



Part Number: **MS-039125-8**

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



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

OD	(nom. - bare core) (max.)	9.65 mm 10.29 mm	0.380 in 0.405 in
ID	(nom. - bare core) (min.)	4.78 mm 4.27 mm	0.188 in 0.168 in
HT	(nom. - bare core) (max.)	3.18 mm 3.81 mm	0.125 in 0.150 in
Mass	(approximate)	0.97 grams	
Magnetic Dimensions	A _e - Eff. Mag. Cross Section	0.0752 cm ²	
	L _e - Eff. Mag. Path Length	2.18 cm	
	V _e - Eff. Core Volume	0.164 cm ³	
	WA - Min. Eff. Window Area	0.143 cm ²	
	sa - Surface Area	3.61 cm ²	
	mlt - mean length per turn	1.58 cm	
Inductance	μ _i (reference)	125	
	A _L value (nominal)	53 nH/N ²	
	Test Winding	N=45, #30 AWG	
	Frequency	10 kHz	
	Voltage on Agilent 4284A	0.015 V	
	AL tolerance	±12%	
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=1.394E+10, b=1.034E+09, c=1.244E+07, d=4.007E-14		
	B _{pk}	1000 G	
	frequency	50 kHz	
	Core Loss (nominal)	276 mW/cm ³	
	Core Loss (maximum)	318 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=7.884E-06, c=1.883, d=0.000		
	H _{DC}	40 Oe	
	Percent Initial Perm(nom.)	55.0%	
	Percent Initial Perm(min.)	46.4%	
Coating/Pkg	Coating Type:	Parylene N	
	Voltage Breakdown (min.)	500 Vrms	
	Limit	0.1 mA, 5 s	
	Package Quantity	10,800 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	11	14	18	23	29	37	47	59	74	93	116
		Rdc(Ω)	5.8 m	11.7 m	23.9 m	48.6 m	97.4 m	197.6 m	399.2 m	796.9 m	1.6	3.2	6.3
Full Winding	Turns	10	16	25	38	59	92	142	219	339	525	813	
	Rdc(Ω)	5.2 m	13.4 m	33.2 m	80.2 m	198.1 m	491.3 m	1.2	3.0	7.3	17.9	44.2	

