



**Part Number: MS-300090-2**  
Revision 20160816 - Generated 2016-Aug-16



<b>OD</b>	(nom. - bare core) (max. - after coating)	77.80 mm 78.94 mm	3.063 in 3.108 in
<b>ID</b>	(nom. - bare core) (min. - after coating)	49.23 mm 47.96 mm	1.938 in 1.888 in
<b>Ht</b>	(nom. - bare core) (max. - after coating)	12.70 mm 13.97 mm	0.500 in 0.550 in
<b>Mass</b>	(approximate)	210 grams	
<b>Magnetic Dimensions</b>	A <sub>e</sub> - Eff. Mag. Cross Section	1.77 cm <sup>2</sup>	
	L <sub>e</sub> - Eff. Mag. Path Length	19.612 cm	
	V <sub>e</sub> - Eff. Core Volume	34.8 cm <sup>3</sup>	
	WA - Min. Eff. Window Area	18.1 cm <sup>2</sup>	
	sa - Surface Area	184 cm <sup>2</sup>	
	mlt - mean length per turn	8.29 cm	
<b>Inductance</b>	μ <sub>i</sub> (reference)	90	
	A <sub>L</sub> value (nominal)	102 nH/N <sup>2</sup>	
	Test Winding	N=120, #18 AWG	
	Frequency	10 kHz	
	Voltage on Agilent 4284A	0.94 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=7.890E+09, b=7.111E+08, c=8.980E+06, d=2.846E-14		
	B <sub>pk</sub>	1000 G	
	frequency	50 kHz	
	Core Loss (nominal)	323 mW/cm <sup>3</sup>	
Core Loss (maximum)	372 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=3.994E-06, c=1.883, d=0.000		
	H <sub>DC</sub>	50 Oe	
	Percent Initial Perm.(nom.)	61.3%	
Percent Initial Perm.(min.)	52.9%		
<b>Coating/Pkg</b>	Coating Type:	Blue Epoxy	
	Voltage Breakdown (min.)	1000 Vrms	
	Limit	0.1 mA, 5 s	
	Package Quantity	45 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	38	48	60	75	95	118	148	185	230	287	358
		Rdc(Ω)	6.5 m	13.0 m	25.9 m	51.4 m	103.6 m	204.6 m	408.2 m	811.5 m	1.6	3.2	6.3
<b>Full Winding</b>	Turns	95	146	227	351	543	840	1,300	2,012	3,114	4,820	7,459	
	Rdc(Ω)	16.2 m	39.6 m	97.9 m	240.7 m	592.1 m	1.5	3.6	8.8	21.7	53.5	131.6	

