

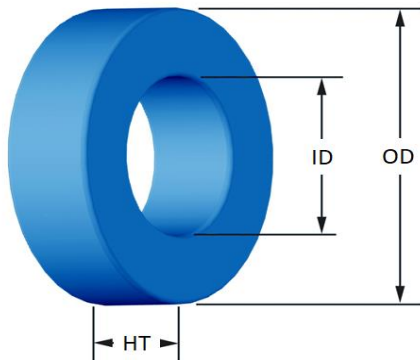


Part Number:

MS-400090-2

Revision:

2023-Dec-06



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

		mm	in
OD	(nom. - bare core)	101.60	4.000
	(max.)	102.87	4.050
ID	(nom. - bare core)	57.15	2.250
	(min.)	55.75	2.195
HT	(nom. - bare core)	16.51	0.650
	(max.)	17.78	0.700

Magnetic Dimensions	Mass (approximate)	500	grams
	A_e - Eff. Mag. Cross Section	3.52	cm ²
	L_e - Eff. Mag. Path Length	24.271	cm
	V_e - Eff. Core Volume	85.5	cm ³
	W_A - Min. Eff. Window Area	24.4	cm ²
	s_a - Surface Area	303	cm ²
	m_{lt} - mean length per turn	11.1	cm

Inductance	μ_i (reference)	90	
	A_L value (nominal)	164	nH/N ²
	Test Winding	140 Turns	AWG# 18
	Frequency	10k	Hz
	Voltage on Agilent 4284A	2.2	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 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	20 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	44	56	70	88	110	138	172	215	268	335	417
		Rdc(Ω)	10.0 m	20.2 m	40.2 m	80.5 m	160.0 m	319.2 m	632.7 m	1.3	2.5	5.0	9.8
	Full Winding	Turns	128	198	306	474	733	1,135	1,756	2,719	4,208	6,512	10,079
		Rdc(Ω)	29.1 m	71.6 m	175.9 m	433.4 m	1.1	2.6	6.5	15.9	39.1	96.4	237.2

