



**Part Number: MS-031125-8**  
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<b>OD</b>	(nom. - bare core) (max. - after coating)	7.87 mm 8.51 mm	0.310 in 0.335 in
<b>ID</b>	(nom. - bare core) (min. - after coating)	3.96 mm 3.43 mm	0.156 in 0.135 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)	0.65 grams	
<b>Magnetic Dimensions</b>	A <sub>e</sub> - Eff. Mag. Cross Section	0.0615 cm <sup>2</sup>	
	L <sub>e</sub> - Eff. Mag. Path Length	1.79 cm	
	V <sub>e</sub> - Eff. Core Volume	0.110 cm <sup>3</sup>	
	WA - Min. Eff. Window Area	0.0924 cm <sup>2</sup>	
	sa - Surface Area	2.65 cm <sup>2</sup>	
	mlt - mean length per turn	1.44 cm	
<b>Inductance</b>	μ <sub>i</sub> (reference)	125	
	A <sub>L</sub> value (nominal)	52 nH/N <sup>2</sup>	
	Test Winding	N=45, #32 AWG	
	Frequency	10 kHz	
	Voltage on Agilent 4284A	0.012 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=1.394E+10, b=1.034E+09, c=1.244E+07, d=4.007E-14		
	B <sub>pk</sub>	1000 G	
	frequency	50 kHz	
	Core Loss (nominal)	276 mW/cm <sup>3</sup>	
Core Loss (maximum)	318 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=7.884E-06, c=1.883, d=0.000		
	H <sub>DC</sub>	40 Oe	
	Percent Initial Perm.(nom.)	55.0%	
Percent Initial Perm.(min.)	46.4%		
<b>Coating/Pkg</b>	Coating Type:	Parylene N	
	Voltage Breakdown (min.)	500 Vrms	
	Limit	0.1 mA, 5 s	
	Package Quantity	14,400 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	74	93	116
		Rdc(Ω)	8.4 m	17.0 m	34.7 m	70.6 m	141.5 m	287.1 m	580.1 m	1.2	2.3	4.6	9.2
<b>Full Winding</b>	Turns	10	16	25	38	59	91	141	219	339	524	812	
	Rdc(Ω)	7.6 m	19.4 m	48.2 m	116.6 m	287.9 m	706.2 m	1.7	4.3	10.6	26.0	64.1	

