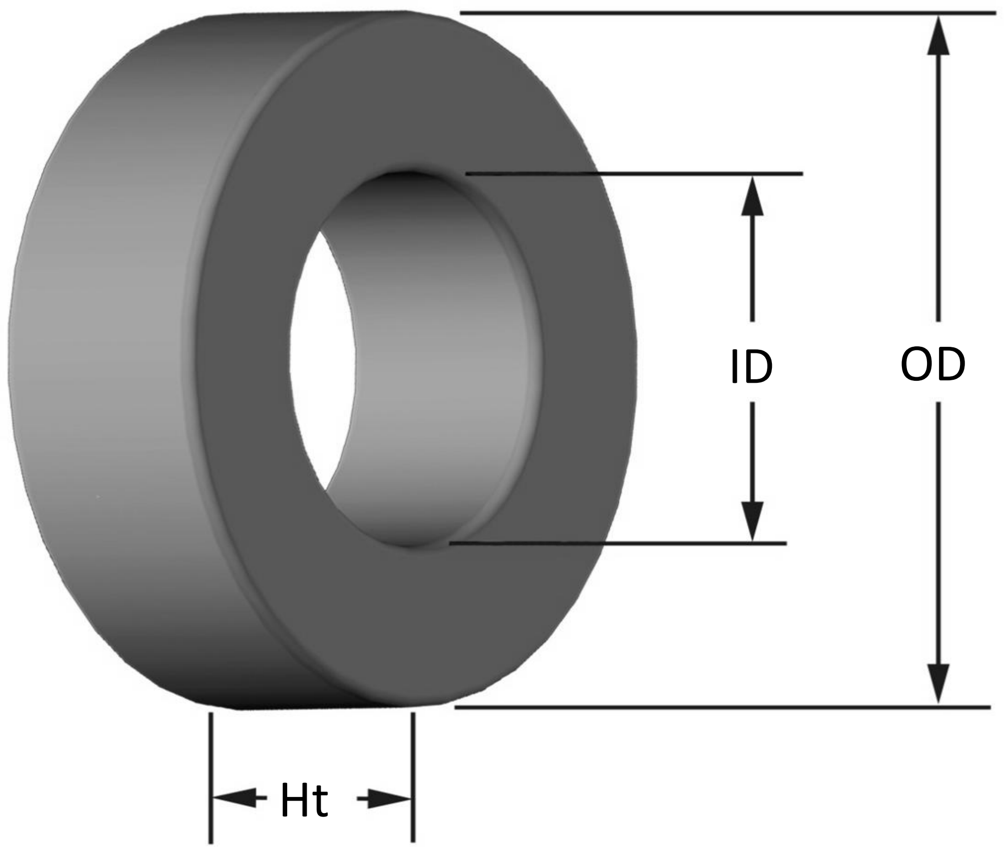
MICROMETALS™
POWDER CORE SOLUTIONS

Part Number:	T57-45A

Revision 20190524 - Generated 2019-May-30



OD	(nom. - bare core)	14.55 mm	0.573 in
	(max. - after coating)	15.06 mm	0.593 in
ID	(nom. - bare core)	6.93 mm	0.273 in
	(min. - after coating)	6.43 mm	0.253 in
Ht	(nom. - bare core)	6.68 mm	0.263 in
	(max. - after coating)	7.19 mm	0.283 in
Mass	(approximate)	5.8 grams	

Magnetic Dimensions		
	A_e - Eff. Mag. Cross Section	0.239 cm²
	L_e - Eff. Mag. Path Length	3.38 cm
	V_e - Eff. Core Volume	0.805 cm³
	WA - Min. Eff. Window Area	0.324 cm²
	sa - Surface Area	8.61 cm²
	mlt - mean length per turn	2.62 cm

Inductance		
	μ_i(reference)	100
	A_L value (nominal)	88 nH/N²
	Test Winding	N=50, #28 AWG
	Frequency	10 kHz
	Voltage on Agilent 4284A	0.053 V
	A_L tolerance	±10%

Core Loss

$$\text{Core Loss(mW/cm}^3\text{)} = \frac{f}{\frac{a}{Bpk^3} + \frac{b}{Bpk^{2.3}} + \frac{c}{Bpk^{1.65}}} + d \cdot Bpk^2 \cdot f^2$$

where B_{pk} expressed in gauss, f expressed in hertz, and:
a=1.20E+09, b=1.30E+08, c=2.40E+06, d=1.20E-13

Bpk	140 G
frequency	100 kHz
Core Loss (nominal)	61 mW/cm³
Core Loss (maximum)	71 mW/cm³

DC Saturation

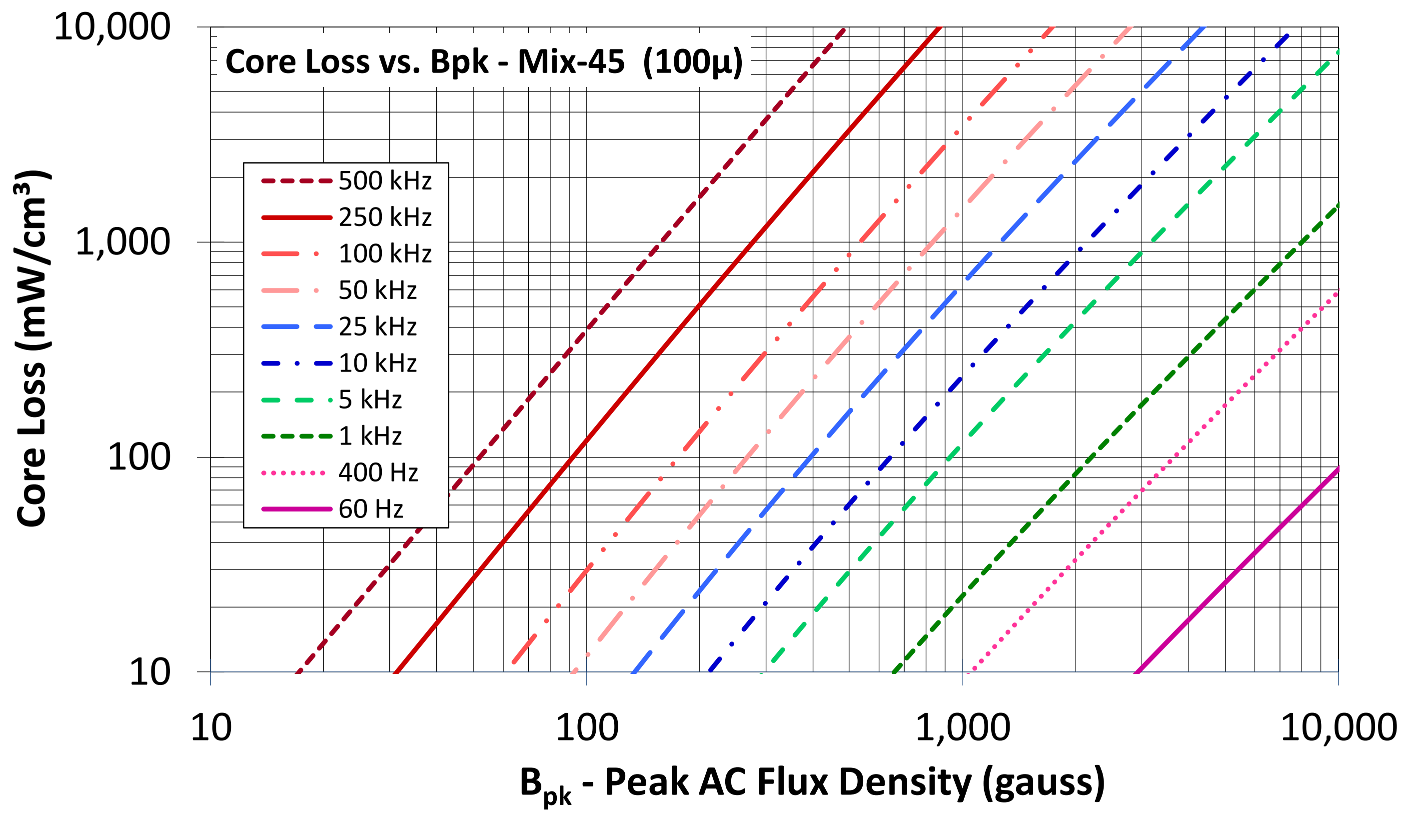
$$\%\mu_i = \frac{1}{a + b \cdot H^c} + d$$

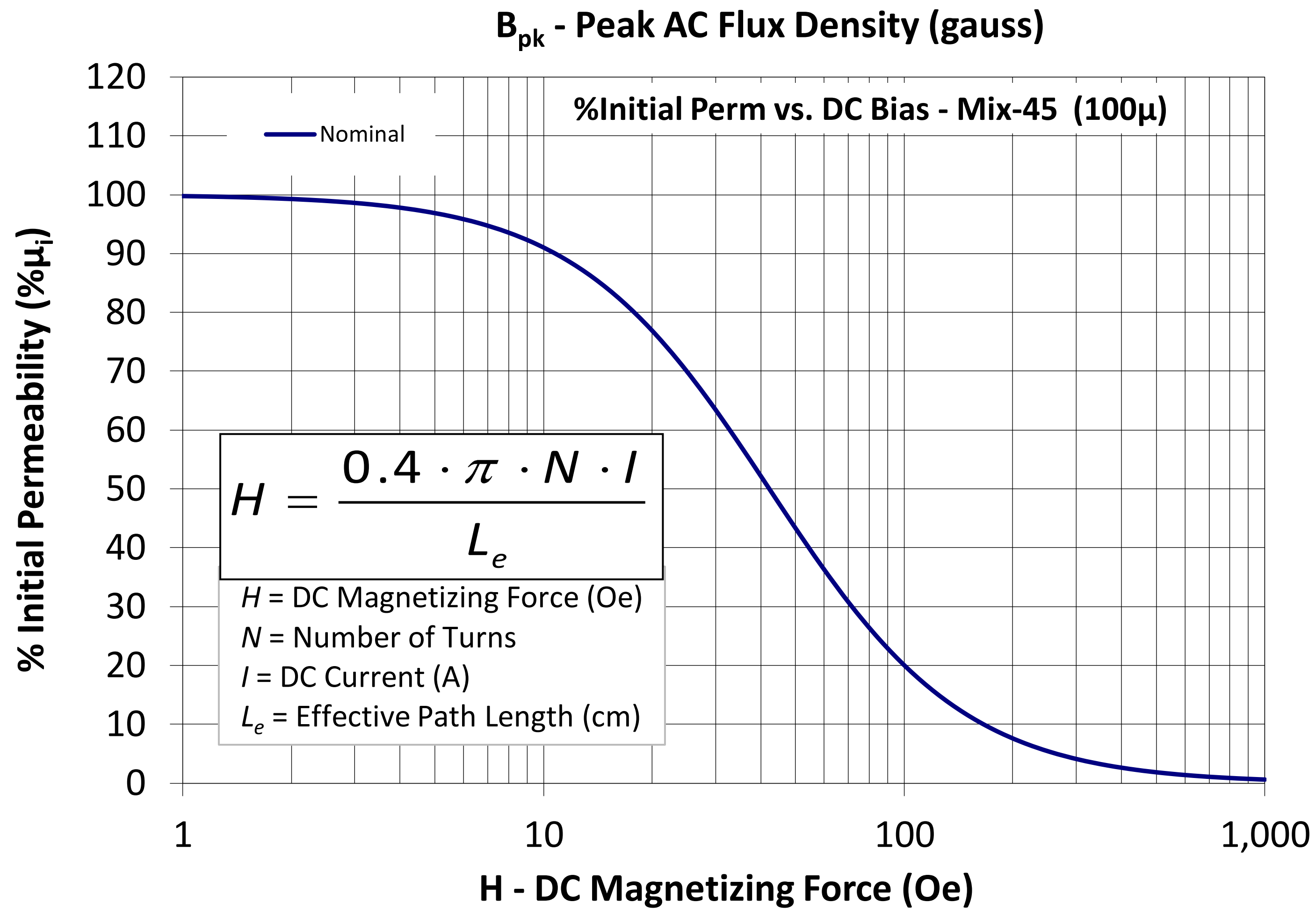
where H expressed in oersteds, and:
a=1.00E-02, b=2.44E-05, c=1.61, d=0.00

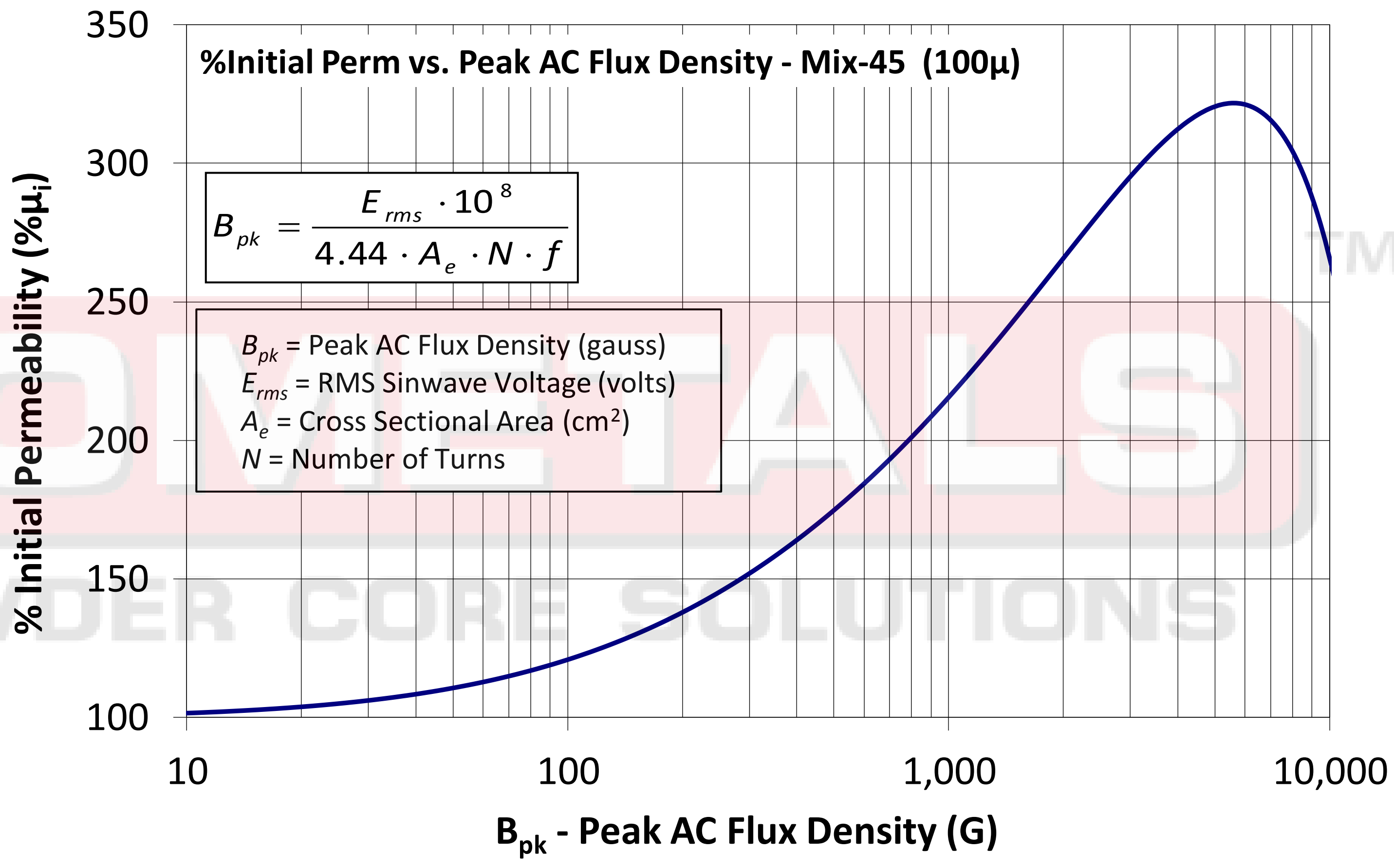
H_{DC}	50 Oe
Percent Initial Perm(nom.)	43.3%
Percent Initial Perm(min.)	36.3%

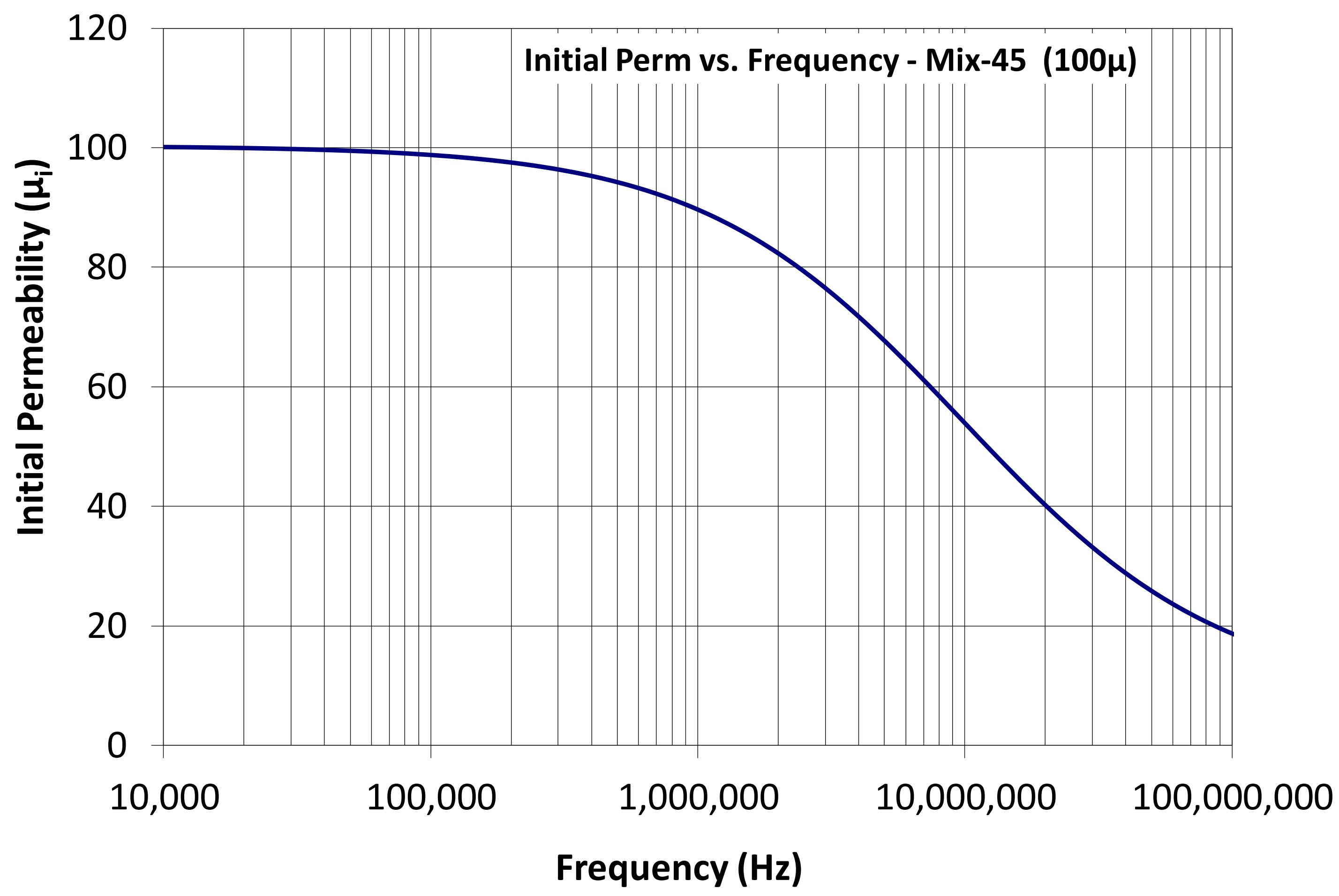
Coating/Pkg

Coating Type:	Black/Black Epoxy Paint
Voltage Breakdown (min.)	500 Vrms, 60Hz
Limit	3 mA, 5 s
Package Quantity	3,000 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	10	13	17	22	28	36	46	57	72	90	113
	Rdc(Ω)	3.4 m	7.1 m	14.8 m	30.5 m	61.8 m	126.4 m	256.8 m	506.0 m	1.0	2.0	4.0
Full Winding	Turns	10	15	23	36	56	87	134	207	321	497	769
	Rdc(Ω)	3.4 m	8.2 m	20.1 m	50.0 m	123.6 m	305.4 m	748.0 m	1.8	4.5	11.2	27.5

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