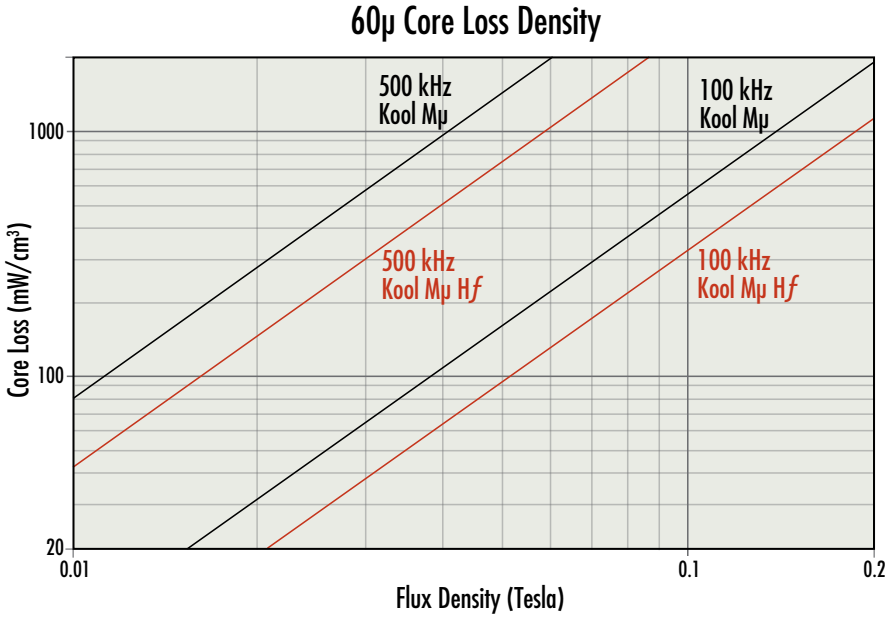
Kool Mμ® H*f* Powder Cores

Kool Mμ® H*f* powder cores are made from distributed gap FeSiAl alloy powder optimized for frequencies 200-500 kHz. Exhibiting approximately 35% lower losses when compared to Kool Mμ®, Kool Mμ H*f* is a cost-effective solution for minimizing power losses in high frequency power supplies using GaN or SiC and high efficiency power supplies.

Currently available in 26 and 60 permeabilities.

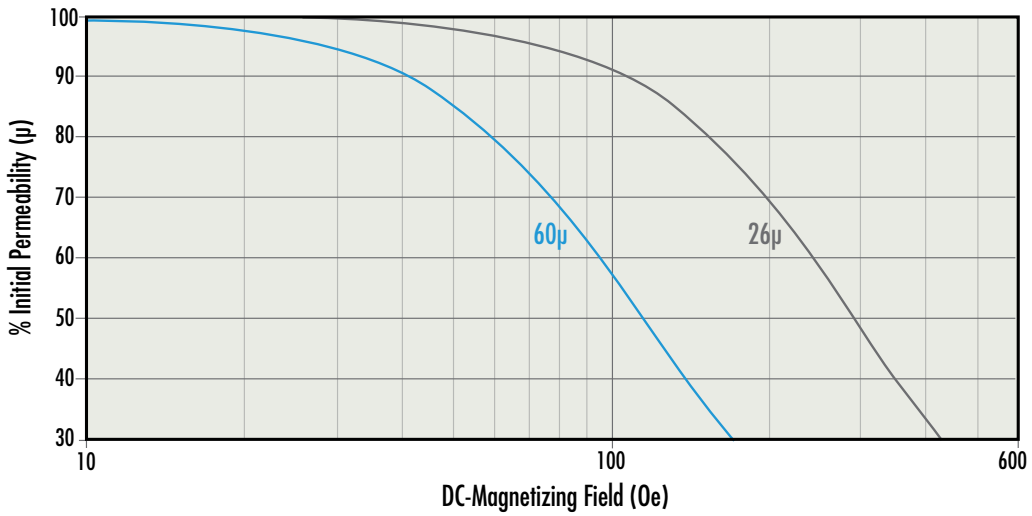


Material	Alloy Composition	DC Bias	Core Loss	Relative Cost	Saturation Flux Density (Tesla)	Curie Temperature	60μ Maximum Usable Frequency
Kool Mμ® H*f*	**FeSiAl**	**Moderate**	**Lowest**	**Medium**	**1.0**	**500°C**	**30 MHz**
Edge™	FeNi	Highest	Very Low	High	1.5	500°C	20 MHz
MPP	FeNiMo	Moderate	Very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

Permeability vs. DC Bias

$$\% \text{ Initial Permeability} = \frac{1}{(a + bH^c)}$$

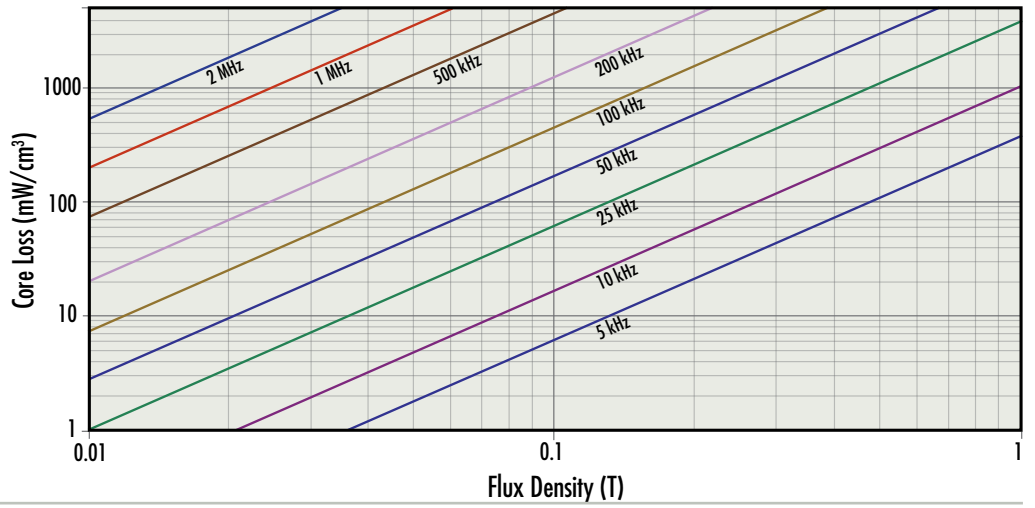
	a	b	c
26µ	0.01	3.56E-08	2.213
60µ	0.01	4.06E-07	2.131



26µ Core Loss Density

$$P = a(B^b)(f^c)$$

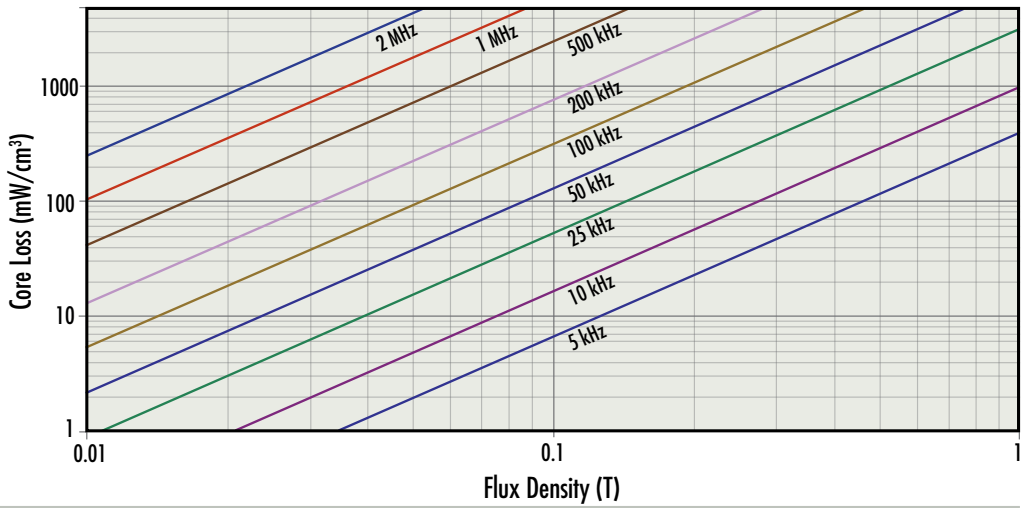
	a	b	c
<500 kHz	38.10	1.774	1.423
>500 kHz	16.33	1.774	1.560



60µ Core Loss Density

$$P = a(B^b)(f^c)$$

	a	b	c
<500 kHz	52.45	1.781	1.287
>500 kHz	9.13	1.781	1.568



DC Magnetization

$$B = \left[\frac{a + bH + cH^2}{1 + dH + eH^2}\right]^x$$ Units: B in Tesla, H in Oe

Perm	a	b	c	d	e	x
26µ	6.666E-02	1.606E-02	4.749E-04	8.148E-02	4.021E-04	1.905
60µ	4.190E-02	1.210E-02	6.069E-04	5.722E-02	5.174E-04	1.437

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