



**Part Number:** **MS-520040-2**  
 Revision 20160816 - Generated 2016-Aug-16



<b>OD</b>	(nom. - bare core)	132.54 mm	5.218 in
	(max. - after coating)	134.21 mm	5.284 in
<b>ID</b>	(nom. - bare core)	78.59 mm	3.094 in
	(min. - after coating)	77.04 mm	3.033 in
<b>Ht</b>	(nom. - bare core)	20.32 mm	0.800 in
	(max. - after coating)	21.72 mm	0.855 in
<b>Mass</b>	(approximate)	950 grams	
<b>Magnetic Dimensions</b>	A <sub>e</sub> - Eff. Mag. Cross Section	5.35 cm <sup>2</sup>	
	L <sub>e</sub> - Eff. Mag. Path Length	32.429 cm	
	V <sub>e</sub> - Eff. Core Volume	173 cm <sup>3</sup>	
	WA - Min. Eff. Window Area	46.6 cm <sup>2</sup>	
	sa - Surface Area	515 cm <sup>2</sup>	
	mlt - mean length per turn	13.9 cm	
<b>Inductance</b>	μ <sub>i</sub> (reference)	40	
	A <sub>L</sub> value (nominal)	83 nH/N <sup>2</sup>	
	Test Winding	N=200, #18 AWG	
	Frequency	10 kHz	
	Voltage on Agilent 4284A	4.7 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=1.000E+06, b=6.961E+08, c=5.397E+06, d=4.127E-14		
	B <sub>pk</sub>	1000 G	
	frequency	50 kHz	
	Core Loss (nominal)	441 mW/cm <sup>3</sup>	
Core Loss (maximum)	507 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=2.655E-06, c=1.703, d=0.000		
	H <sub>DC</sub>	100 Oe	
	Percent Initial Perm.(nom.)	59.6%	
Percent Initial Perm.(min.)	52.0%		
<b>Coating/Pkg</b>	Coating Type:	Blue Epoxy	
	Voltage Breakdown (min.)	1000 Vrms	
	Limit	0.1 mA, 5 s	
	Package Quantity	4 Pcs/Box	

<b>Winding Table</b>	<b>Wire Size</b>	AWG	8	10	12	14	16	18	20	22	24	26	28
		mm	3.150	2.500	2.000	1.600	1.250	1.000	0.800	0.630	0.500	0.400	0.315
	<b>Single Layer</b>	Turns	62	78	98	123	154	192	239	298	372	463	577
		Rdc(Ω)	17.7 m	35.5 m	70.9 m	141.5 m	281.8 m	558.8 m	1.1	2.2	4.4	8.6	17.1
<b>Full Winding</b>	Turns	244	378	584	905	1,400	2,167	3,354	5,191	8,035	12,436	19,248	
	Rdc(Ω)	69.8 m	172.0 m	422.6 m	1.0	2.6	6.3	15.5	38.2	94.1	231.6	570.0	

