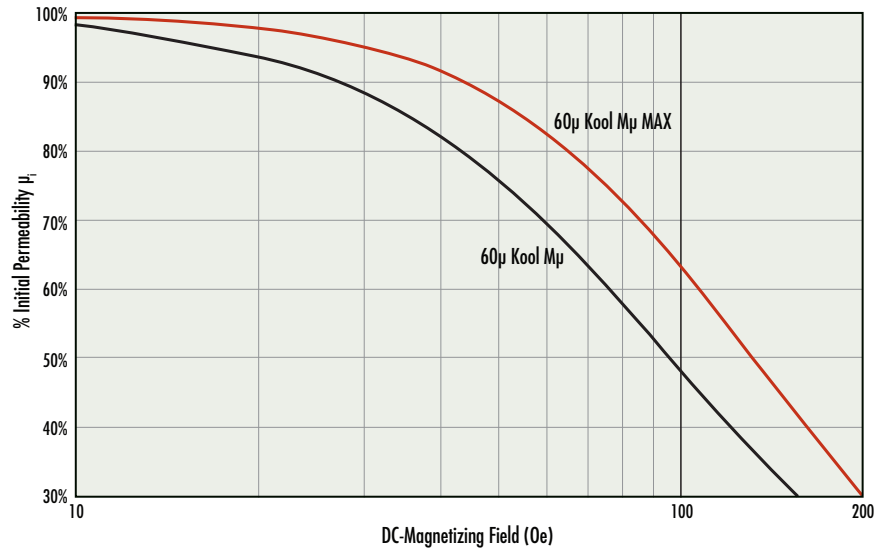




Kool M μ [®] MAX Powder Cores

Kool M μ [®] MAX is the next generation of sendust cores from Magnetics[®], available in permeabilities 19 μ , 26 μ , 40 μ , and 60 μ and in sizes 13.5mm OD through 134mm OD. We supercharged our low core loss Kool M μ material with 50% better DC bias performance for better power handling. Use of copper wire is minimized by maintaining inductance using less turns, resulting in savings in overall component cost. With its super low losses, Kool M μ MAX does not mimic the temperature rise problems found in iron powder cores. Improve inductor efficiency at a fraction of the cost of High Flux with Kool M μ MAX.

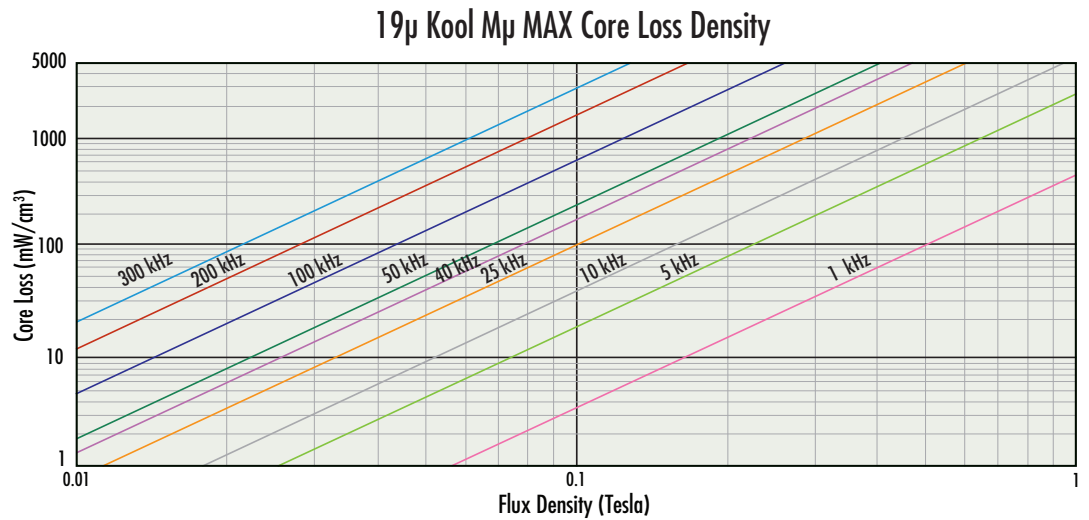
Permeability vs. DC Bias



Material	Alloy Composition	DC Bias	Core Loss	Relative Cost	Saturation Flux Density (Tesla)	Curie Temperature	Operating Temp. Range	60 μ μ flat to...
XF _{lux} [®]	FeSi	Highest	High	Low	1.6	700°C	-55 to 200°C	500 kHz
High Flux	FeNi	Highest	Moderate	High	1.5	500°C	-55 to 200°C	1 MHz
75-Series	FeSiAl	High	Moderate	Low	1.5	700°C	-55 to 200°C	500 kHz
Kool Mμ[®] MAX	FeSiAl	High	Very Low	Medium	1.0	500°C	-55 to 200°C	900 kHz
MPP	FeNiMo	High	Very Low	Highest	0.8	460°C	-55 to 200°C	2 MHz
Kool M μ [®]	FeSiAl	Moderate	Low	Low	1.0	500°C	-55 to 200°C	900 kHz
Iron Powder	Fe	Moderate	Highest	Lowest	1.2 - 1.5	770°C	-30 to 75°C	500 kHz
Ferrite	Ceramic	Low	Lowest	Lowest	0.45	100 - 250°C	Variable	Variable

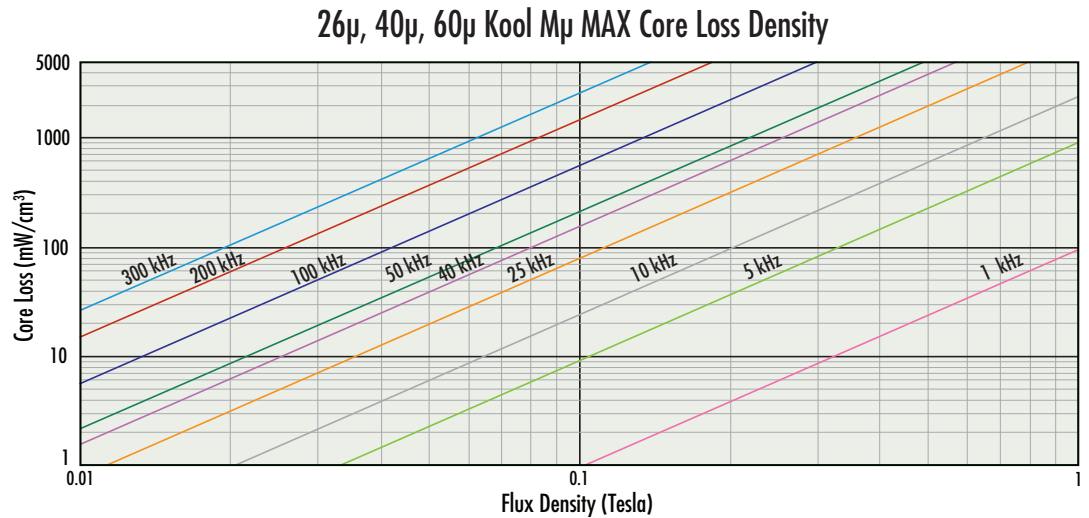
Core Loss Density 19 μ

$P = a(B^b)(f^c)$ (B in Tesla, f in kHz)			
freq.	a	b	c
$\geq 25\text{kHz}$	149.797	2.141	1.381
$< 25\text{kHz}$	468.978	2.141	1.067



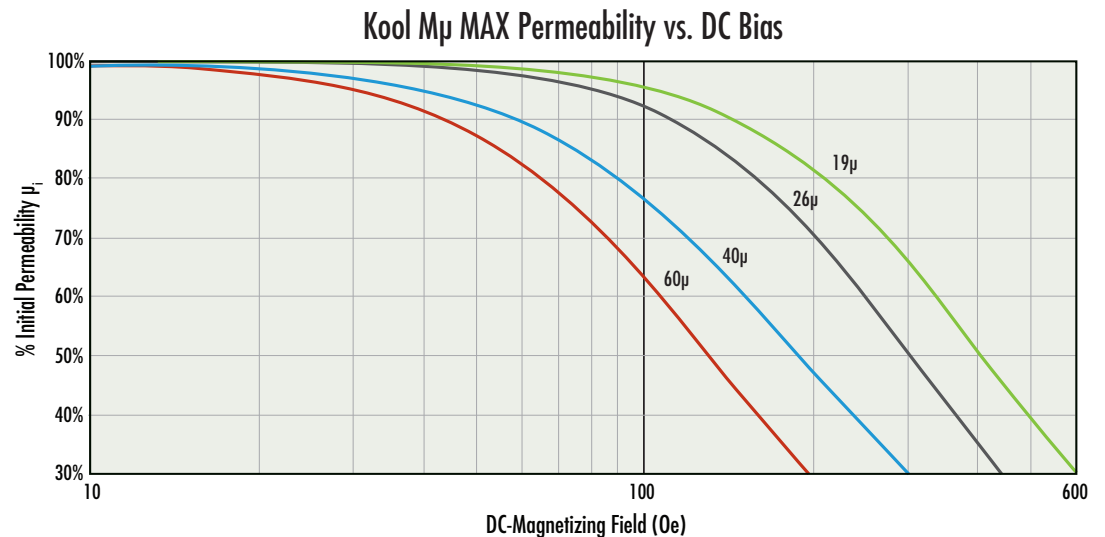
Core Loss Density 26 μ , 40 μ , 60 μ

$P = a(B^b)(f^c)$ (B in Tesla, f in kHz)			
freq.	a	b	c
$\geq 10\text{kHz}$	86.005	1.998	1.402
$< 10\text{kHz}$	94.674	1.998	1.402



Permeability vs. DC Bias

$\% \text{ Initial Permeability} = \frac{1}{(a + bH^c)}$			
	a	b	c
19 μ	0.01	3.136E-08	2.111
26 μ	0.01	3.444E-08	2.205
40 μ	0.01	5.919E-07	1.855
60 μ	0.01	5.917E-07	2.000



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