



**Part Number:** **T80-52D**

Revision 20190524 - Generated 2019-May-30



<b>OD</b>	(nom. - bare core) (max. - after coating)	20.19 mm 20.70 mm	0.795 in 0.815 in
<b>ID</b>	(nom. - bare core) (min. - after coating)	12.57 mm 12.07 mm	0.495 in 0.475 in
<b>Ht</b>	(nom. - bare core) (max. - after coating)	12.70 mm 13.34 mm	0.500 in 0.525 in
<b>Mass</b>	(approximate)	16 grams	
<b>Magnetic Dimensions</b>	A <sub>e</sub> - Eff. Mag. Cross Section	0.453 cm <sup>2</sup>	
	L <sub>e</sub> - Eff. Mag. Path Length	5.14 cm	
	V <sub>e</sub> - Eff. Core Volume	2.33 cm <sup>3</sup>	
	WA - Min. Eff. Window Area	1.14 cm <sup>2</sup>	
	sa - Surface Area	19.7 cm <sup>2</sup>	
	mlt - mean length per turn	4.13 cm	
<b>Inductance</b>	μ <sub>i</sub> (reference)	75	
	A <sub>L</sub> value (nominal)	83 nH/N <sup>2</sup>	
	Test Winding	N=100, #28 AWG	
	Frequency	10 kHz	
	Voltage on Agilent 4284A	0.20 V	
A <sub>L</sub> tolerance	±10%		
<b>Core Loss</b>	$\text{Core Loss (mW/cm}^3\text{)} = \frac{f}{\frac{a}{B_{pk}^3} + \frac{b}{B_{pk}^{2.3}} + \frac{c}{B_{pk}^{1.65}}} + d \cdot B_{pk}^2 \cdot f^2$		
	where B <sub>pk</sub> expressed in gauss, f expressed in hertz, and: a=1.00E+09, b=1.10E+08, c=2.10E+06, d=6.90E-14		
	B <sub>pk</sub>	140 G	
	frequency	100 kHz	
	Core Loss (nominal)	58 mW/cm <sup>3</sup>	
Core Loss (maximum)	67 mW/cm <sup>3</sup>		
<b>DC Saturation</b>	$\% \mu_i = \frac{1}{a + b \cdot H^c} + d$		
	where H expressed in oersteds, and: a=1.00E-02, b=4.66E-06, c=1.84, d=0.00		
	H <sub>DC</sub>	50 Oe	
	Percent Initial Perm(nom.)	61.6%	
Percent Initial Perm(min.)	53.4%		
<b>Coating/Pkg</b>	Coating Type:	Green/Blue Epoxy Paint	
	Voltage Breakdown (min.)	500 Vrms, 60Hz	
	Limit	3 mA, 5 s	
	Package Quantity	1,000 Pcs/Box	

<b>Winding Table</b>	<b>Wire Size</b>	AWG	10	12	14	16	18	20	22	24	26	28	30
		mm	2.500	2.000	1.600	1.250	1.000	0.800	0.630	0.500	0.400	0.315	0.250
	<b>Single Layer</b>	Turns	10	13	17	22	28	35	44	56	70	88	110
		Rdc(Ω)	1.4 m	2.8 m	5.8 m	12.0 m	24.2 m	48.1 m	96.2 m	194.8 m	387.3 m	774.3 m	1.5
<b>Full Winding</b>	Turns	9	14	22	34	53	82	127	197	305	472	731	
	Rdc(Ω)	1.2 m	3.0 m	7.5 m	18.5 m	45.8 m	112.8 m	277.8 m	685.3 m	1.7	4.2	10.2	

