



Part Number: **FS-040090-2**

Revision 20190529 - Generated 2019-May-29



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

OD	(nom. - bare core) (max.)	10.16 mm 10.80 mm	0.400 in 0.425 in
ID	(nom. - bare core) (min.)	5.08 mm 4.57 mm	0.200 in 0.180 in
HT	(nom. - bare core) (max.)	3.96 mm 4.57 mm	0.156 in 0.180 in
Mass	(approximate)	1.6 grams	
Magnetic Dimensions	A _e - Eff. Mag. Cross Section	0.100 cm ²	
	L _e - Eff. Mag. Path Length	2.38 cm	
	V _e - Eff. Core Volume	0.238 cm ³	
	WA - Min. Eff. Window Area	0.164 cm ²	
	sa - Surface Area	4.20 cm ²	
	mlt - mean length per turn	1.77 cm	
Inductance	μ _i (reference)	90	
	A _L value (nominal)	48 nH/N ²	
	Test Winding	N=55, #30 AWG	
	Frequency	10 kHz	
	Voltage on Agilent 4284A	0.024 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	9,000 Pcs/Box	

Winding Table	Wire Size	AWG	20	22	24	26	28	30	32	34	36	38	40
		mm	0.800	0.630	0.500	0.400	0.315	0.250	0.200	0.160	0.125	0.100	0.080
	Single Layer	Turns	12	15	19	25	32	40	50	63	80	100	125
		Rdc(Ω)	7.0 m	14.0 m	28.2 m	59.1 m	120.3 m	239.1 m	475.2 m	952.3 m	1.9	3.8	7.6
Full Winding	Turns	12	18	28	44	68	105	162	251	389	602	931	
	Rdc(Ω)	7.0 m	16.8 m	41.6 m	104.0 m	255.5 m	627.5 m	1.5	3.8	9.4	23.0	56.6	

