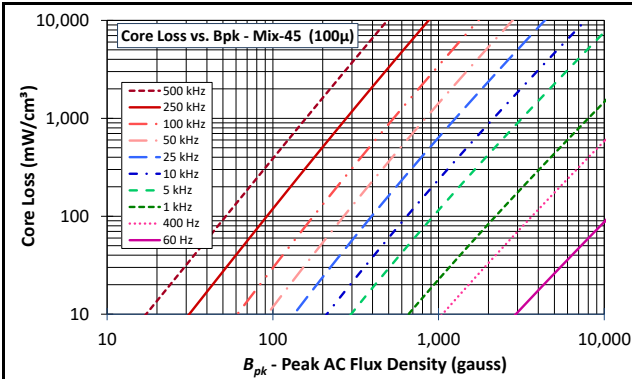




Mix:	-45
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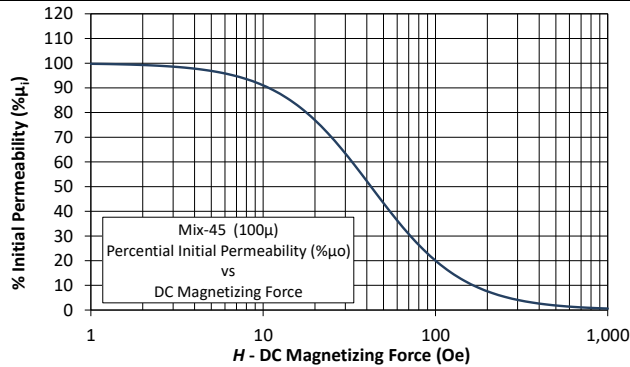
Revision 20190524 - Generated 2019-May-24

μ_i (reference)	100
Typical AL tolerance	$\pm 10\%$
Color Code	Black/Black
Density	7.2 g/cm ³
Bsat	18.9kG
Core Loss (100kHz, 140g)	61 mW/cm ³ (nom) 71 mW/cm ³ (max)
%Perm at DC Bias (50 Oe)	43.3% (nom) 36.3% (min)



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

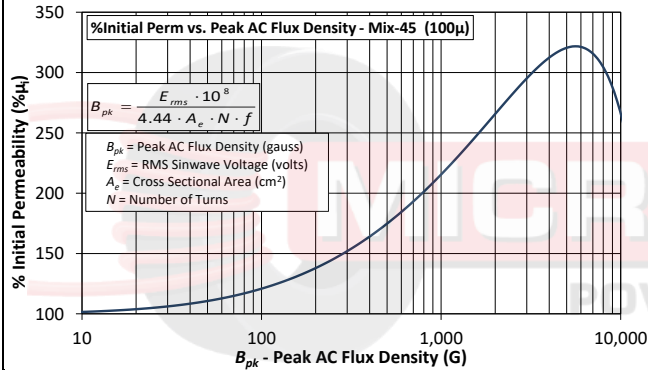
where B_{pk} expressed in gauss, f expressed in hertz, and:
 $a=1.20E+09$, $b=1.30E+08$, $c=2.40E+06$, $d=1.20E-13$



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

where H expressed in oersteds, and:

$a=1.00E-02$, $b=2.44E-05$, $c=1.61$, $d=0.00$



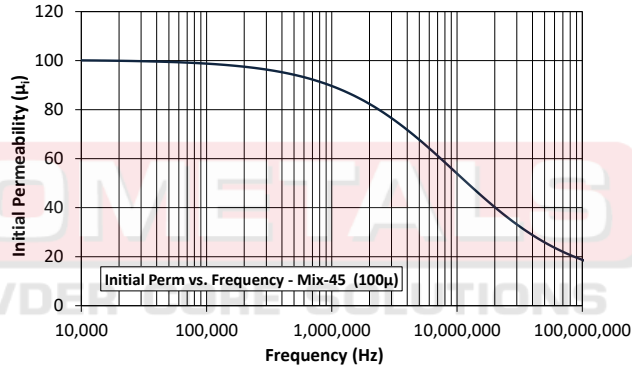
$$B_{pk} = \frac{E_{rms} \cdot 10^8}{4.44 \cdot A_e \cdot N \cdot f}$$

B_{pk} = Peak AC Flux Density (gauss)
 E_{rms} = RMS Sinwave Voltage (volts)
 A_e = Cross Sectional Area (cm²)
 N = Number of Turns

$$\% \mu_i = \frac{1}{a + bB_{pk}^c + \frac{1}{dB_{pk}^e} + \frac{1}{f}}$$

where B_{pk} expressed in gauss, and:

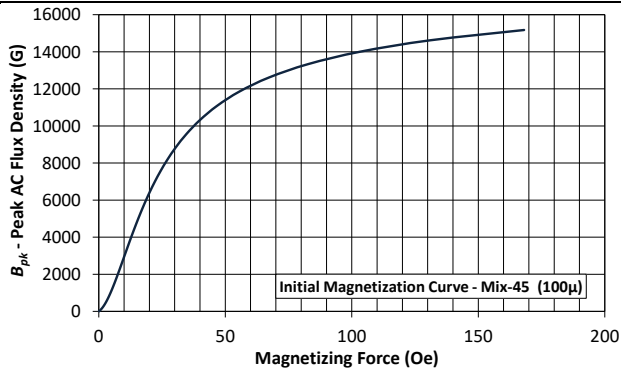
$a=1.13E+02$, $b=2.16E+00$, $c=6.62E-01$, $d=5.49E+15$, $e=-3.22E+00$, $f=6.24E+02$



$$\mu_i = \frac{1}{a + bf^c} + d$$

where f expressed in hertz, and:

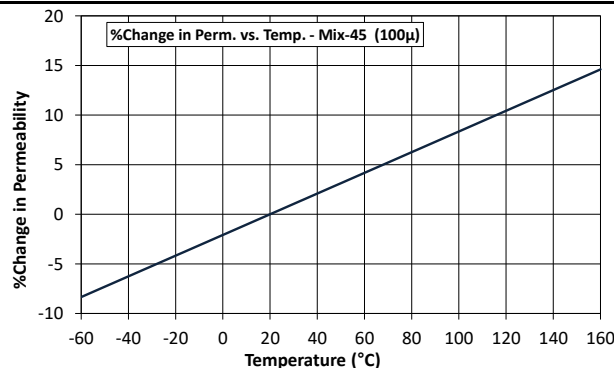
$a=1.09E-02$, $b=6.49E-09$, $c=8.90E-01$, $d=8.43E+00$



$$B_{pk} = \frac{\mu_i}{H + aH^b + \frac{1}{cH^d} + \frac{1}{e}}$$

where B_{pk} expressed in gauss, H in oested, and:

$a=3.06E-01$, $b=2.06E+00$, $c=3.92E+01$, $d=5.95E-01$, $e=1.89E+02$



$$\left(\frac{\Delta \mu_i}{\mu_i} \right) ppm = a(T - 20)$$

where T expressed in celsius, and:

$a=1043$