



**Part Number: MS-200147-2**  
Revision 20160816 - Generated 2016-Aug-16



<b>OD</b>	(nom. - bare core) (max. - after coating)	50.80 mm 51.69 mm	2.000 in 2.035 in
<b>ID</b>	(nom. - bare core) (min. - after coating)	31.75 mm 30.94 mm	1.250 in 1.218 in
<b>Ht</b>	(nom. - bare core) (max. - after coating)	13.46 mm 14.35 mm	0.530 in 0.565 in
<b>Mass</b>	(approximate)	94 grams	
<b>Magnetic Dimensions</b>	A <sub>e</sub> - Eff. Mag. Cross Section	1.25 cm <sup>2</sup>	
	L <sub>e</sub> - Eff. Mag. Path Length	12.733 cm	
	V <sub>e</sub> - Eff. Core Volume	15.9 cm <sup>3</sup>	
	WA - Min. Eff. Window Area	7.52 cm <sup>2</sup>	
	sa - Surface Area	88.2 cm <sup>2</sup>	
	mlt - mean length per turn	6.49 cm	
<b>Inductance</b>	μ <sub>i</sub> (reference)	147	
	A <sub>L</sub> value (nominal)	179 nH/N <sup>2</sup>	
	Test Winding	N=70, #18 AWG	
	Frequency	10 kHz	
	Voltage on Agilent 4284A	0.39 V	
	AL tolerance	±8%	
<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: a=5.176E+08, b=1.028E+09, c=9.893E+06, d=2.852E-14		
	B <sub>pk</sub>	1000 G	
	frequency	50 kHz	
	Core Loss (nominal)	279 mW/cm <sup>3</sup>	
Core Loss (maximum)	321 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: a=1.000E-02, b=4.732E-05, c=1.539, d=0.000		
	H <sub>DC</sub>	40 Oe	
	Percent Initial Perm (nom.)	42.0%	
Percent Initial Perm (min.)	35.3%		
<b>Coating/Pkg</b>	Coating Type:	Blue Epoxy	
	Voltage Breakdown (min.)	1000 Vrms	
	Limit	0.1 mA, 5 s	
	Package Quantity	125 Pcs/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>Single Layer</b>	Turns	23	30	38	48	60	75	94	118	148	184	230
		Rdc(Ω)	3.1 m	6.4 m	12.8 m	25.8 m	51.2 m	101.9 m	203.0 m	405.4 m	808.6 m	1.6	3.2
<b>Full Winding</b>	Turns	39	61	94	146	226	350	541	837	1,296	2,006	3,104	
	Rdc(Ω)	5.2 m	12.9 m	31.7 m	78.4 m	193.0 m	475.3 m	1.2	2.9	7.1	17.4	42.9	

