



**Part Number:** **E187-40**

Revision 20190524 - Generated 2019-May-30



<b>A</b>	47.37 ± 0.38 mm	1.865 ± 0.015 in											
<b>B</b>	19.71 ± 0.20 mm	0.776 ± 0.008 in											
<b>C</b>	15.75 ± 0.25 mm	0.620 ± 0.010 in											
<b>D</b>	12.09 mm (nom.)	0.476 in (nom.)											
<b>E</b>	31.75 mm (nom.)	1.250 in (nom.)											
<b>F</b>	15.75 ± 0.18 mm	0.620 ± 0.007 in											
<b>Mass</b>	(approximate)	80 grams/half											
<b>Magnetic Dimensions</b>	A <sub>e</sub> - Eff. Mag. Cross Section	2.48 cm <sup>2</sup>											
	L <sub>e</sub> - Eff. Mag. Path Length	9.53 cm											
	V <sub>e</sub> - Eff. Core Volume	23.3 cm <sup>3</sup>											
	WA - Min. Eff. Window Area	1.91 cm <sup>2</sup>											
	sa - Surface Area	73.6 cm <sup>2</sup>											
<b>Inductance</b>	mlt - mean length per turn	9.50 cm											
	μ <sub>i</sub> (reference)	60											
	A <sub>L</sub> value (nominal)	240 nH/N <sup>2</sup>											
	Test Winding	N=100, #20 AWG											
	Frequency	10 kHz											
<b>Core Loss</b>	Voltage on Agilent 4284A	1.1 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=1.10E+09, b=3.30E+07, c=2.50E+06, d=3.10E-13												
	B <sub>pk</sub>	140 G											
<b>DC Saturation</b>	frequency	100 kHz											
	Core Loss (nominal)	127 mW/cm <sup>3</sup>											
	Core Loss (maximum)	146 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=8.93E-06, c=1.61, d=0.00												
<b>Coating/Pkg</b>	H <sub>DC</sub>	50 Oe											
	Percent Initial Perm(nom.)	67.0%											
	Percent Initial Perm(min.)	60.2%											
	Coating Type:	None, Green/Yellow Stripes											
	Voltage Breakdown (min.)	N/A											
<b>Winding Table</b>	Limit	N/A											
	Package Quantity	240 Halves/Box											
	<b>Wire Size</b>	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
	<b>Full Winding</b>	Turns	16	25	38	59	92	142	219	340	526	814	1,259
Rdc(Ω)		5.0 m	12.4 m	29.9 m	73.7 m	182.8 m	448.8 m	1.1	2.7	6.7	16.5	40.5	

