



**Part Number: MS-014160-8**  
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<b>OD</b>	(nom. - bare core) (max. - after coating)	3.56 mm 3.76 mm	0.140 in 0.148 in
<b>ID</b>	(nom. - bare core) (min. - after coating)	1.78 mm 1.52 mm	0.070 in 0.060 in
<b>Ht</b>	(nom. - bare core) (max. - after coating)	1.52 mm 1.73 mm	0.060 in 0.068 in
<b>Mass</b>	(approximate)	0.06 grams	
<b>Magnetic Dimensions</b>	A <sub>e</sub> - Eff. Mag. Cross Section	0.0137 cm <sup>2</sup>	
	L <sub>e</sub> - Eff. Mag. Path Length	0.817 cm	
	V <sub>e</sub> - Eff. Core Volume	0.0107 cm <sup>3</sup>	
	WA - Min. Eff. Window Area	0.0182 cm <sup>2</sup>	
	sa - Surface Area	0.523 cm <sup>2</sup>	
	mlt - mean length per turn	0.646 cm	
<b>Inductance</b>	μ <sub>i</sub> (reference)	160	
	A <sub>L</sub> value (nominal)	33 nH/N <sup>2</sup>	
	Test Winding	N=30, #36 AWG	
	Frequency	10 kHz	
	Voltage on Agilent 4284A	0.002 V	
	AL tolerance	±15%	
<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	36,000 Pcs/Box	

<b>Winding Table</b>	<b>Wire Size</b>	AWG	30	32	34	36	38	40	42	44	-	-	-
		mm	0.250	0.200	0.160	0.125	0.100	0.080	0.063	0.050	-	-	-
	<b>Single Layer</b>	Turns	11	15	19	25	31	40	50	63	-	-	-
		Rdc(Ω)	24.1 m	52.2 m	105.1 m	219.9 m	433.7 m	890.0 m	1.8	3.5	-	-	-
<b>Full Winding</b>	Turns	12	18	28	43	67	103	159	247	-	-	-	
	Rdc(Ω)	26.2 m	62.6 m	154.9 m	378.3 m	937.3 m	2.3	5.6	13.9	-	-	-	

