



**Part Number:** **MS-141090-2**  
 Revision 20160816 - Generated 2016-Aug-16



<b>OD</b>	(nom. - bare core) (max. - after coating)	35.81 mm 36.63 mm	1.410 in 1.442 in
<b>ID</b>	(nom. - bare core) (min. - after coating)	22.35 mm 21.54 mm	0.880 in 0.848 in
<b>Ht</b>	(nom. - bare core) (max. - after coating)	10.46 mm 11.28 mm	0.412 in 0.444 in
<b>Mass</b>	(approximate)	36 grams	
<b>Magnetic Dimensions</b>	A <sub>e</sub> - Eff. Mag. Cross Section	0.678 cm <sup>2</sup>	
	L <sub>e</sub> - Eff. Mag. Path Length	8.98 cm	
	V <sub>e</sub> - Eff. Core Volume	6.09 cm <sup>3</sup>	
	WA - Min. Eff. Window Area	3.64 cm <sup>2</sup>	
	sa - Surface Area	45.6 cm <sup>2</sup>	
	mlt - mean length per turn	4.84 cm	
<b>Inductance</b>	μ <sub>i</sub> (reference)	90	
	A <sub>L</sub> value (nominal)	84.3 nH/N <sup>2</sup>	
	Test Winding	N=80, #22 AWG	
	Frequency	10 kHz	
	Voltage on Agilent 4284A	0.24 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	343 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	15	20	25	32	41	52	65	81	102	128	159
		Rdc(Ω)	1.5 m	3.2 m	6.3 m	12.8 m	26.1 m	52.7 m	104.7 m	207.5 m	415.6 m	829.5 m	1.6
<b>Full Winding</b>	Turns	19	30	46	71	109	169	262	406	628	972	1,505	
	Rdc(Ω)	1.9 m	4.8 m	11.6 m	28.4 m	69.4 m	171.2 m	422.1 m	1.0	2.6	6.3	15.5	

