



**Part Number:** **MS-028160-8**  
 Revision 20160816 - Generated 2016-Aug-16



<b>OD</b>	(nom. - bare core)	7.04 mm	0.277 in
	(max. - after coating)	7.67 mm	0.302 in
<b>ID</b>	(nom. - bare core)	3.96 mm	0.156 in
	(min. - after coating)	3.45 mm	0.136 in
<b>Ht</b>	(nom. - bare core)	5.08 mm	0.200 in
	(max. - after coating)	5.72 mm	0.225 in
<b>Mass</b>	(approximate)	0.74 grams	
<b>Magnetic Dimensions</b>	A <sub>e</sub> - Eff. Mag. Cross Section	0.0750 cm <sup>2</sup>	
	L <sub>e</sub> - Eff. Mag. Path Length	1.68 cm	
	V <sub>e</sub> - Eff. Core Volume	0.126 cm <sup>3</sup>	
	WA - Min. Eff. Window Area	0.0937 cm <sup>2</sup>	
	sa - Surface Area	2.80 cm <sup>2</sup>	
	mlt - mean length per turn	1.74 cm	
<b>Inductance</b>	μ <sub>i</sub> (reference)	160	
	A <sub>L</sub> value (nominal)	89 nH/N <sup>2</sup>	
	Test Winding	N=40, #32 AWG	
	Frequency	10 kHz	
	Voltage on Agilent 4284A	0.013 V	
AL tolerance	±12%		
<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=3.679E+10, b=1.150E+09, c=1.004E+07, d=2.851E-14		
	B <sub>pk</sub>	1000 G	
	frequency	50 kHz	
	Core Loss (nominal)	241 mW/cm <sup>3</sup>	
Core Loss (maximum)	277 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=4.439E-05, c=1.627, d=0.000		
	H <sub>DC</sub>	40 Oe	
	Percent Initial Perm (nom.)	35.8%	
Percent Initial Perm (min.)	29.3%		
<b>Coating/Pkg</b>	Coating Type:	Parylene N	
	Voltage Breakdown (min.)	500 Vrms	
	Limit	0.1 mA, 5 s	
	Package Quantity	12,600 Pcs/Box	

<b>Winding Table</b>	<b>Wire Size</b>	AWG	22	24	26	28	30	32	34	36	38	40	42
		mm	0.630	0.500	0.400	0.315	0.250	0.200	0.160	0.125	0.100	0.080	0.063
	<b>Single Layer</b>	Turns	11	14	18	23	29	37	47	59	75	93	117
		Rdc(Ω)	10.1 m	20.5 m	41.9 m	85.1 m	170.7 m	346.3 m	699.6 m	1.4	2.8	5.6	11.1
<b>Full Winding</b>	Turns	10	16	25	39	60	92	143	222	343	531	821	
	Rdc(Ω)	9.2 m	23.4 m	58.2 m	144.3 m	353.1 m	861.1 m	2.1	5.3	12.9	31.8	78.2	

