



Part Number: **FS-090090-2**

Revision 20190529 - Generated 2019-May-29



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

OD	(nom. - bare core) (max.)	22.86 mm 23.62 mm	0.900 in 0.930 in
ID	(nom. - bare core) (min.)	13.97 mm 13.39 mm	0.550 in 0.527 in
HT	(nom. - bare core) (max.)	7.62 mm 8.38 mm	0.300 in 0.330 in
Mass	(approximate)	13 grams	
Magnetic Dimensions	A _e - Eff. Mag. Cross Section	0.331 cm ²	
	L _e - Eff. Mag. Path Length	5.67 cm	
	V _e - Eff. Core Volume	1.88 cm ³	
	WA - Min. Eff. Window Area	1.41 cm ²	
	sa - Surface Area	19.8 cm ²	
	mlt - mean length per turn	3.37 cm	
Inductance	μ _i (reference)	90	
	A _L value (nominal)	65 nH/N ²	
	Test Winding	N=80, #26 AWG	
	Frequency	10 kHz	
	Voltage on Agilent 4284A	0.12 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	1,210 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	11	15	19	24	31	39	50	62	78	98	123
		Rdc(Ω)	1.2 m	2.6 m	5.3 m	10.6 m	21.8 m	43.7 m	89.1 m	175.8 m	351.6 m	702.7 m	1.4
Full Winding	Turns	11	18	27	42	65	101	157	243	376	581	900	
	Rdc(Ω)	1.2 m	3.2 m	7.5 m	18.6 m	45.8 m	113.2 m	279.8 m	688.8 m	1.7	4.2	10.3	

