



**Part Number: MS-039090-8**  
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<b>OD</b>	(nom. - bare core) (max. - after coating)	9.65 mm 10.29 mm	0.380 in 0.405 in
<b>ID</b>	(nom. - bare core) (min. - after coating)	4.78 mm 4.27 mm	0.188 in 0.168 in
<b>Ht</b>	(nom. - bare core) (max. - after coating)	3.18 mm 3.81 mm	0.125 in 0.150 in
<b>Mass</b>	(approximate)	0.97 grams	
<b>Magnetic Dimensions</b>	A <sub>e</sub> - Eff. Mag. Cross Section	0.0752 cm <sup>2</sup>	
	L <sub>e</sub> - Eff. Mag. Path Length	2.18 cm	
	V <sub>e</sub> - Eff. Core Volume	0.164 cm <sup>3</sup>	
	WA - Min. Eff. Window Area	0.143 cm <sup>2</sup>	
	sa - Surface Area	3.61 cm <sup>2</sup>	
	mlt - mean length per turn	1.58 cm	
<b>Inductance</b>	μ <sub>i</sub> (reference)	90	
	A <sub>L</sub> value (nominal)	38 nH/N <sup>2</sup>	
	Test Winding	N=45, #30 AWG	
	Frequency	10 kHz	
	Voltage on Agilent 4284A	0.015 V	
	AL tolerance	±12%	
<b>Core Loss</b>	Core Loss(mW/cm <sup>3</sup> )= $\frac{f}{\frac{a}{B_{pk}^3} + \frac{b}{B_{pk}^{2.3}} + \frac{c}{B_{pk}^{1.65}}} + d \cdot B_{pk}^2 \cdot f^2$		
	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:	Parylene N	
	Voltage Breakdown (min.)	500 Vrms	
	Limit	0.1 mA, 5 s	
	Package Quantity	10,800 Pcs/Box	

<b>Winding Table</b>	<b>Wire Size</b>	AWG	20	22	24	26	28	30	32	34	36	38	40
		mm	0.800	0.630	0.500	0.400	0.315	0.250	0.200	0.160	0.125	0.100	0.080
	<b>Single Layer</b>	Turns	11	14	18	23	29	37	47	59	74	93	116
		Rdc(Ω)	5.8 m	11.7 m	23.9 m	48.6 m	97.4 m	197.6 m	399.2 m	796.9 m	1.6	3.2	6.3
<b>Full Winding</b>	Turns	10	16	25	38	59	92	142	219	339	525	813	
	Rdc(Ω)	5.2 m	13.4 m	33.2 m	80.2 m	198.1 m	491.3 m	1.2	3.0	7.3	17.9	44.2	

