



**Part Number:** **FS-130090-2**

Revision 20190529 - Generated 2019-May-29



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

<b>OD</b>	(nom. - bare core) (max.)	33.02 mm 33.83 mm	1.300 in 1.332 in
<b>ID</b>	(nom. - bare core) (min.)	19.94 mm 19.30 mm	0.785 in 0.760 in
<b>HT</b>	(nom. - bare core) (max.)	10.67 mm 11.61 mm	0.420 in 0.457 in
<b>Mass</b>	(approximate)	38 grams	
<b>Magnetic Dimensions</b>	A <sub>e</sub> - Eff. Mag. Cross Section	0.672 cm <sup>2</sup>	
	L <sub>e</sub> - Eff. Mag. Path Length	8.15 cm	
	V <sub>e</sub> - Eff. Core Volume	5.48 cm <sup>3</sup>	
	WA - Min. Eff. Window Area	2.93 cm <sup>2</sup>	
	sa - Surface Area	40.1 cm <sup>2</sup>	
	mlt - mean length per turn	4.74 cm	
<b>Inductance</b>	μ <sub>i</sub> (reference)	90	
	A <sub>L</sub> value (nominal)	91 nH/N <sup>2</sup>	
	Test Winding	N=70, #22 AWG	
	Frequency	10 kHz	
	Voltage on Agilent 4284A	0.21 V	
	AL tolerance	±8%	
<b>Core Loss</b>	$\text{Core Loss (mW/cm}^3\text{)} = \frac{f}{\frac{a}{B_{pk}^3} + \frac{b}{B_{pk}^{2.3}} + \frac{c}{B_{pk}^{1.65}}} + d \cdot B_{pk}^2 \cdot f^2$		
	where B <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>	
Core Loss (maximum)	999 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%	
Percent Initial Perm(min.)	64.0%		
<b>Coating/Pkg</b>	Coating Type:	Blue Epoxy	
	Voltage Breakdown (min.)	1000 Vrms	
	Limit	0.1 mA, 5 s	
	Package Quantity	512 Pcs/Box	

<b>Winding Table</b>	<b>Wire Size</b>	AWG	8	10	12	14	16	18	20	22	24	26	28
		mm	3.150	2.500	2.000	1.600	1.250	1.000	0.800	0.630	0.500	0.400	0.315
	<b>Single Layer</b>	Turns	14	18	22	29	36	46	58	73	91	114	142
		Rdc(Ω)	1.4 m	2.8 m	5.4 m	11.4 m	22.4 m	45.6 m	91.5 m	183.1 m	363.0 m	723.2 m	1.4
<b>Full Winding</b>	Turns	15	24	37	57	88	136	211	326	504	780	1,208	
	Rdc(Ω)	1.5 m	3.7 m	9.1 m	22.3 m	54.9 m	134.9 m	332.8 m	817.6 m	2.0	4.9	12.2	

