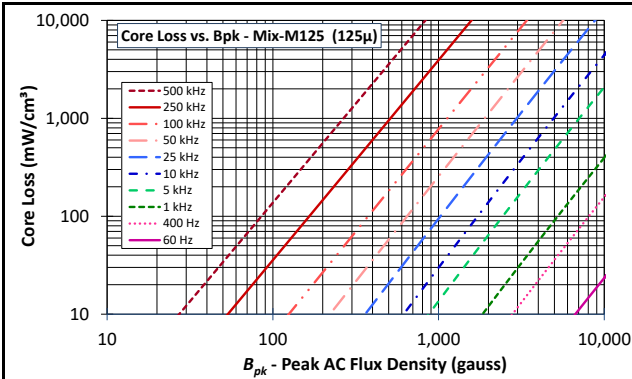




Mix:	-M125
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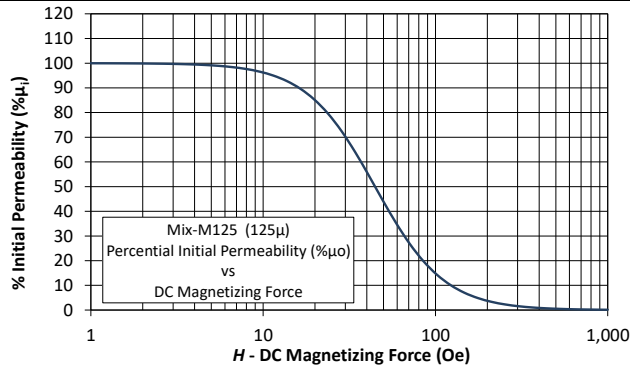
Revision 20190524 - Generated 2019-May-24

μ_i (reference)	125
Typical AL tolerance	$\pm 10\%$
Color Code	Lt.Blue/Lt.Blue
Density	7.7 g/cm ³
Bsat	8.8kG
Core Loss (100kHz, 140g)	13 mW/cm ³ (nom) 15 mW/cm ³ (max)
%Perm at DC Bias (50 Oe)	43.9% (nom) 34.5% (min)



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

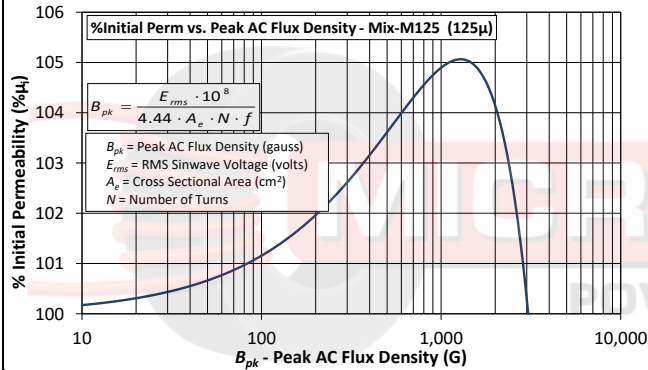
where B_{pk} expressed in gauss, f expressed in hertz, and:
 $a=3.10E+10$, $b=2.70E+09$, $c=3.30E+06$, $d=5.30E-14$



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

where H expressed in oersteds, and:

$a=1.00E-02$, $b=2.70E-06$, $c=2.16$, $d=0.00$



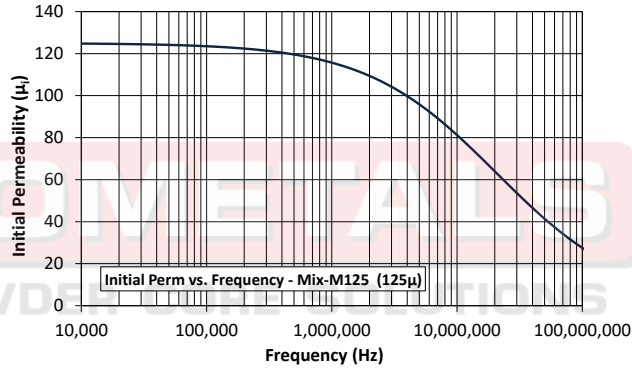
$$B_{pk} = \frac{E_{rms} \cdot 10^8}{4.44 \cdot A_e \cdot N \cdot f}$$

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:

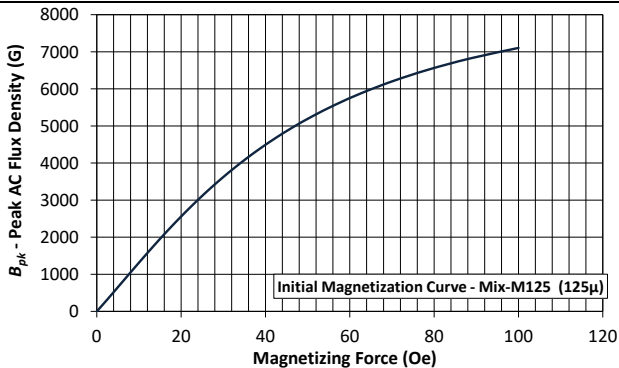
$a=6.29E+02$, $b=4.10E+00$, $c=6.20E-01$, $d=1.76E+10$, $e=-2.07E+00$, $f=1.19E+02$



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

where f expressed in hertz, and:

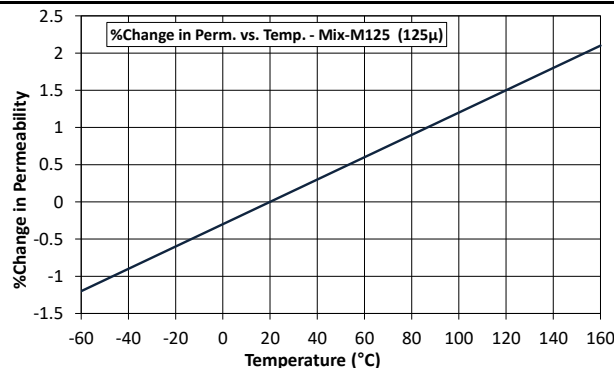
$a=8.06E-03$, $b=7.01E-09$, $c=8.28E-01$, $d=1.00E+00$



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

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

$a=2.87E-02$, $b=1.91E+00$, $c=2.00E+09$, $d=1.00E-08$, $e=7.06E+01$



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

where T expressed in celsius, and:

$a=150$