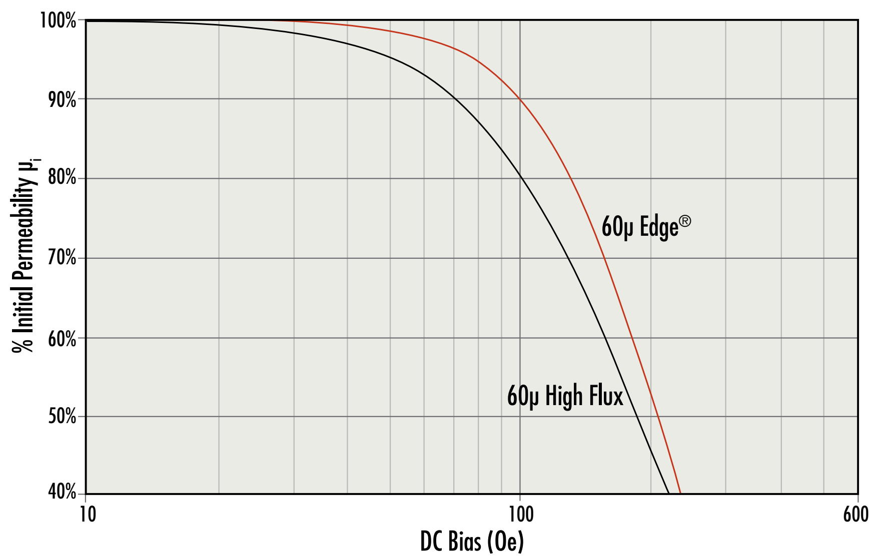
Edge® Powder Cores

Permeability vs. DC Bias



Designed for cutting edge performance, Edge® cores offer the highest efficiency and best DC bias performance of all alloy powder cores. When compared with High Flux, Edge displays approximately 40% lower losses and 30% improvement in DC bias. Edge is the choice material for telecom servers or high density rack mount power supplies.

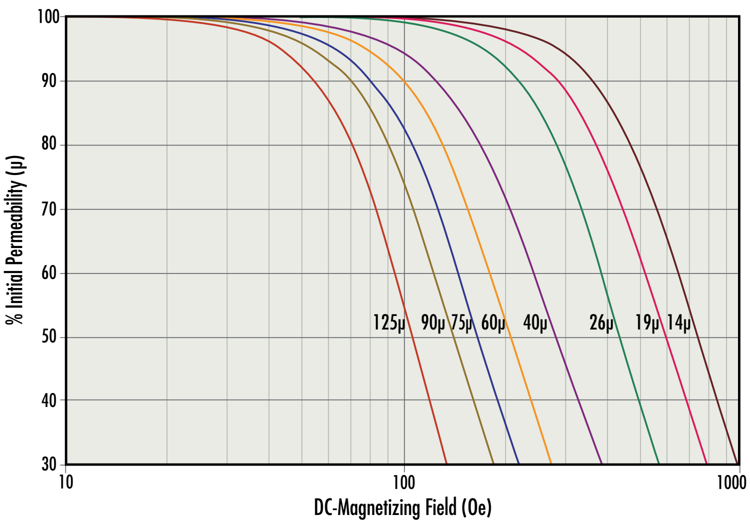
Toroids available in 14, 19, 26, 40, 60, 75, 90 and 125 permeabilities. Shapes available in 26, 40, and 60 permeabilities.

Material	Alloy Composition	DC Bias	Core Loss	Relative Cost	Saturation Flux Density (Tesla)	Curie Temperature	60µ Maximum Usable Frequency
Edge	**FeNi**	**Highest**	**Very Low**	**High**	**1.5**	**500°C**	**20 MHz**
High Flux	FeNi	High	Moderate	High	1.5	500°C	3 MHz
XFlux®	FeSi	High	High	Low	1.6	700°C	1.5 MHz
Kool Mµ® MAX	FeSiAl	Moderate	Low	Medium	1.0	500°C	15 MHz
Kool Mµ® H*f*	FeSiAl	Moderate	Lowest	Medium	1.0	500°C	30 MHz
MPP	FeNiMo	Moderate	Very Low	Highest	0.8	460°C	6 MHz
Kool Mµ®	FeSiAl	Moderate	Low	Lowest	1.0	500°C	5 MHz

Permeability vs. DC Bias Toroids

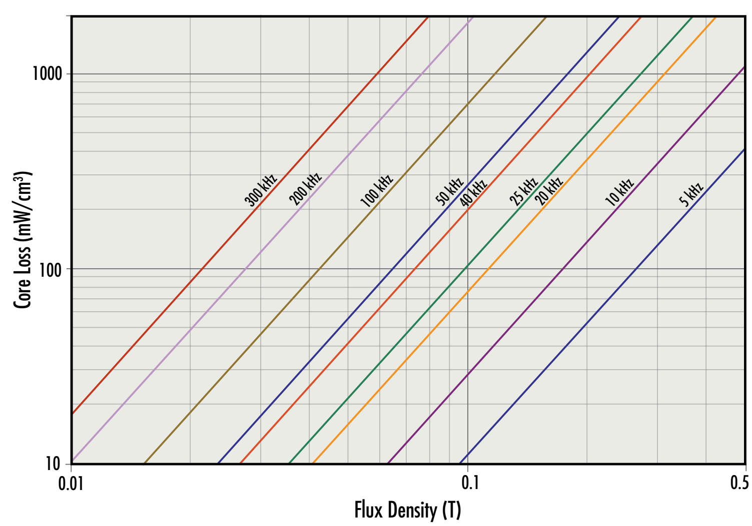
	a	b	c
14μ	0.01	1.17E-11	3.106
19μ	0.01	6.39E-11	2.950
26μ	0.01	3.65E-11	3.192
40μ	0.01	2.59E-09	2.683
60μ	0.01	9.20E-10	3.044
75μ	0.01	1.58E-09	3.067
90μ	0.01	1.85E-09	3.138
125μ	0.01	1.23E-09	3.419

$$\frac{\mu}{\mu_i} \times 100 = \frac{1}{(a + bH^c)}$$



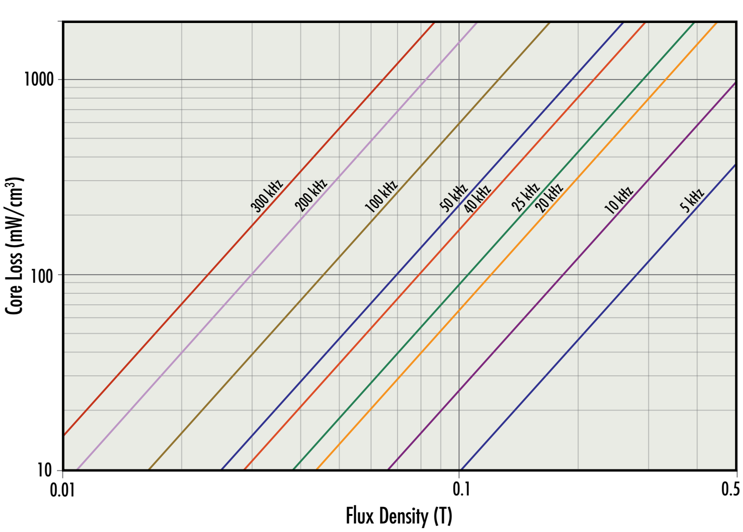
14μ Core Loss Density Toroids

$P = a(B^b)(f^c)$ (B in Tesla, f in kHz)			
	a	b	c
14μ	212.96	2.263	1.390



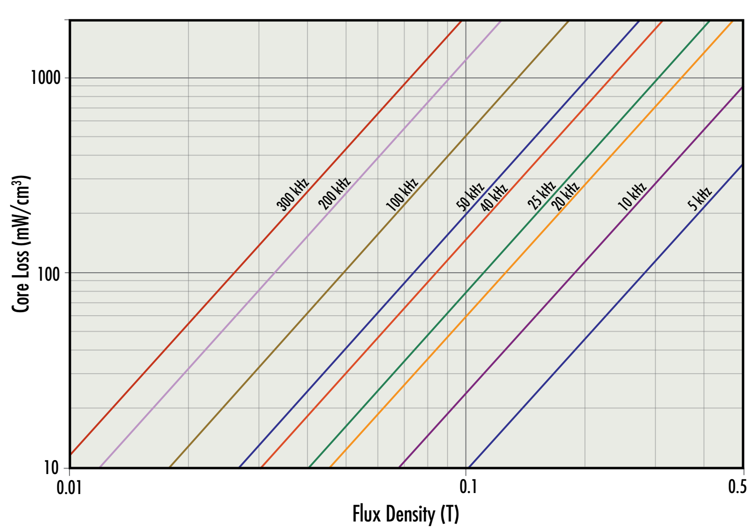
19μ Core Loss Density Toroids

$P = a(B^b)(f^c)$ (B in Tesla, f in kHz)			
	a	b	c
19μ	200.53	2.263	1.369



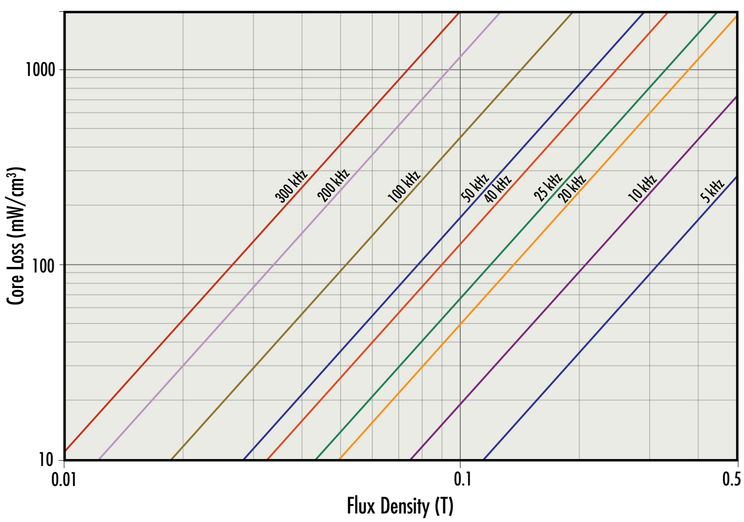
26μ Core Loss Density Toroids

$P = a(B^b)(f^c)$ (B in Tesla, f in kHz)			
	a	b	c
26μ	207.90	2.263	1.322



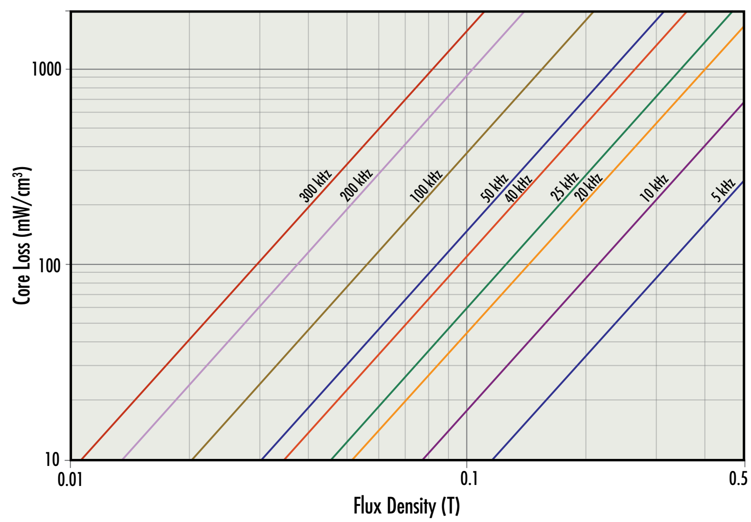
40μ Core Loss Density Toroids

$P = a(B^b)(f^c)$ (B in Tesla, f in kHz)			
	a	b	c
40μ	150.40	2.263	1.369



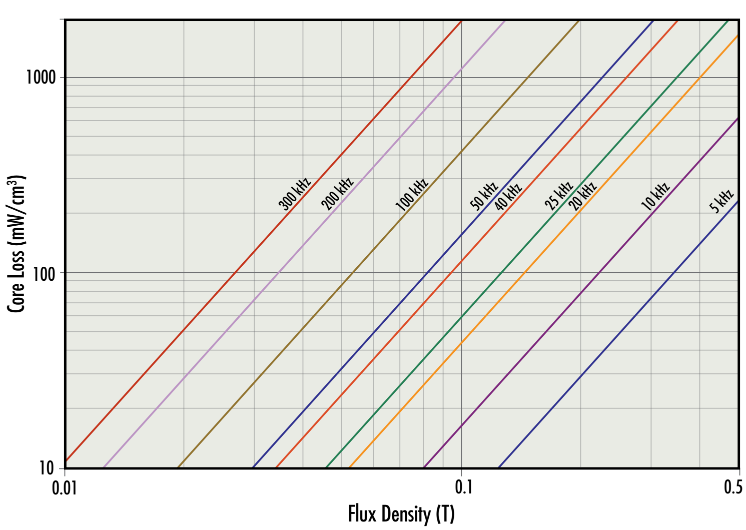
60μ Core Loss Density Toroids

$P = a(B^b)(f^c)$ (B in Tesla, f in kHz)			
	a	b	c
60μ	156.18	2.263	1.321



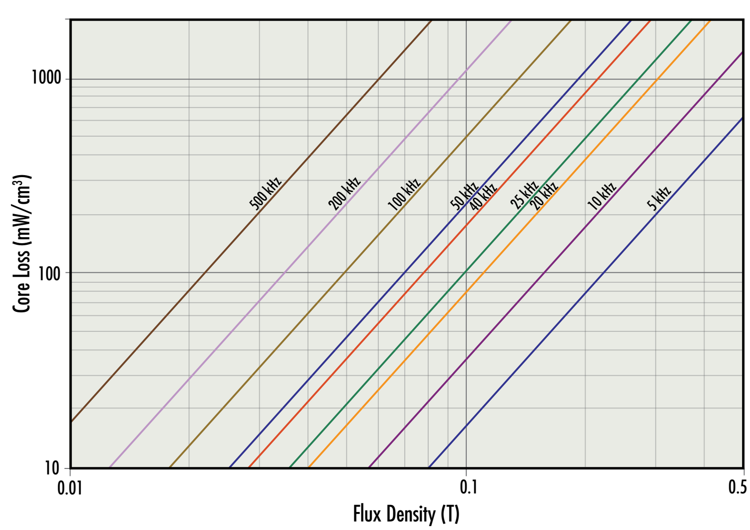
75μ Core Loss Density Toroids

$P = a(B^b)(f^c)$ (B in Tesla, f in kHz)			
	a	b	c
75μ	121.47	2.263	1.403



90μ & 125μ Core Loss Density Toroids

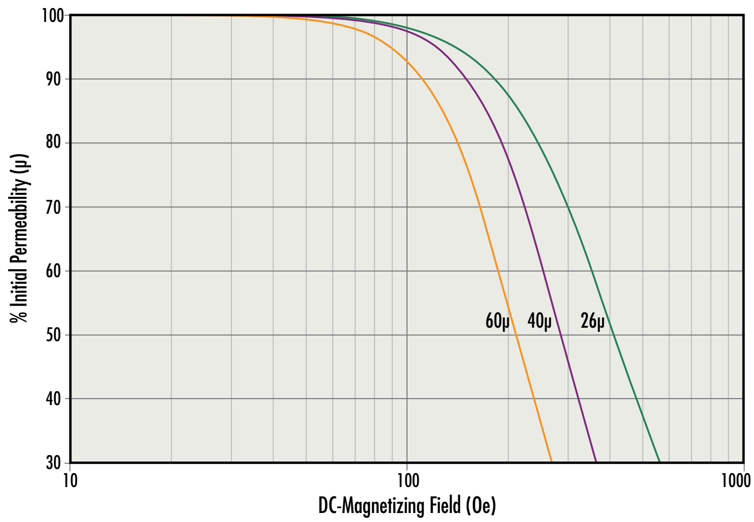
$P = a(B^b)(f^c)$ (B in Tesla, f in kHz)			
	a	b	c
90μ & 125μ	481.77	2.263	1.139



Permeability vs. DC Bias Shapes

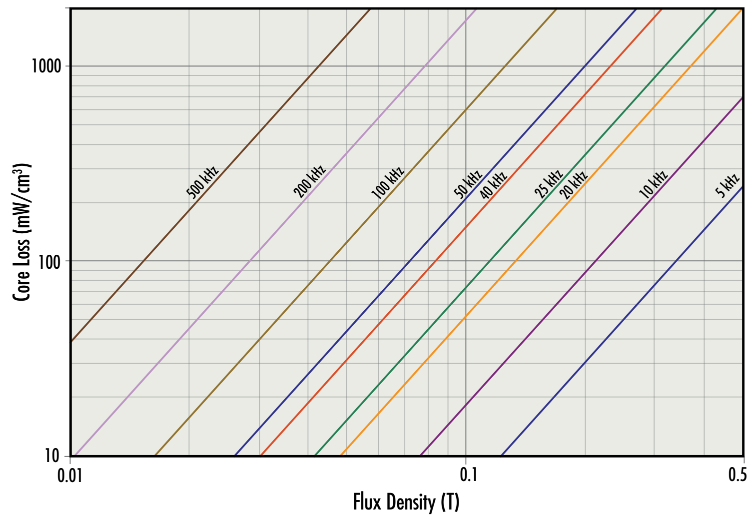
	a	b	c
26µ	0.01	9.235E-10	2.692
40µ	0.01	8.270E-13	4.120
60µ	0.01	1.149E-10	3.419

$$\frac{\mu}{\mu_i} \times 100 = \frac{1}{(a + bH^c)}$$



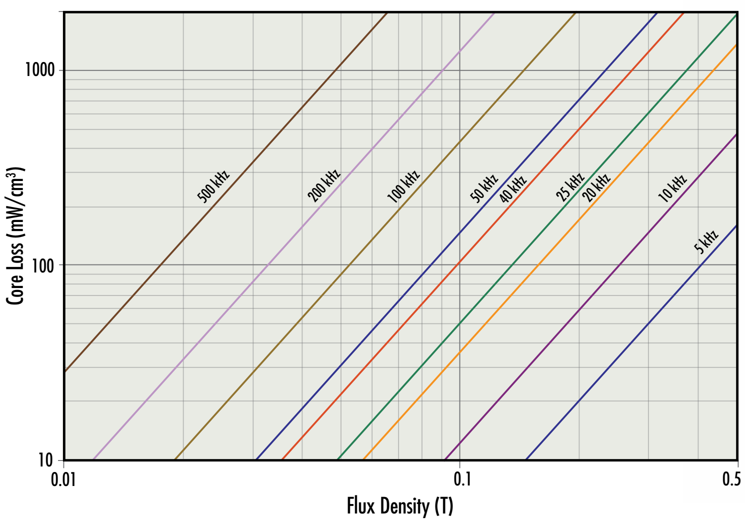
26µ Core Loss Density Shapes

$P = a(B^b)(f^c)$ (B in Tesla, f in kHz)			
	a	b	c
26µ	100.70	2.263	1.519



40-60µ Core Loss Density Shapes

$P = a(B^b)(f^c)$ (B in Tesla, f in kHz)			
	a	b	c
40µ & 60µ	63.63	2.263	1.547



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