

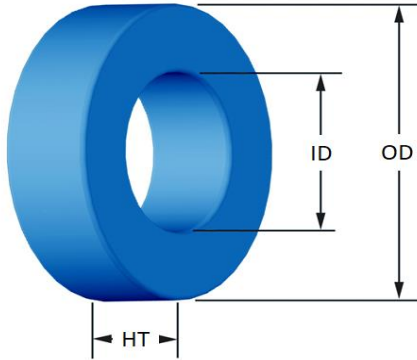


Part Number:

MS-300040-2

Revision:

2023-Dec-06



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

	mm	in
OD		
(nom. - bare core)	77.80	3.063
(max.)	78.94	3.108
ID		
(nom. - bare core)	49.23	1.938
(min.)	47.96	1.888
HT		
(nom. - bare core)	12.70	0.500
(max.)	13.97	0.550

Mass	(approximate)	190	grams
Magnetic Dimensions			
A_e - Eff. Mag. Cross Section	1.77	cm ²	
L_e - Eff. Mag. Path Length	19.612	cm	
V_e - Eff. Core Volume	34.8	cm ³	
W_A - Min. Eff. Window Area	18.1	cm ²	
s_a - Surface Area	184	cm ²	
m_{lt} - mean length per turn	8.29	cm	

Inductance			
μ_i (reference)	40		
A_L value (nominal)	45	nH/N ²	
Test Winding	120 Turns	AWG#	18
Frequency	10k	Hz	
Voltage on Agilent 4284A	0.94	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: $a=1.000E+06$, $b=6.961E+08$, $c=5.397E+06$, $d=4.127E-14$			
B_{pk}	1000	G	
frequency	50 k	Hz	
Core Loss (nominal)	441	mW/cm ³	
Core Loss (maximum)	507	mW/cm ³	

DC Saturation			
$\% \mu_i = \frac{1}{a + b \cdot H^c} + d$			
where H expressed in oersteds, and: $a=1.000E-02$, $b=2.655E-06$, $c=1.703$, $d=0.000$			
H_{dc}	100	Oe	
Percent Initial Perm(nom.)	59.6	%	
Percent Initial Perm(min.)	52.0	%	

Coating/Pkg			
Coating Type:	Blue Epoxy		
Voltage Breakdown (min.)	1000	Vrms	
Limit	0.1 mA, 5 s		
Package Quantity	36	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	38	48	60	75	95	118	148	185	230	287	358
		Rdc(Ω)	6.5 m	13.0 m	25.9 m	51.4 m	103.6 m	204.6 m	408.2 m	811.5 m	1.6	3.2	6.3
	Full Winding	Turns	95	146	227	351	543	840	1,300	2,012	3,114	4,820	7,459
		Rdc(Ω)	16.2 m	39.6 m	97.9 m	240.7 m	592.1 m	1.5	3.6	8.8	21.7	53.5	131.6

