



**Part Number:** **FS-090040-2**

Revision 20190529 - Generated 2019-May-29



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

<b>OD</b>	(nom. - bare core) (max.)	22.86 mm 23.62 mm	0.900 in 0.930 in										
<b>ID</b>	(nom. - bare core) (min.)	13.97 mm 13.39 mm	0.550 in 0.527 in										
<b>HT</b>	(nom. - bare core) (max.)	7.62 mm 8.38 mm	0.300 in 0.330 in										
<b>Mass</b>	(approximate)	12 grams											
<b>Magnetic Dimensions</b>	A <sub>e</sub> - Eff. Mag. Cross Section	0.331 cm <sup>2</sup>											
	L <sub>e</sub> - Eff. Mag. Path Length	5.67 cm											
	V <sub>e</sub> - Eff. Core Volume	1.88 cm <sup>3</sup>											
	WA - Min. Eff. Window Area	1.41 cm <sup>2</sup>											
	sa - Surface Area	19.8 cm <sup>2</sup>											
	mlt - mean length per turn	3.37 cm											
<b>Inductance</b>	μ <sub>i</sub> (reference)	40											
	A <sub>L</sub> value (nominal)	29 nH/N <sup>2</sup>											
	Test Winding	N=80, #26 AWG											
	Frequency	10 kHz											
	Voltage on Agilent 4284A	0.12 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=3.071E+08, c=3.524E+06, d=5.634E-14												
	B <sub>pk</sub>	1000 G											
	frequency	50 kHz											
	Core Loss (nominal)	780 mW/cm <sup>3</sup>											
Core Loss (maximum)	897 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=6.314E-08, c=2.151, d=0.000												
	H <sub>DC</sub>	200 Oe											
	Percent Initial Perm(nom.)	64.0%											
	Percent Initial Perm(min.)	54.5%											
<b>Coating/Pkg</b>	Coating Type:	Blue Epoxy											
	Voltage Breakdown (min.)	1000 Vrms											
	Limit	0.1 mA, 5 s											
	Package Quantity	1,210 Pcs/Box											
<b>Winding Table</b>	<b>Wire Size</b>	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
	<b>Single Layer</b>	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
	<b>Full Winding</b>	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

