



**Part Number:** **MS-090125-2**  
 Revision 20160816 - Generated 2016-Aug-16



<b>OD</b>	(nom. - bare core)	22.86 mm	0.900 in
	(max. - after coating)	23.62 mm	0.930 in
<b>ID</b>	(nom. - bare core)	13.97 mm	0.550 in
	(min. - after coating)	13.39 mm	0.527 in
<b>Ht</b>	(nom. - bare core)	7.62 mm	0.300 in
	(max. - after coating)	8.38 mm	0.330 in
<b>Mass</b>	(approximate)	11 grams	
<b>Magnetic Dimensions</b>	A <sub>e</sub> - Eff. Mag. Cross Section	0.331 cm <sup>2</sup>	
	L <sub>e</sub> - Eff. Mag. Path Length	5.67 cm	
	V <sub>e</sub> - Eff. Core Volume	1.88 cm <sup>3</sup>	
	WA - Min. Eff. Window Area	1.41 cm <sup>2</sup>	
	sa - Surface Area	19.8 cm <sup>2</sup>	
	mlt - mean length per turn	3.37 cm	
<b>Inductance</b>	μ <sub>i</sub> (reference)	125	
	A <sub>L</sub> value (nominal)	90 nH/N <sup>2</sup>	
	Test Winding	N=80, #26 AWG	
	Frequency	10 kHz	
	Voltage on Agilent 4284A	0.12 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=1.394E+10, b=1.034E+09, c=1.244E+07, d=4.007E-14		
	B <sub>pk</sub>	1000 G	
	frequency	50 kHz	
	Core Loss (nominal)	276 mW/cm <sup>3</sup>	
Core Loss (maximum)	318 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=7.884E-06, c=1.883, d=0.000		
	H <sub>DC</sub>	40 Oe	
	Percent Initial Perm (nom.)	55.0%	
Percent Initial Perm (min.)	46.4%		
<b>Coating/Pkg</b>	Coating Type:	Blue Epoxy	
	Voltage Breakdown (min.)	1000 Vrms	
	Limit	0.1 mA, 5 s	
	Package Quantity	1,210 Pcs/Box	

<b>Winding Table</b>	<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>Single Layer</b>	Turns	11	15	19	24	31	39	50	62	78	98	123
		Rdc(Ω)	1.2 m	2.6 m	5.3 m	10.6 m	21.8 m	43.7 m	89.1 m	175.8 m	351.6 m	702.7 m	1.4
<b>Full Winding</b>	Turns	11	18	27	42	65	101	157	243	376	581	900	
	Rdc(Ω)	1.2 m	3.2 m	7.5 m	18.6 m	45.8 m	113.2 m	279.8 m	688.8 m	1.7	4.2	10.3	

