



Part Number: **FS-050090-2**

Revision 20190529 - Generated 2019-May-29



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

OD	(nom. - bare core) (max.)	12.70 mm 13.46 mm	0.500 in 0.530 in
ID	(nom. - bare core) (min.)	7.62 mm 6.99 mm	0.300 in 0.275 in
HT	(nom. - bare core) (max.)	4.75 mm 5.51 mm	0.187 in 0.217 in
Mass	(approximate)	2.5 grams	
Magnetic Dimensions	A _e - Eff. Mag. Cross Section	0.114 cm ²	
	L _e - Eff. Mag. Path Length	3.12 cm	
	V _e - Eff. Core Volume	0.356 cm ³	
	WA - Min. Eff. Window Area	0.384 cm ²	
	sa - Surface Area	6.67 cm ²	
	mlt - mean length per turn	2.10 cm	
Inductance	μ _i (reference)	90	
	A _L value (nominal)	40 nH/N ²	
	Test Winding	N=50, #28 AWG	
	Frequency	10 kHz	
	Voltage on Agilent 4284A	0.025 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	5,400 Pcs/Box	

Winding Table	Wire Size	AWG	16	18	20	22	24	26	28	30	32	34	36
		mm	1.250	1.000	0.800	0.630	0.500	0.400	0.315	0.250	0.200	0.160	0.125
	Single Layer	Turns	11	15	19	24	31	39	50	63	79	98	123
		Rdc(Ω)	3.0 m	6.6 m	13.3 m	26.6 m	54.7 m	109.5 m	223.3 m	447.5 m	892.5 m	1.8	3.5
Full Winding	Turns	12	18	28	43	66	102	158	245	380	587	909	
	Rdc(Ω)	3.3 m	7.9 m	19.5 m	47.7 m	116.6 m	286.5 m	705.7 m	1.7	4.3	10.5	26.0	

