



Part Number: MS-031090-8
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OD	(nom. - bare core)	7.87 mm	0.310 in
	(max. - after coating)	8.51 mm	0.335 in
ID	(nom. - bare core)	3.96 mm	0.156 in
	(min. - after coating)	3.43 mm	0.135 in
Ht	(nom. - bare core)	3.18 mm	0.125 in
	(max. - after coating)	3.81 mm	0.150 in
Mass	(approximate)	0.65 grams	
Magnetic Dimensions	A _e - Eff. Mag. Cross Section	0.0615 cm ²	
	L _e - Eff. Mag. Path Length	1.79 cm	
	V _e - Eff. Core Volume	0.110 cm ³	
	WA - Min. Eff. Window Area	0.0924 cm ²	
	sa - Surface Area	2.65 cm ²	
	mlt - mean length per turn	1.44 cm	
Inductance	μ _i (reference)	90	
	A _L value (nominal)	37 nH/N ²	
	Test Winding	N=45, #32 AWG	
	Frequency	10 kHz	
	Voltage on Agilent 4284A	0.012 V	
	AL tolerance	±12%	
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=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:	Parylene N	
	Voltage Breakdown (min.)	500 Vrms	
	Limit	0.1 mA, 5 s	
	Package Quantity	14,400 Pcs/Box	

Winding Table	Wire Size	AWG	22	24	26	28	30	32	34	36	38	40	42
		mm	0.630	0.500	0.400	0.315	0.250	0.200	0.160	0.125	0.100	0.080	0.063
	Single Layer	Turns	11	14	18	23	29	37	47	59	74	93	116
		Rdc(Ω)	8.4 m	17.0 m	34.7 m	70.6 m	141.5 m	287.1 m	580.1 m	1.2	2.3	4.6	9.2
Full Winding	Turns	10	16	25	38	59	91	141	219	339	524	812	
	Rdc(Ω)	7.6 m	19.4 m	48.2 m	116.6 m	287.9 m	706.2 m	1.7	4.3	10.6	26.0	64.1	

