



**Part Number:** **FS-185090-2**  
 Revision 20160816 - Generated 2016-Aug-16



<b>OD</b>	(nom. - bare core) (max. - after coating)	46.74 mm 47.63 mm	1.840 in 1.875 in
<b>ID</b>	(nom. - bare core) (min. - after coating)	28.70 mm 27.89 mm	1.130 in 1.098 in
<b>Ht</b>	(nom. - bare core) (max. - after coating)	15.24 mm 16.13 mm	0.600 in 0.635 in
<b>Mass</b>	(approximate)	110 grams	
<b>Magnetic Dimensions</b>	A <sub>e</sub> - Eff. Mag. Cross Section	1.34 cm <sup>2</sup>	
	L <sub>e</sub> - Eff. Mag. Path Length	11.62 cm	
	V <sub>e</sub> - Eff. Core Volume	15.6 cm <sup>3</sup>	
	WA - Min. Eff. Window Area	6.11 cm <sup>2</sup>	
	sa - Surface Area	79.6 cm <sup>2</sup>	
	mlt - mean length per turn	6.59 cm	
<b>Inductance</b>	μ <sub>i</sub> (reference)	90	
	A <sub>L</sub> value (nominal)	128 nH/N <sup>2</sup>	
	Test Winding	N=80, #20 AWG	
	Frequency	10 kHz	
	Voltage on Agilent 4284A	0.48 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=5.648E+08, c=7.440E+04, d=6.942E-14		
	B <sub>pk</sub>	1000 G	
	frequency	50 kHz	
	Core Loss (nominal)	869 mW/cm <sup>3</sup>	
Core Loss (maximum)	999 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=8.566E-06, c=1.584, d=0.000		
	H <sub>DC</sub>	50 Oe	
	Percent Initial Perm.(nom.)	70.4%	
Percent Initial Perm.(min.)	64.0%		
<b>Coating/Pkg</b>	Coating Type:	Blue Epoxy	
	Voltage Breakdown (min.)	1000 Vrms	
	Limit	0.1 mA, 5 s	
	Package Quantity	125 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	21	27	34	43	54	68	85	106	133	166	207
		Rdc(Ω)	2.8 m	5.8 m	11.7 m	23.5 m	46.8 m	93.8 m	186.5 m	369.9 m	738.1 m	1.5	2.9
<b>Full Winding</b>	Turns	32	49	77	119	184	284	440	680	1,053	1,630	2,523	
	Rdc(Ω)	4.3 m	10.6 m	26.4 m	64.9 m	159.6 m	391.8 m	965.4 m	2.4	5.8	14.4	35.4	

