



**Part Number: MP-018125-8**  
Revision 20160816 - Generated 2016-Aug-16



<b>OD</b>	(nom. - bare core)	4.65 mm	0.183 in
	(max. - after coating)	5.21 mm	0.205 in
<b>ID</b>	(nom. - bare core)	2.36 mm	0.093 in
	(min. - after coating)	1.93 mm	0.076 in
<b>Ht</b>	(nom. - bare core)	2.54 mm	0.100 in
	(max. - after coating)	3.30 mm	0.130 in
<b>Mass</b>	(approximate)	0.23 grams	
<b>Magnetic Dimensions</b>	A <sub>e</sub> - Eff. Mag. Cross Section	0.0285 cm <sup>2</sup>	
	L <sub>e</sub> - Eff. Mag. Path Length	1.06 cm	
	V <sub>e</sub> - Eff. Core Volume	0.0302 cm <sup>3</sup>	
	WA - Min. Eff. Window Area	0.0293 cm <sup>2</sup>	
	sa - Surface Area	1.15 cm <sup>2</sup>	
	mlt - mean length per turn	1.08 cm	
<b>Inductance</b>	μ <sub>i</sub> (reference)	125	
	A <sub>L</sub> value (nominal)	42 nH/N <sup>2</sup>	
	Test Winding	N=30, #32 AWG	
	Frequency	10 kHz	
	Voltage on Agilent 4284A	0.004 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=2.193E+10, b=1.308E+09, c=9.301E+06, d=3.087E-14		
	B <sub>pk</sub>	1000 G	
	frequency	50 kHz	
	Core Loss (nominal)	249 mW/cm <sup>3</sup>	
Core Loss (maximum)	286 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=7.875E-06, c=1.874, d=0.000		
	H <sub>DC</sub>	40 Oe	
	Percent Initial Perm.(nom.)	55.8%	
Percent Initial Perm.(min.)	47.3%		
<b>Coating/Pkg</b>	Coating Type:	Parylene N	
	Voltage Breakdown (min.)	500 Vrms	
	Limit	0.1 mA, 5 s	
	Package Quantity	27,000 Pcs/Box	

<b>Winding Table</b>	<b>Wire Size</b>	AWG	28	30	32	34	36	38	40	42	44	-	-
		mm	0.315	0.250	0.200	0.160	0.125	0.100	0.080	0.063	0.050	-	-
	<b>Single Layer</b>	Turns	12	15	20	25	32	40	51	64	81	-	-
		Rdc(Ω)	27.7 m	55.1 m	116.8 m	232.1 m	472.6 m	939.5 m	1.9	3.8	7.7	-	-
<b>Full Winding</b>	Turns	12	19	29	45	69	107	166	257	398	-	-	
	Rdc(Ω)	27.7 m	69.8 m	169.3 m	417.9 m	1.0	2.5	6.2	15.3	37.6	-	-	

