



**Part Number:** **E50-52**

Revision 20190524 - Generated 2019-May-30



<b>A</b>	12.83 ± 0.13 mm	0.505 ± 0.005 in											
<b>B</b>	6.40 ± 0.08 mm	0.252 ± 0.003 in											
<b>C</b>	3.76 ± 0.10 mm	0.148 ± 0.004 in											
<b>D</b>	4.50 mm (nom.)	0.177 in (nom.)											
<b>E</b>	8.99 mm (nom.)	0.354 in (nom.)											
<b>F</b>	3.78 ± 0.10 mm	0.149 ± 0.004 in											
<b>Mass</b>	(approximate)	1.5 grams/half											
<b>Magnetic Dimensions</b>	A <sub>e</sub> - Eff. Mag. Cross Section	0.143 cm <sup>2</sup>											
	L <sub>e</sub> - Eff. Mag. Path Length	3.08 cm											
	V <sub>e</sub> - Eff. Core Volume	0.441 cm <sup>3</sup>											
	WA - Min. Eff. Window Area	0.230 cm <sup>2</sup>											
	sa - Surface Area	6.15 cm <sup>2</sup>											
<b>Inductance</b>	mlt - mean length per turn	2.55 cm											
	μ <sub>i</sub> (reference)	75											
	A <sub>L</sub> value (nominal)	47 nH/N <sup>2</sup>											
	Test Winding	N=100, #28 AWG											
	Frequency	10 kHz											
<b>Core Loss</b>	Voltage on Agilent 4284A	0.063 V											
	A <sub>L</sub> tolerance	±10%											
	$\text{Core Loss (mW/cm}^3\text{)} = \frac{f}{\frac{a}{B_{pk}^3} + \frac{b}{B_{pk}^{2.3}} + \frac{c}{B_{pk}^{1.65}}} + d \cdot B_{pk}^2 \cdot f^2$												
	where B <sub>pk</sub> expressed in gauss, f expressed in hertz, and: a=1.00E+09, b=1.10E+08, c=2.10E+06, d=6.90E-14												
	B <sub>pk</sub>	140 G											
<b>DC Saturation</b>	frequency	100 kHz											
	Core Loss (nominal)	58 mW/cm <sup>3</sup>											
	Core Loss (maximum)	67 mW/cm <sup>3</sup>											
	$\% \mu_i = \frac{1}{a + b \cdot H^c} + d$												
	where H expressed in oersteds, and: a=1.00E-02, b=4.66E-06, c=1.84, d=0.00												
<b>Coating/Pkg</b>	H <sub>DC</sub>	50 Oe											
	Percent Initial Perm(nom.)	61.6%											
	Percent Initial Perm(min.)	53.4%											
	Coating Type:	None											
	Voltage Breakdown (min.)	N/A											
<b>Winding Table</b>	Limit	N/A											
	Package Quantity	10,000 Halves/Box											
	<b>Wire Size</b>	AWG	20	22	24	26	28	30	32	34	36	38	40
		mm	0.800	0.630	0.500	0.400	0.315	0.250	0.200	0.160	0.125	0.100	0.080
	<b>Full Winding</b>	Turns	17	26	41	63	98	151	234	362	560	867	1,342
Rdc(Ω)		14.4 m	35.1 m	88.0 m	215.0 m	531.9 m	1.3	3.2	7.9	19.4	47.9	117.9	

