



Part Number: **T50-45**

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OD	(nom. - bare core) (max. - after coating)	12.70 mm 13.21 mm	0.500 in 0.520 in
ID	(nom. - bare core) (min. - after coating)	7.70 mm 7.19 mm	0.303 in 0.283 in
Ht	(nom. - bare core) (max. - after coating)	4.83 mm 5.33 mm	0.190 in 0.210 in
Mass	(approximate)	2.6 grams	
Magnetic Dimensions	A _e - Eff. Mag. Cross Section	0.112 cm ²	
	L _e - Eff. Mag. Path Length	3.19 cm	
	V _e - Eff. Core Volume	0.358 cm ³	
	WA - Min. Eff. Window Area	0.406 cm ²	
	sa - Surface Area	6.44 cm ²	
	mlt - mean length per turn	2.03 cm	
Inductance	μ _i (reference)	100	
	A _L value (nominal)	44 nH/N ²	
	Test Winding	N=100, #32 AWG	
	Frequency	10 kHz	
	Voltage on Agilent 4284A	0.050 V	
A _L tolerance	±10%		
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=1.20E+09, b=1.30E+08, c=2.40E+06, d=1.20E-13		
	B _{pk}	140 G	
	frequency	100 kHz	
	Core Loss (nominal)	61 mW/cm ³	
Core Loss (maximum)	71 mW/cm ³		
DC Saturation	$\% \mu_i = \frac{1}{a + b \cdot H^c} + d$		
	where H expressed in oersteds, and: a=1.00E-02, b=2.44E-05, c=1.61, d=0.00		
	H _{DC}	50 Oe	
	Percent Initial Perm(nom.)	43.3%	
Percent Initial Perm(min.)	36.3%		
Coating/Pkg	Coating Type:	Black/Black Epoxy Paint	
	Voltage Breakdown (min.)	500 Vrms, 60Hz	
	Limit	3 mA, 5 s	
	Package Quantity	6,000 Pcs/Box	

Winding Table	Wire Size	AWG	16	18	20	22	24	26	28	30	32	34	36
		mm	1.250	1.000	0.800	0.630	0.500	0.400	0.315	0.250	0.200	0.160	0.125
	Single Layer	Turns	12	15	20	25	32	41	51	64	81	101	127
		Rdc(Ω)	3.2 m	6.4 m	13.5 m	26.8 m	54.6 m	111.3 m	220.2 m	439.4 m	884.5 m	1.8	3.5
Full Winding	Turns	12	19	29	45	70	108	168	259	401	621	962	
	Rdc(Ω)	3.2 m	8.1 m	19.6 m	48.3 m	119.5 m	293.2 m	725.3 m	1.8	4.4	10.8	26.6	

