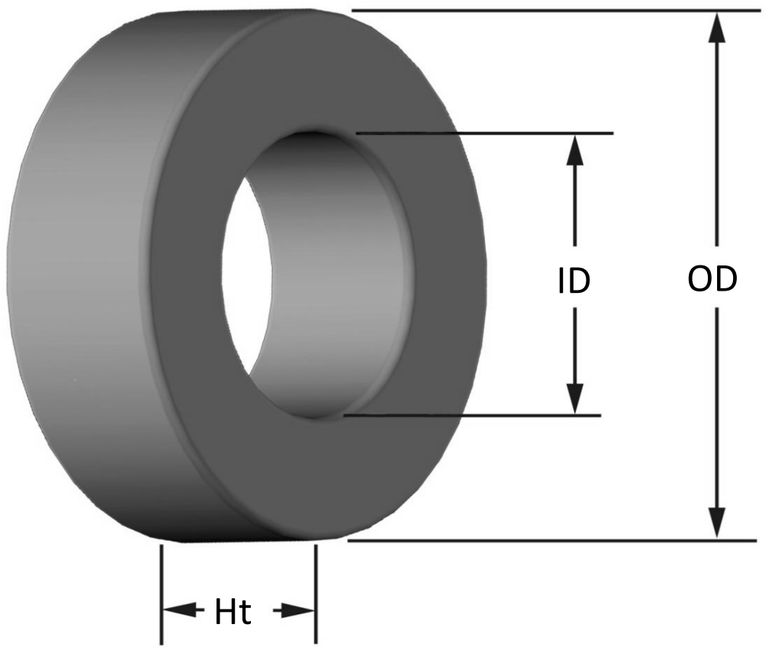
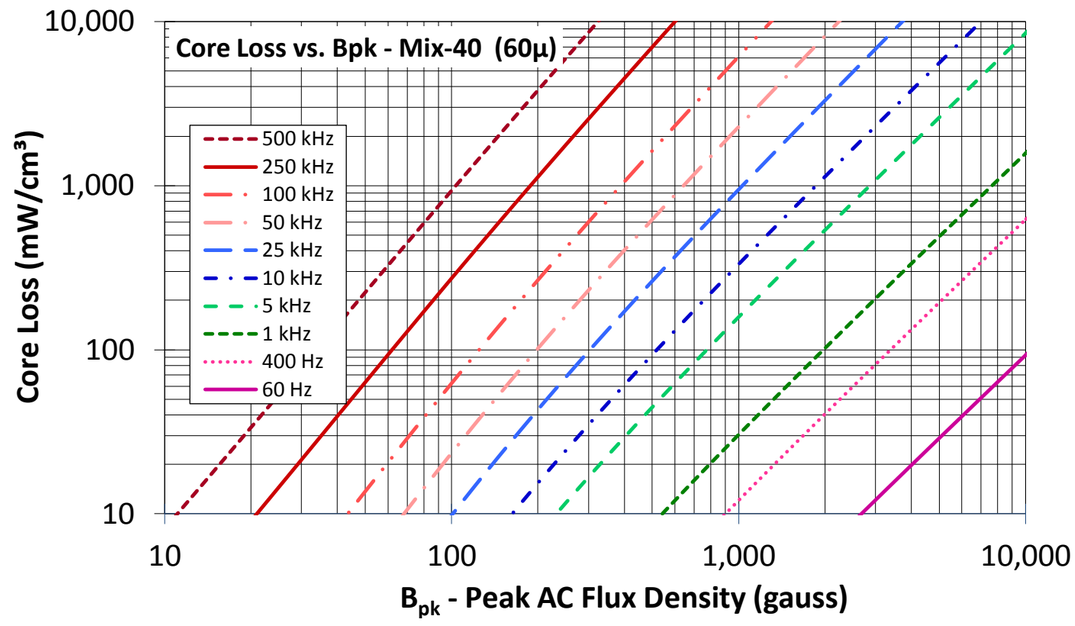
MICROMETALS™
POWDER CORE SOLUTIONS

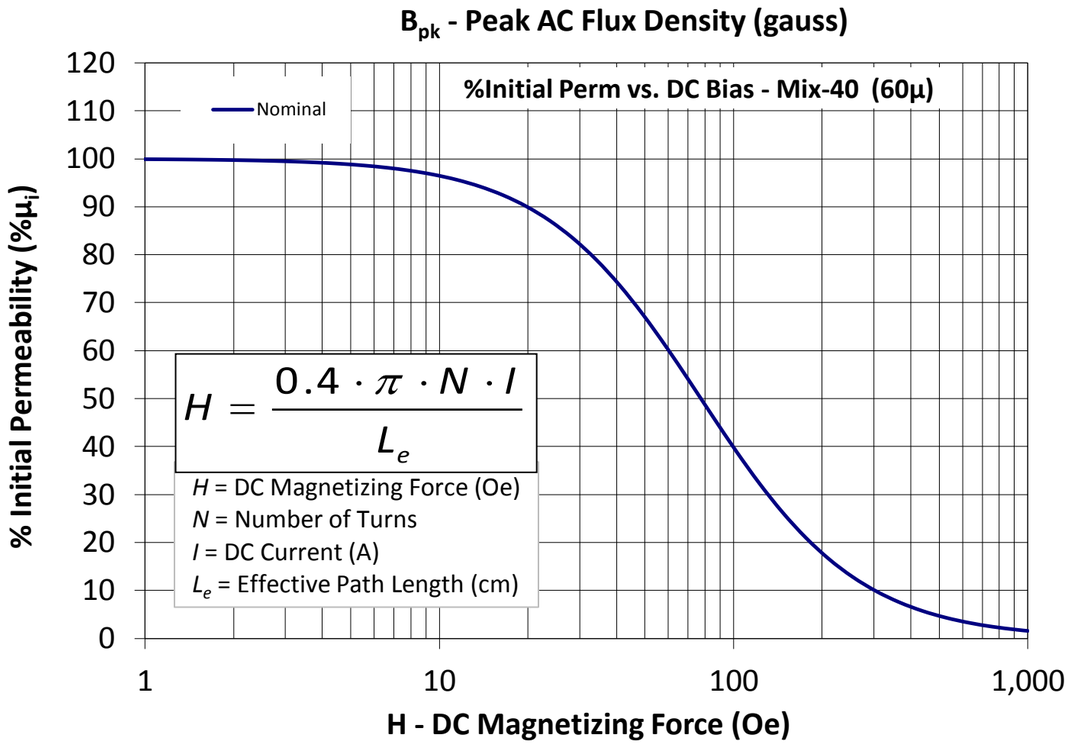
Part Number:	T50-40B

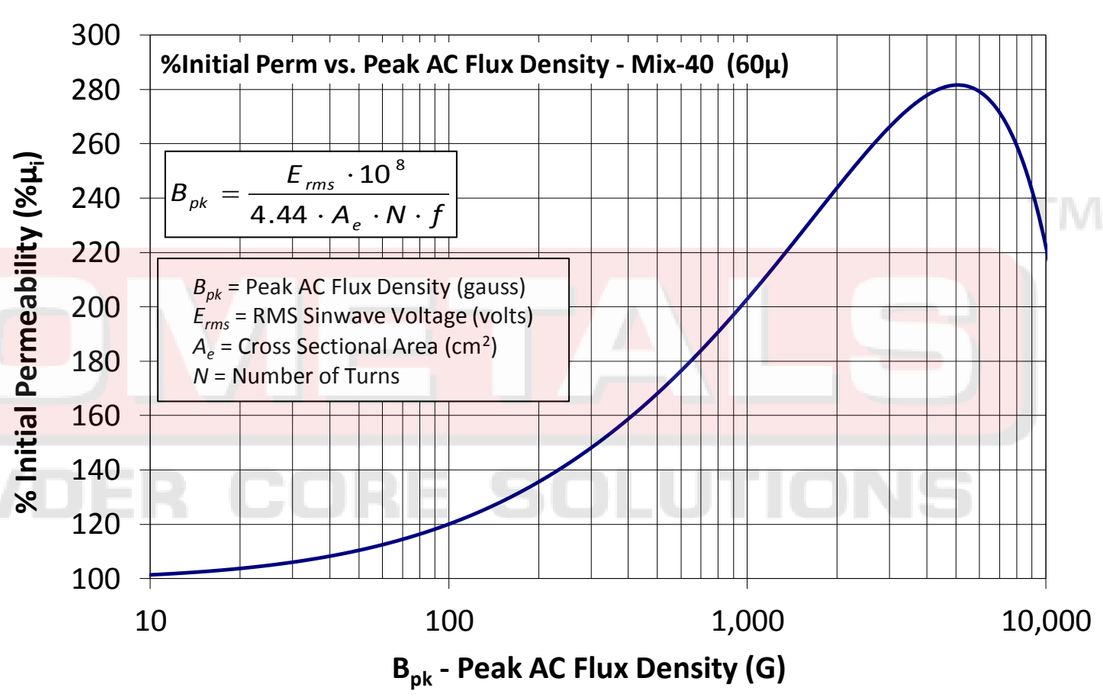
Revision 20190524 - Generated 2019-May-30

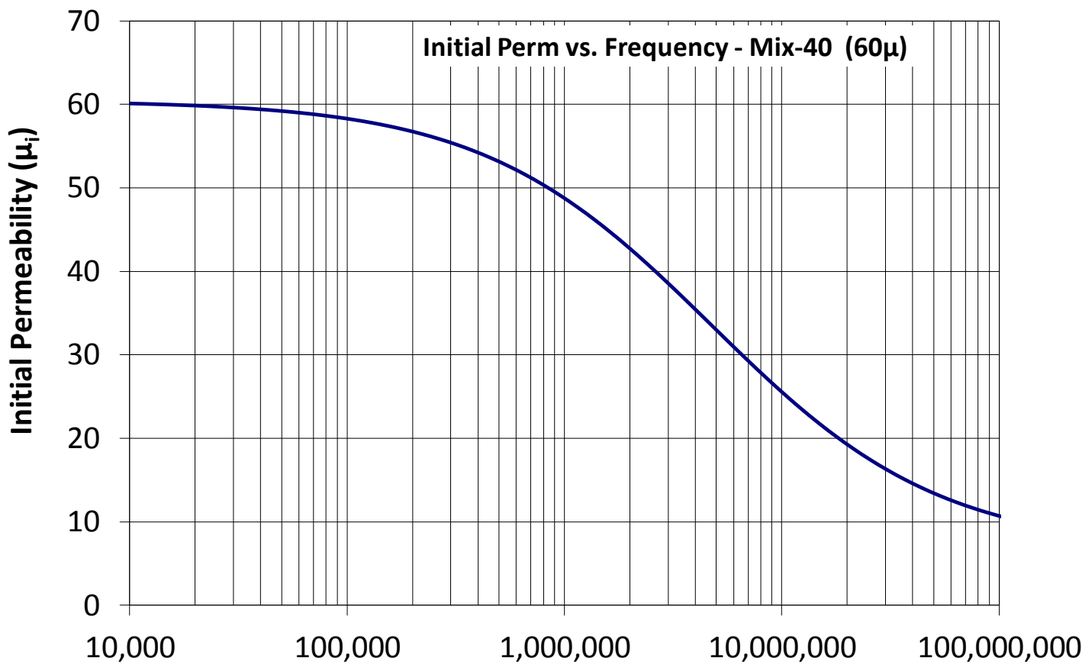


OD	(nom. - bare core)	12.70 mm	0.500 in
	(max. - after coating)	13.21 mm	0.520 in
ID	(nom. - bare core)	7.70 mm	0.303 in
	(min. - after coating)	7.19 mm	0.283 in
Ht	(nom. - bare core)	6.35 mm	0.250 in
	(max. - after coating)	6.86 mm	0.270 in
Mass	(approximate)	3.2 grams	
Magnetic Dimensions	A_e - Eff. Mag. Cross Section	0.148 cm²	
	L_e - Eff. Mag. Path Length	3.19 cm	
	V_e - Eff. Core Volume	0.471 cm³	
	WA - Min. Eff. Window Area	0.406 cm²	
	sa - Surface Area	7.16 cm²	
	mlt - mean length per turn	2.33 cm	
Inductance	μ_i(reference)	60	
	A_L value (nominal)	38.5 nH/N²	
	Test Winding	N=100, #32 AWG	
	Frequency	10 kHz	
	Voltage on Agilent 4284A	0.066 V	
	A_L tolerance	±10%	
Core Loss	Core Loss(mW/cm³)= $\frac{f}{\frac{a}{Bpk^{3}}+\frac{b}{Bpk^{2.3}}+\frac{c}{Bpk^{1.65}}}+d\cdot Bpk^{2}\cdot f^{2}$		
	where B_{pk} expressed in gauss, f expressed in hertz, and:		
	a=1.10E+09, b=3.30E+07, c=2.50E+06, d=3.10E-13		
	Bpk	140 G	
	frequency	100 kHz	
	Core Loss (nominal)	127 mW/cm³	
	Core Loss (maximum)	146 mW/cm³	
DC Saturation	$\%\mu_i = \frac{1}{a+b\cdot H^{c}}+d$		
	where H expressed in oersteds, and:		
	a=1.00E-02, b=8.93E-06, c=1.61, d=0.00		
	H_{DC}	50 Oe	
	Percent Initial Perm(nom.)	67.0%	
	Percent Initial Perm(min.)	60.2%	
Coating/Pkg	Coating Type:	Green/Yellow Epoxy Paint	
	Voltage Breakdown (min.)	500 Vrms, 60Hz	
	Limit	3 mA, 5 s	
	Package Quantity	5,000 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)	3.7 m	7.3 m	15.5 m	30.9 m	62.8 m	128.0 m	253.3 m	505.4 m	1.0	2.0	4.0
Full Winding	Turns	12	19	29	45	70	108	168	259	401	621	962
	Rdc(Ω)	3.7 m	9.3 m	22.5 m	55.6 m	137.4 m	337.2 m	834.3 m	2.0	5.0	12.4	30.6

Micrometals Iron Powder Cores, A Division of Micrometals, Inc. - 5615 E. La Palma Ave., Anaheim, California 92807 USA
Ph: +1-714-970-9400, Toll Free in USA: +1-800-356-5977
www.Micrometals.com