



Part Number: **FS-080090-2**

Revision 20190529 - Generated 2019-May-29



(If coated, Max./Min. includes coating)

OD	(nom. - bare core) (max.)	20.32 mm 21.08 mm	0.800 in 0.830 in
ID	(nom. - bare core) (min.)	12.70 mm 12.07 mm	0.500 in 0.475 in
HT	(nom. - bare core) (max.)	6.35 mm 7.11 mm	0.250 in 0.280 in
Mass	(approximate)	7.9 grams	
Magnetic Dimensions	A _e - Eff. Mag. Cross Section	0.226 cm ²	
	L _e - Eff. Mag. Path Length	5.09 cm	
	V _e - Eff. Core Volume	1.15 cm ³	
	WA - Min. Eff. Window Area	1.14 cm ²	
	sa - Surface Area	15.5 cm ²	
	mlt - mean length per turn	2.93 cm	
Inductance	μ _i (reference)	90	
	A _L value (nominal)	49 nH/N ²	
	Test Winding	N=90, #28 AWG	
	Frequency	10 kHz	
	Voltage on Agilent 4284A	0.090 V	
	AL tolerance	±8%	
Core Loss	$\text{Core Loss (mW/cm}^3\text{)} = \frac{f}{\frac{a}{B_{pk}^3} + \frac{b}{B_{pk}^{2.3}} + \frac{c}{B_{pk}^{1.65}}} + d \cdot B_{pk}^2 \cdot f^2$		
	where B _{pk} 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 _{pk}	1000 G	
	frequency	50 kHz	
	Core Loss (nominal)	869 mW/cm ³	
Core Loss (maximum)	999 mW/cm ³		
DC Saturation	$\% \mu_i = \frac{1}{a + b \cdot H^c} + d$		
	where H expressed in oersteds, and: a=1.000E-02, b=8.566E-06, c=1.584, d=0.000		
	H _{DC}	50 Oe	
	Percent Initial Perm(nom.)	70.4%	
	Percent Initial Perm(min.)	64.0%	
Coating/Pkg	Coating Type:	Blue Epoxy	
	Voltage Breakdown (min.)	1000 Vrms	
	Limit	0.1 mA, 5 s	
	Package Quantity	1,800 Pcs/Box	

Winding Table	Wire Size	AWG	10	12	14	16	18	20	22	24	26	28	30
		mm	2.500	2.000	1.600	1.250	1.000	0.800	0.630	0.500	0.400	0.315	0.250
	Single Layer	Turns	10	13	17	22	28	35	44	56	70	88	110
		Rdc(Ω)	1.0 m	2.0 m	4.1 m	8.5 m	17.1 m	34.1 m	68.1 m	137.9 m	274.2 m	548.2 m	1.1
Full Winding	Turns	9	14	22	34	53	82	127	197	305	472	731	
	Rdc(Ω)	0.9 m	2.1 m	5.3 m	13.1 m	32.4 m	79.8 m	196.7 m	485.2 m	1.2	2.9	7.2	

