max.) | 8.38 mm | 0.330 in |
| **Mass** | (approximate) | 14 grams | |
| **Magnetic Dimensions** | $A_e$ - Eff. Mag. Cross Section | 0.331 cm² | |
| | $L_e$ - Eff. Mag. Path Length | 5.67 cm | |
| | $V_e$ - Eff. Core Volume | 1.88 cm³ | |
| | WA - Min. Eff. Window Area | 1.41 cm² | |
| | sa - Surface Area | 19.8 cm² | |
| | mlt - mean length per turn | 3.37 cm | |
| **Inductance** | $\mu_i$(reference) | 125 | |
| | $A_L$ value (nominal) | 90 nH/N² | |
| | Test Winding | N=80, #26 AWG | |
| | Frequency | 10 kHz | |
| | Voltage on Agilent 4284A | 0.12 V | |
| | AL tolerance | ±8% | |
| **Core Loss** | Core Loss(mW/cm³): $\frac{f}{\frac{a}{Bpk^3}+\frac{b}{Bpk^{2.3}}+\frac{c}{Bpk^{1.65}}}+d\cdot Bpk^2\cdot f^2$ | | |
| | where $B_{pk}$ expressed in gauss, $f$ expressed in hertz, and: | | |
| | *a=3.540E+10, b=6.826E+08, c=2.688E+06, d=6.077E-14* | | |
| | $B_{pk}$ | 1000 G | |
| | frequency | 50 kHz | |
| | Core Loss (nominal) | 482 mW/cm³ | |
| | Core Loss (maximum) | 554 mW/cm³ | |
| **DC Saturation** | $\%\mu_i \frac{1}{a+b\cdot H^c}+d$ | | |
| | where H expressed in oersteds, and: | | |
| | *a=1.000E-02, b=7.955E-07, c=2.174, d=0.000* | | |
| | $H_{DC}$ | 40 Oe | |
| | Percent Initial Perm(nom.) | 80.5% | |
| | Percent Initial Perm(min.) | 73.6% | |
| **Coating/Pkg** | Coating Type: | Blue Epoxy | |
| | Voltage Breakdown (min.) | 1000 Vrms | |
| | Limit | 0.1 mA, 5 s | |
| | Package Quantity | 1,260 Pcs/Box | |




| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Winding Table** | **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 | 11 | 15 | 19 | 24 | 31 | 39 | 50 | 62 | 78 | 98 | 123 |
| | | Rdc(Ω) | 1.2 m | 2.6 m | 5.3 m | 10.6 m | 21.8 m | 43.7 m | 89.1 m | 175.8 m | 351.6 m | 702.7 m | 1.4 |
| | **Full Winding** | Turns | 11 | 18 | 27 | 42 | 65 | 101 | 157 | 243 | 376 | 581 | 900 |
| | | Rdc(Ω) | 1.2 m | 3.2 m | 7.5 m | 18.6 m | 45.8 m | 113.2 m | 279.8 m | 688.8 m | 1.7 | 4.2 | 10.3 |