



**Part Number:** **MS-080090-2**  
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<b>OD</b>	(nom. - bare core) (max. - after coating)	20.32 mm 21.08 mm	0.800 in 0.830 in
<b>ID</b>	(nom. - bare core) (min. - after coating)	12.70 mm 12.07 mm	0.500 in 0.475 in
<b>Ht</b>	(nom. - bare core) (max. - after coating)	6.35 mm 7.11 mm	0.250 in 0.280 in
<b>Mass</b>	(approximate)	6.8 grams	
<b>Magnetic Dimensions</b>	A <sub>e</sub> - Eff. Mag. Cross Section	0.226 cm <sup>2</sup>	
	L <sub>e</sub> - Eff. Mag. Path Length	5.09 cm	
	V <sub>e</sub> - Eff. Core Volume	1.15 cm <sup>3</sup>	
	WA - Min. Eff. Window Area	1.14 cm <sup>2</sup>	
	sa - Surface Area	15.5 cm <sup>2</sup>	
	mlt - mean length per turn	2.93 cm	
<b>Inductance</b>	μ <sub>i</sub> (reference)	90	
	A <sub>L</sub> value (nominal)	49 nH/N <sup>2</sup>	
	Test Winding	N=90, #28 AWG	
	Frequency	10 kHz	
	Voltage on Agilent 4284A	0.090 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	1,800 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	10	13	17	22	28	35	44	56	70	88	110
		Rdc(Ω)	1.0 m	2.0 m	4.1 m	8.5 m	17.1 m	34.1 m	68.1 m	137.9 m	274.2 m	548.2 m	1.1
<b>Full Winding</b>	Turns	9	14	22	34	53	82	127	197	305	472	731	
	Rdc(Ω)	0.9 m	2.1 m	5.3 m	13.1 m	32.4 m	79.8 m	196.7 m	485.2 m	1.2	2.9	7.2	

