



Part Number: **MS-185090-2**

Revision 2021-Dec-01 - Generated 2021-Dec-01



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

OD	(nom. - bare core) (max.)	46.74 mm 47.63 mm	1.840 in 1.875 in
ID	(nom. - bare core) (min.)	28.70 mm 27.89 mm	1.130 in 1.098 in
HT	(nom. - bare core) (max.)	15.24 mm 16.13 mm	0.600 in 0.635 in
Mass	(approximate)	92 grams	
Magnetic Dimensions	A _e - Eff. Mag. Cross Section	1.34 cm ²	
	L _e - Eff. Mag. Path Length	11.62 cm	
	V _e - Eff. Core Volume	15.6 cm ³	
	WA - Min. Eff. Window Area	6.11 cm ²	
	sa - Surface Area	79.6 cm ²	
	mlt - mean length per turn	6.59 cm	
Inductance	μ _i (reference)	90	
	A _L value (nominal)	128 nH/N ²	
	Test Winding	N=80, #20 AWG	
	Frequency	10 kHz	
	Voltage on Agilent 4284A	0.48 V	
	AL tolerance	±8%	
Core Loss	$\text{Core Loss (mW/cm}^3\text{)} = \frac{a}{B_{pk}^3} + \frac{b}{B_{pk}^{2.3}} + \frac{c}{B_{pk}^{1.65}} + d \cdot B_{pk}^2 \cdot f^2$		
	where B _{pk} expressed in gauss, f expressed in hertz, and: a=7.890E+09, b=7.111E+08, c=8.980E+06, d=2.846E-14		
	B _{pk}	1000 G	
	frequency	50 kHz	
	Core Loss (nominal)	323 mW/cm ³	
Core Loss (maximum)	372 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=3.994E-06, c=1.883, d=0.000		
	H _{DC}	50 Oe	
	Percent Initial Perm(nom.)	61.3%	
Percent Initial Perm(min.)	52.9%		
Coating/Pkg	Coating Type:	Blue Epoxy	
	Voltage Breakdown (min.)	1000 Vrms	
	Limit	0.1 mA, 5 s	
	Package Quantity	125 Pcs/Box	

Winding Table	Wire Size	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
	Single Layer	Turns	21	27	34	43	54	68	85	106	133	166	207
		Rdc(Ω)	2.8 m	5.8 m	11.7 m	23.5 m	46.8 m	93.8 m	186.5 m	369.9 m	738.1 m	1.5	2.9
Full Winding	Turns	32	49	77	119	184	284	440	680	1,053	1,630	2,523	
	Rdc(Ω)	4.3 m	10.6 m	26.4 m	64.9 m	159.6 m	391.8 m	965.4 m	2.4	5.8	14.4	35.4	

