



**Part Number:** **FS-300090-2**  
 Revision 20160816 - Generated 2016-Aug-16



<b>OD</b>	(nom. - bare core)	77.80 mm	3.063 in
	(max. - after coating)	78.94 mm	3.108 in
<b>ID</b>	(nom. - bare core)	49.23 mm	1.938 in
	(min. - after coating)	47.96 mm	1.888 in
<b>Ht</b>	(nom. - bare core)	12.70 mm	0.500 in
	(max. - after coating)	13.97 mm	0.550 in
<b>Mass</b>	(approximate)	240 grams	
<b>Magnetic Dimensions</b>	A <sub>e</sub> - Eff. Mag. Cross Section	1.77 cm <sup>2</sup>	
	L <sub>e</sub> - Eff. Mag. Path Length	19.612 cm	
	V <sub>e</sub> - Eff. Core Volume	34.8 cm <sup>3</sup>	
	WA - Min. Eff. Window Area	18.1 cm <sup>2</sup>	
	sa - Surface Area	184 cm <sup>2</sup>	
	mlt - mean length per turn	8.29 cm	
	<b>Inductance</b>	μ <sub>i</sub> (reference)	90
<b>Core Loss</b>	A <sub>L</sub> value (nominal)	102 nH/N <sup>2</sup>	
	Test Winding	N=120, #18 AWG	
	Frequency	10 kHz	
	Voltage on Agilent 4284A	0.94 V	
	AL tolerance	±8%	
<b>DC Saturation</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=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>	
<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%	
<b>Coating/Pkg</b>	Percent Initial Perm.(min.)	64.0%	
	Coating Type:	Blue Epoxy	
	Voltage Breakdown (min.)	1000 Vrms	
	Limit	0.1 mA, 5 s	
<b>Winding Table</b>	Package Quantity	45 Pcs/Box	
	Wire Size	AWG	8 10 12 14 16 18 20 22 24 26 28
<b>Single Layer</b>	mm	3.150 2.500 2.000 1.600 1.250 1.000 0.800 0.630 0.500 0.400 0.315	
	Turns	38 48 60 75 95 118 148 185 230 287 358	
<b>Full Winding</b>	Rdc(Ω)	6.5 m 13.0 m 25.9 m 51.4 m 103.6 m 204.6 m 408.2 m 811.5 m 1.6 3.2 6.3	
	Turns	95 146 227 351 543 840 1,300 2,012 3,114 4,820 7,459	
<b>Full Winding</b>	Rdc(Ω)	16.2 m 39.6 m 97.9 m 240.7 m 592.1 m 1.5 3.6 8.8 21.7 53.5 131.6	

