



Part Number:

MS-171090-2

Revision:

2023-Dec-18



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

	mm	in
OD		
(nom. - bare core)	43.40	1.709
(max.)	44.30	1.744
ID		
(nom. - bare core)	26.40	1.039
(min.)	25.50	1.004
HT		
(nom. - bare core)	16.20	0.638
(max.)	17.10	0.673

Mass	(approximate)	83	grams
Magnetic Dimensions			
A_e - Eff. Mag. Cross Section	1.31	cm ²	
L_e - Eff. Mag. Path Length	10.74	cm	
V_e - Eff. Core Volume	14.1	cm ³	
W_A - Min. Eff. Window Area	5.11	cm ²	
s_a - Surface Area	72.0	cm ²	
mlt - mean length per turn	6.58	cm	

Inductance			
μ_i (reference)	90		
A_L value (nominal)	138	nH/N ²	
Test Winding	70 Turns	AWG#	22
Frequency	10k	Hz	
Voltage on Agilent 4284A	0.41	V	
AL tolerance	±8%		

Core Loss			
Core Loss(mW/cm ³)=	$\frac{a}{B_{pk}^3} + \frac{b}{B_{pk}^{2.3}} + \frac{c}{B_{pk}^{1.65}} + d \cdot B_{pk}^2 \cdot f^2$		
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 k	Hz	
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	120	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	19	24	31	39	49	62	77	97	121	151	189
		Rdc(Ω)	2.6 m	5.2 m	10.6 m	21.2 m	42.4 m	85.3 m	168.4 m	337.5 m	669.5 m	1.3	2.6
Full Winding	Turns	27	41	64	99	153	237	367	569	880	1,362	2,109	
	Rdc(Ω)	3.7 m	8.8 m	21.9 m	53.8 m	132.3 m	326.0 m	802.8 m	2.0	4.9	12.0	29.5	

