



**Part Number:** **T38-8/90**

Revision 20190524 - Generated 2019-May-30



<b>OD</b>	(nom. - bare core) (max. - after coating)	9.53 mm 9.91 mm	0.375 in 0.390 in
<b>ID</b>	(nom. - bare core) (min. - after coating)	4.45 mm 4.06 mm	0.175 in 0.160 in
<b>Ht</b>	(nom. - bare core) (max. - after coating)	4.83 mm 5.33 mm	0.190 in 0.210 in
<b>Mass</b>	(approximate)	1.6 grams	
<b>Magnetic Dimensions</b>	A <sub>e</sub> - Eff. Mag. Cross Section	0.114 cm <sup>2</sup>	
	L <sub>e</sub> - Eff. Mag. Path Length	2.18 cm	
	V <sub>e</sub> - Eff. Core Volume	0.248 cm <sup>3</sup>	
	WA - Min. Eff. Window Area	0.130 cm <sup>2</sup>	
	sa - Surface Area	3.91 cm <sup>2</sup>	
	mlt - mean length per turn	1.85 cm	
<b>Inductance</b>	μ <sub>i</sub> (reference)	35	
	A <sub>L</sub> value (nominal)	20 nH/N <sup>2</sup>	
	Test Winding	N=50, #32 AWG	
	Frequency	10 kHz	
	Voltage on Agilent 4284A	0.025 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=1.90E+09, b=2.00E+08, c=9.00E+05, d=5.00E-15		
	B <sub>pk</sub>	140 G	
	frequency	100 kHz	
	Core Loss (nominal)	32 mW/cm <sup>3</sup>	
Core Loss (maximum)	36 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=3.49E-06, c=1.43, d=0.00		
	H <sub>DC</sub>	200 Oe	
	Percent Initial Perm(nom.)	60.1%	
Percent Initial Perm(min.)	53.7%		
<b>Coating/Pkg</b>	Coating Type:	Yellow/Red Epoxy Paint	
	Voltage Breakdown (min.)	500 Vrms, 60Hz	
	Limit	3 mA, 5 s	
	Package Quantity	10,000 Pcs/Box	

<b>Winding Table</b>	<b>Wire Size</b>	AWG	20	22	24	26	28	30	32	34	36	38	40
		mm	0.800	0.630	0.500	0.400	0.315	0.250	0.200	0.160	0.125	0.100	0.080
	<b>Single Layer</b>	Turns	10	13	17	22	28	35	45	56	70	88	111
		Rdc(Ω)	6.2 m	12.8 m	26.5 m	54.6 m	110.5 m	219.7 m	449.2 m	889.1 m	1.8	3.5	7.1
<b>Full Winding</b>	Turns	9	14	22	35	54	83	128	199	307	476	736	
	Rdc(Ω)	5.6 m	13.7 m	34.3 m	86.9 m	213.1 m	521.0 m	1.3	3.2	7.8	19.1	47.0	

