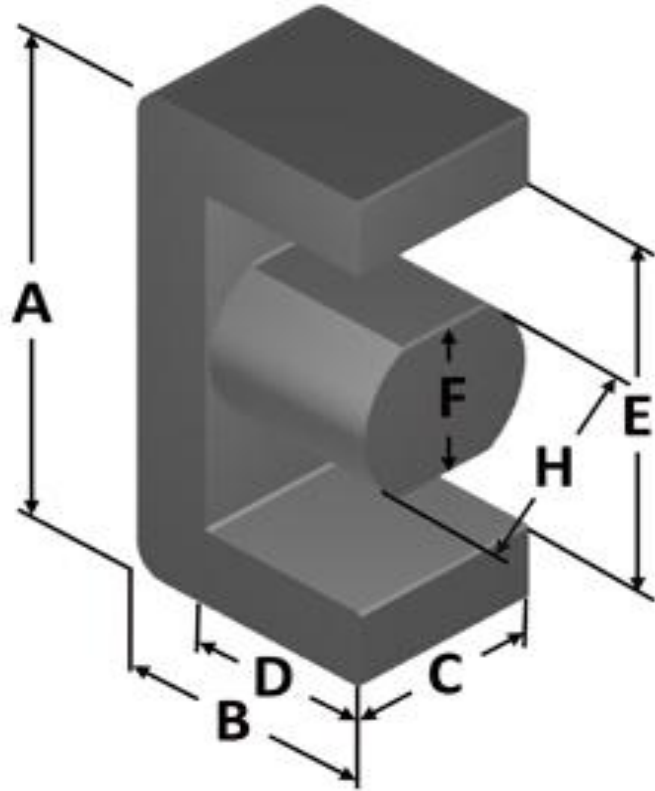




**Part Number:** **EM150-52**  
Revision 20190524 - Generated 2019-May-30



|                            |  |                          |
|----------------------------|--|--------------------------|
| <b>A</b>                   | 38.10 ± 0.38 mm  | 1.500 ± 0.015 in         |
| <b>B</b>                   | 19.05 ± 0.19 mm  | 0.750 ± 0.008 in         |
| <b>C</b>                   | 19.05 ± 0.25 mm  | 0.750 ± 0.010 in         |
| <b>D</b>                   | 15.24 mm (nom.)  | 0.600 in (nom.)          |
| <b>E</b>                   | 30.23 mm (nom.)  | 1.190 in (nom.)          |
| <b>F</b>                   | 13.61 ± 0.25 mm  | 0.536 ± 0.010 in         |
| <b>H</b>                   | 13.61 ± 0.38 mm  | 0.536 ± 0.015 in         |
| <b>Mass</b>                | (approximate)  | 48 grams/half            |
| <b>Magnetic Dimensions</b> | A <sub>e</sub> - Eff. Mag. Cross Section   | 1.45 cm <sup>2</sup>     |
|                            | L <sub>e</sub> - Eff. Mag. Path Length   | 9.46 cm                  |
|                            | V <sub>e</sub> - Eff. Core Volume  | 13.7 cm <sup>3</sup>     |
|                            | WA - Min. Eff. Window Area   | 2.49 cm <sup>2</sup>     |
|                            | sa - Surface Area  | 68.1 cm <sup>2</sup>     |
|                            | mlt - mean length per turn   | 9.86 cm                  |
| <b>Inductance</b>          | μ <sub>i</sub> (reference)   | 75                       |
|                            | A <sub>L</sub> value (nominal)   | 127.4 nH/N <sup>2</sup>  |
|                            | Test Winding   | N=0, #0 AWG              |
|                            | Frequency  | 10 kHz                   |
|                            | Voltage on Agilent 4284A   | #DIV/0!                  |
| A <sub>L</sub> tolerance   | ±10%   |                          |
| <b>Core Loss</b>           | $\text{Core Loss (mW/cm}^3\text{)} = \frac{f}{\frac{a}{B_{pk}^3} + \frac{b}{B_{pk}^{2.3}} + \frac{c}{B_{pk}^{1.65}}} + d \cdot B_{pk}^2 \cdot f^2$ |                          |
|                            | where B <sub>pk</sub> expressed in gauss, f expressed in hertz, and:<br>a=1.00E+09, b=1.10E+08, c=2.10E+06, d=6.90E-14                             |                          |
|                            | B <sub>pk</sub>  | 140 G                    |
|                            | frequency  | 100 kHz                  |
|                            | Core Loss (nominal)  | 58 mW/cm <sup>3</sup>    |
| Core Loss (maximum)        | 67 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=1.00E-02, b=4.66E-06, c=1.84, d=0.00  |                          |
|                            | H <sub>DC</sub>  | 50 Oe                    |
|                            | Percent Initial Perm(nom.)   | 61.6%                    |
| Percent Initial Perm(min.) | 53.4%  |                          |
| <b>Coating/Pkg</b>         | Coating Type:  | None, Green/Blue Stripes |
|                            | Voltage Breakdown (min.)   | N/A                      |
|                            | Limit  | N/A                      |
|                            | Package Quantity   | 240 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 | 13    | 21    | 32     | 50     | 77     | 119     | 185     | 286   | 443   | 685   | 1,060 |
|                      | Rdc(Ω)              |       | 2.6 m | 6.8 m | 16.4 m | 40.8 m | 99.8 m | 245.3 m | 606.6 m | 1.5   | 3.7   | 9.0   | 22.2  |

