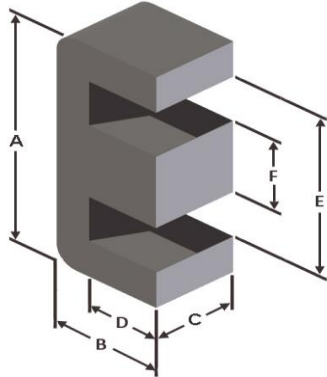




**Part Number:** EMS-0803820-014

Revision 2021-Dec-02 - Generated 2021-Dec-02



|          |                |                  |
|----------|----------------|------------------|
| <b>A</b> | 80 ± 1.19 mm   | 3.150 ± 0.047 in |
| <b>B</b> | 38.1 ± 0.58 mm | 1.500 ± 0.023 in |
| <b>C</b> | 19.8 ± 0.41 mm | 0.780 ± 0.016 in |
| <b>D</b> | 28.1 mm (min.) | 1.106 in (min.)  |
| <b>E</b> | 59.3 mm (min.) | 2.335 in (min.)  |
| <b>F</b> | 19.8 ± 0.41 mm | 0.780 ± 0.016 in |

**Mass** (approximate) 170 grams/half

|                            |  |                      |
|----------------------------|--|----------------------|
| <b>Magnetic Dimensions</b> | A <sub>e</sub> - Eff. Mag. Cross Section | 3.89 cm <sup>2</sup> |
|                            | L <sub>e</sub> - Eff. Mag. Path Length   | 18.5 cm              |
|                            | V <sub>e</sub> - Eff. Core Volume        | 72.1 cm <sup>3</sup> |
|                            | WA - Min. Eff. Window Area               | 11.0 cm <sup>2</sup> |
|                            | sa - Surface Area                        | 229 cm <sup>2</sup>  |
|                            | mlt - mean length per turn               | 15.8 cm              |

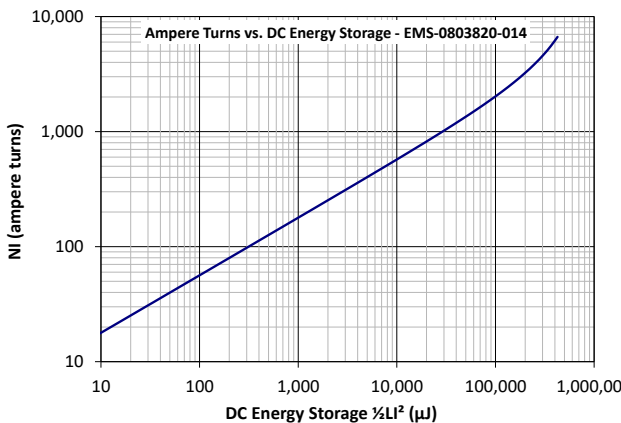
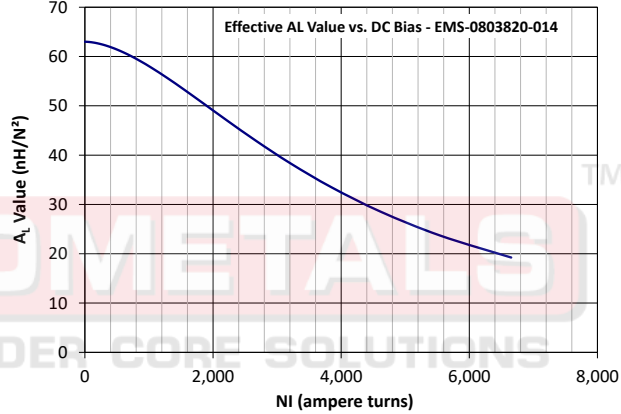
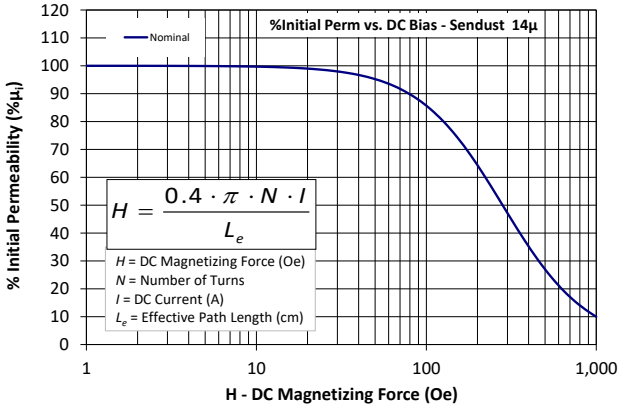
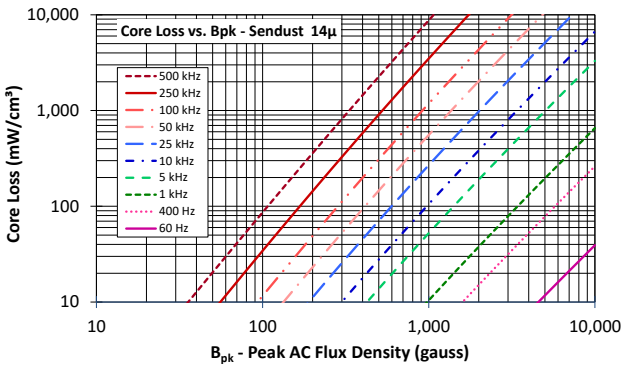
|                   |                                |                      |
|-------------------|--------------------------------|----------------------|
| <b>Inductance</b> | μ <sub>i</sub> (reference)     | 14                   |
|                   | A <sub>L</sub> value (nominal) | 63 nH/N <sup>2</sup> |
|                   | Test Winding                   | N=100, #14 AWG       |
|                   | Frequency                      | 10 kHz               |
|                   | Voltage on Agilent 4284A       | 1.7 V                |
|                   | A <sub>L</sub> tolerance       | ±8%                  |

|                  |  |                        |
|------------------|--|------------------------|
| <b>Core Loss</b> | $\text{Core Loss (mW/cm}^3\text{)} = \frac{f}{Bpk^3} + \frac{b}{Bpk^{2.3}} + \frac{c}{Bpk^{1.65}} + d \cdot Bpk^2 \cdot f^2$ |                        |
|                  | where B <sub>pk</sub> expressed in gauss, f expressed in hertz, and:<br>a=1.00E+06, b=2.84E+08, c=5.38E+06, d=1.42E-14       |                        |
|                  | B <sub>pk</sub>  | 300 G                  |
|                  | frequency  | 100 kHz                |
|                  | Core Loss (nominal)  | 112 mW/cm <sup>3</sup> |
|                  | Core Loss (maximum)  | 129 mW/cm <sup>3</sup> |

|                      |   |        |
|----------------------|---|--------|
| <b>DC Saturation</b> | $\% \mu_i = \frac{1}{a + b \cdot H^c} + d$                                |        |
|                      | where H expressed in oersteds, and:<br>a=0.01, b=5.74E-07, c=1.73, d=0.00 |        |
|                      | H <sub>dc</sub>   | 200 Oe |
|                      | Percent Initial Perm(nom.)  | 64.3%  |
|                      | Percent Initial Perm(min.)  | 56.8%  |

|                    |                          |               |
|--------------------|--------------------------|---------------|
| <b>Coating/Pkg</b> | Coating Type:            | None          |
|                    | Voltage Breakdown (min.) | N/A           |
|                    | Limit                    | N/A           |
|                    | Package Quantity         | 60 Halves/Box |

|                      |                     |        |        |        |         |         |         |       |       |       |       |       |       |
|----------------------|---------------------|--------|--------|--------|---------|---------|---------|-------|-------|-------|-------|-------|-------|
| <b>Winding Table</b> | <b>Wire Size</b>    | 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 |
|                      | <b>Full Winding</b> | Turns  | 59     | 92     | 142     | 220     | 340     | 526   | 814   | 1,260 | 1,950 | 3,019 | 4,672 |
|                      |                     | Rdc(Ω) | 19.2 m | 47.6 m | 116.8 m | 287.9 m | 707.5 m | 1.7   | 4.3   | 10.5  | 26.0  | 63.9  | 157.3 |



**Handling and Storage:** Cores should be stored in the original unopened packaging between -10°C and +50°C and less than 60% relative humidity. After the original packaging is opened, the cores should be stored between -8°C and +25°C less than 30% relative humidity. Gloves should be used when handling uncoated cores. The cores should also be sheltered from rain, moisture, salt water, salt air, plasters, ashes, sulfur, sulfur dioxide, ammonia sulfates, soils, acids, metals shavings, and solvents.

**Operating Temperature:** Cores can be used continuously at operating temperatures between -60°C and +200°C.

RoHS 2.0, REACH and ISO (TS16949, ISO 9001, ISO 14001) compliant. Statements available for download at [www.micrometals.com](http://www.micrometals.com).  
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