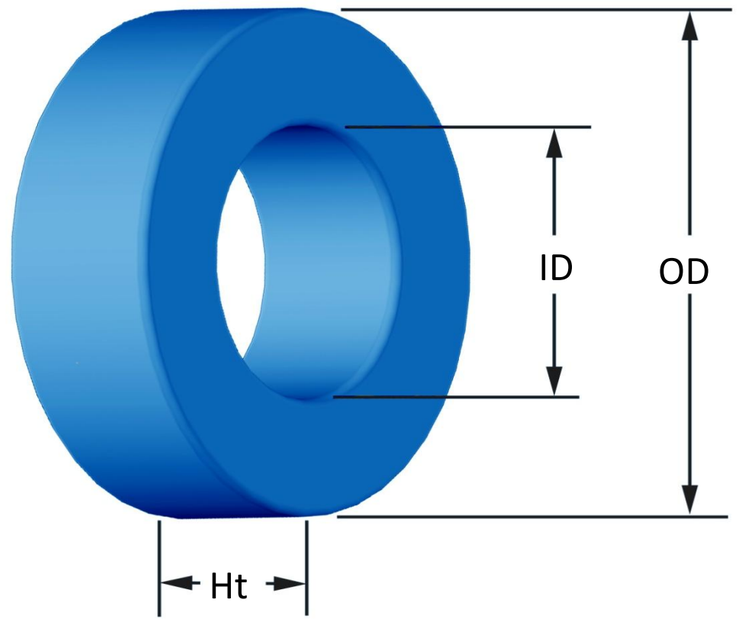
MICROMETALS™
POWDER CORE SOLUTIONS

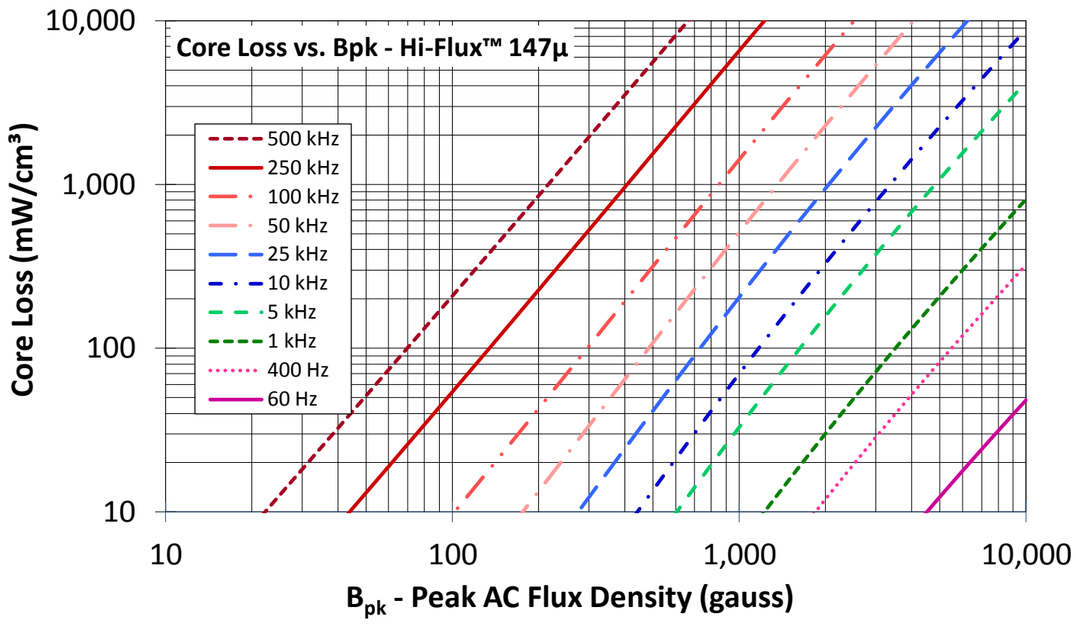
| Part Number: | HF-014147-8 |
|---|---|

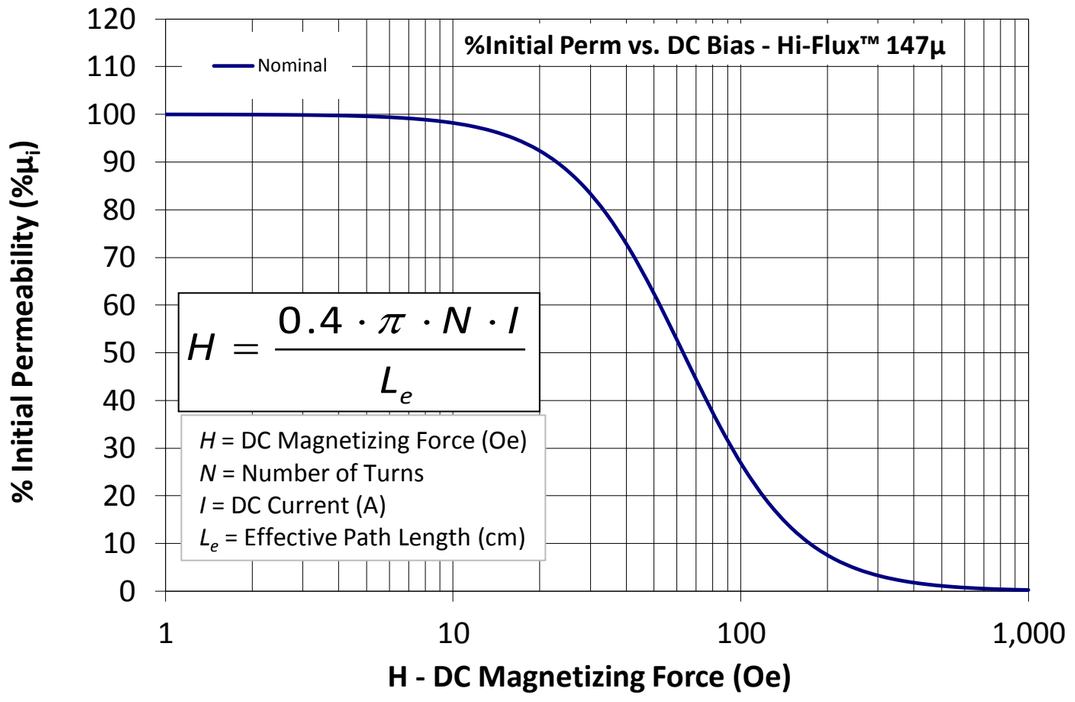
Revision 20190529 - Generated 2019-May-29

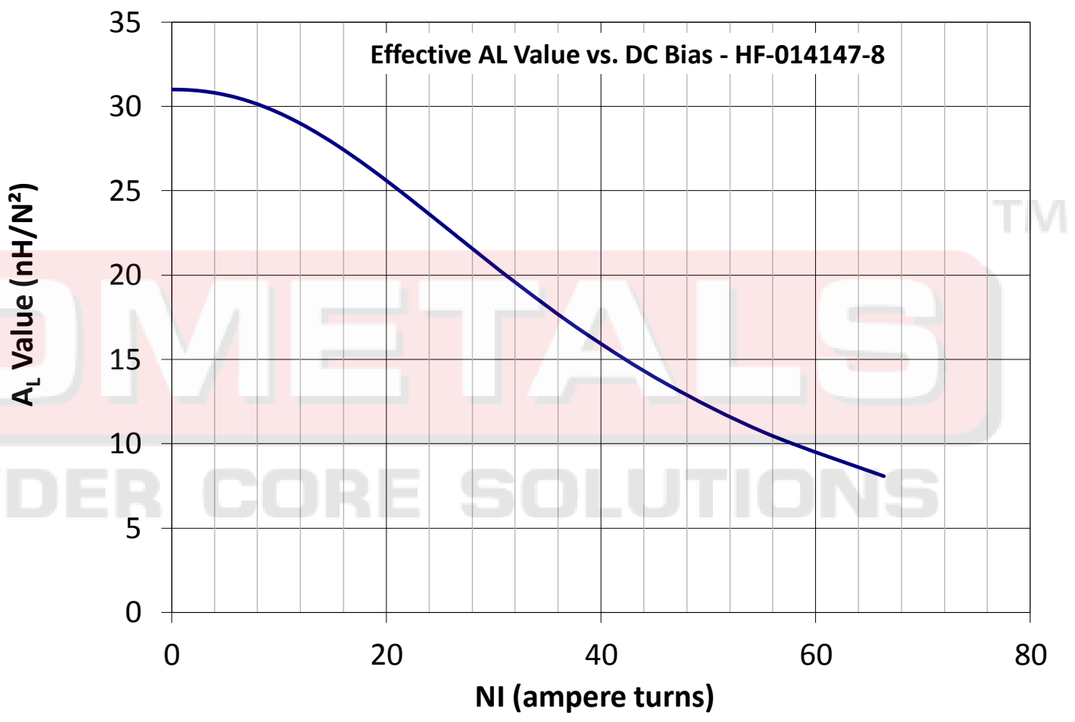


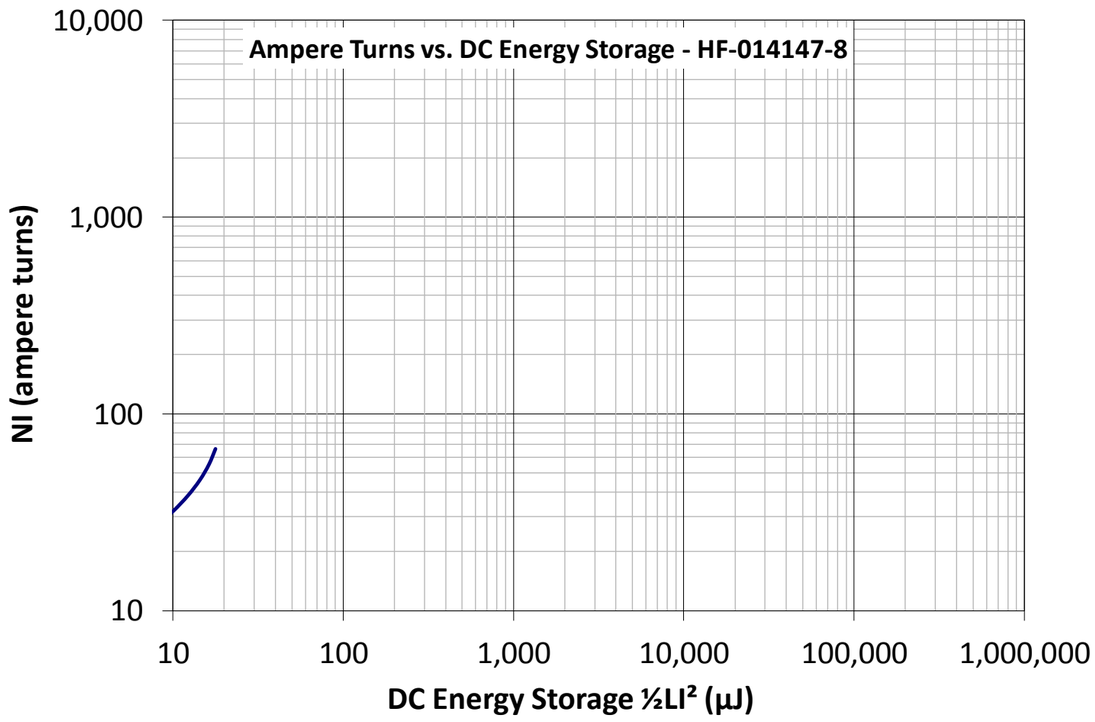

(If coated, Max./Min. includes coating)

| | | | |
|---|---|---|---|
| **OD** | (nom. - bare core) | 3.56 mm | 0.140 in |
| | (max.) | 3.76 mm | 0.148 in |
| **ID** | (nom. - bare core) | 1.78 mm | 0.070 in |
| | (min.) | 1.52 mm | 0.060 in |
| **HT** | (nom. - bare core) | 1.52 mm | 0.060 in |
| | (max.) | 1.73 mm | 0.068 in |
| **Mass** | (approximate) | 0.08 grams | |
| **Magnetic Dimensions** | $A_e$ - Eff. Mag. Cross Section | 0.0137 cm² | |
| | $L_e$ - Eff. Mag. Path Length | 0.817 cm | |
| | $V_e$ - Eff. Core Volume | 0.0107 cm³ | |
| | WA - Min. Eff. Window Area | 0.0181 cm² | |
| | sa - Surface Area | 0.523 cm² | |
| | mlt - mean length per turn | 0.646 cm | |
| **Inductance** | $\mu_i$(reference) | 147 | |
| | $A_L$ value (nominal) | 31 nH/N² | |
| | Test Winding | N=30, #36 AWG | |
| | Frequency | 10 kHz | |
| | Voltage on Agilent 4284A | 0.002 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=4.299E+10, b=6.671E+08, c=3.114E+06, d=8.003E-14* | | |
| | $B_{pk}$ | 1000 G | |
| | frequency | 50 kHz | |
| | Core Loss (nominal) | 509 mW/cm³ | |
| | Core Loss (maximum) | 585 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=1.248E-06, c=2.169, d=0.000* | | |
| | $H_{DC}$ | 40 Oe | |
| | Percent Initial Perm(nom.) | 72.9% | |
| | Percent Initial Perm(min.) | 64.4% | |
| **Coating/Pkg** | Coating Type: | Parylene N | |
| | Voltage Breakdown (min.) | 500 Vrms | |
| | Limit | 0.1 mA, 5 s | |
| | Package Quantity | 36,000 Pcs/Box | |




| Winding Table | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Wire Size** | AWG | 30 | 32 | 34 | 36 | 38 | 40 | 42 | 44 | - | - | - |
| | mm | 0.250 | 0.200 | 0.160 | 0.125 | 0.100 | 0.080 | 0.063 | 0.050 | - | - | - |
| **Single Layer** | Turns | 11 | 15 | 19 | 25 | 31 | 40 | 50 | 63 | - | - | - |
| | Rdc(Ω) | 24.1 m | 52.2 m | 105.1 m | 219.9 m | 433.7 m | 890.0 m | 1.8 | 3.5 | - | - | - |
| **Full Winding** | Turns | 12 | 18 | 28 | 43 | 67 | 103 | 159 | 247 | - | - | - |
| | Rdc(Ω) | 26.2 m | 62.6 m | 154.9 m | 378.3 m | 937.3 m | 2.3 | 5.6 | 13.9 | - | - | - |

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