

AMORPHOUS POWDER CORE SERIES PRODUCTS

PROPERTIES OF APT

According to the market demand of severe competition, we put the state of are technology for the developing "Cost Effective" and "Attractive Performance" at the same time.

Power supply can be slim and smart with help of APT series it also enables cost effective.

Toroid core properties of APT series are ready to serve our customers.

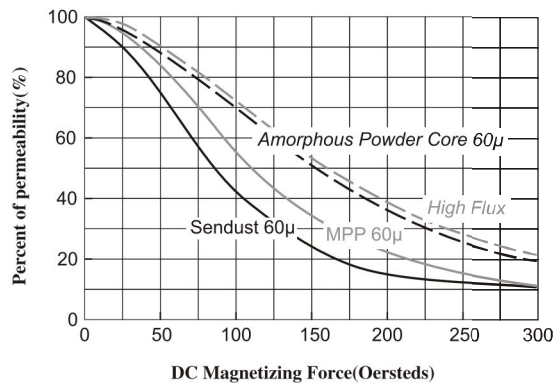
Innovative Benefit

- Remarkable Size Reduction
- Higher Efficient Solution
- More Cost Effective with Same Performance

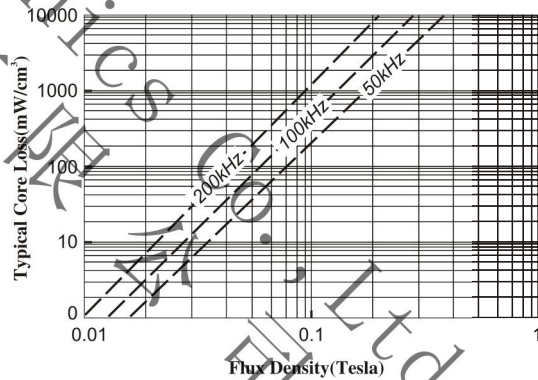
Application

- PFC Chokes for PC Power Supplies
- PFC Chokes for Server/Workstation power Supplies
- PFC Chokes for Industrial PC
- PFC Chokes for LCD/PDP TV Power Supplies
- PFC Output Choke for General Industrial Power Supplies

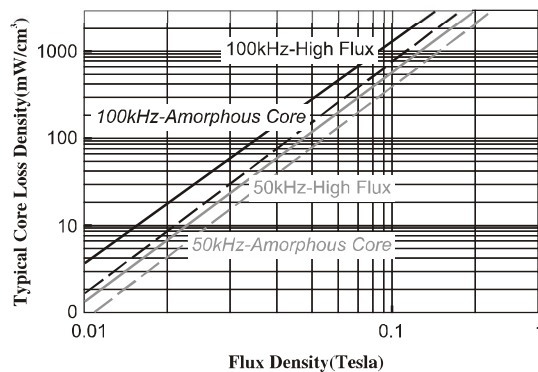
Comparison with HF, MPP and Sendust Material on DCB



Core Loss Density of APT

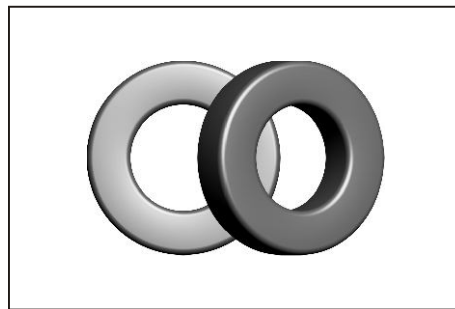


Typical Core Loss Density Comparayson with High Flux

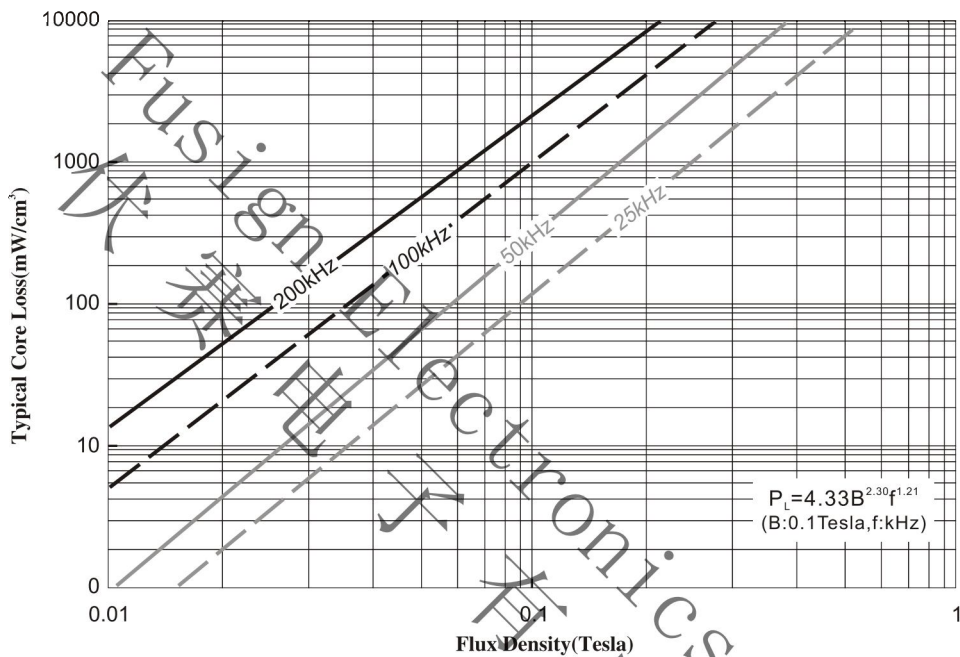


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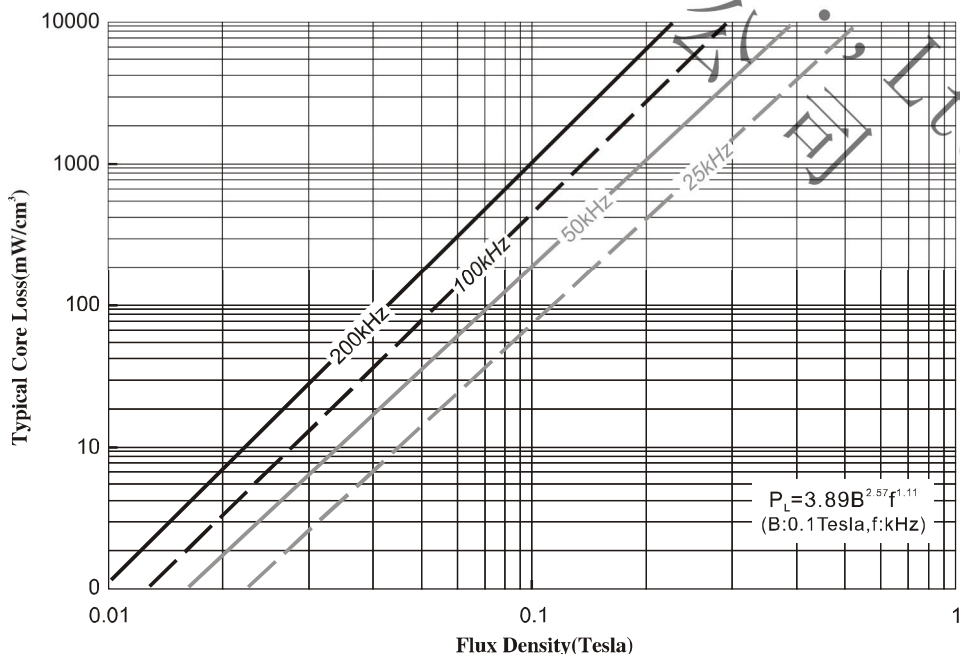
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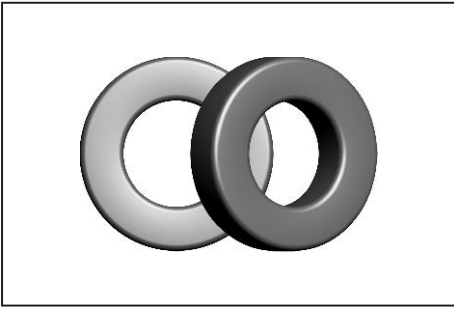


Core Loss Density Curves, 26 μ



Core Loss Density Curves, 60~90 μ

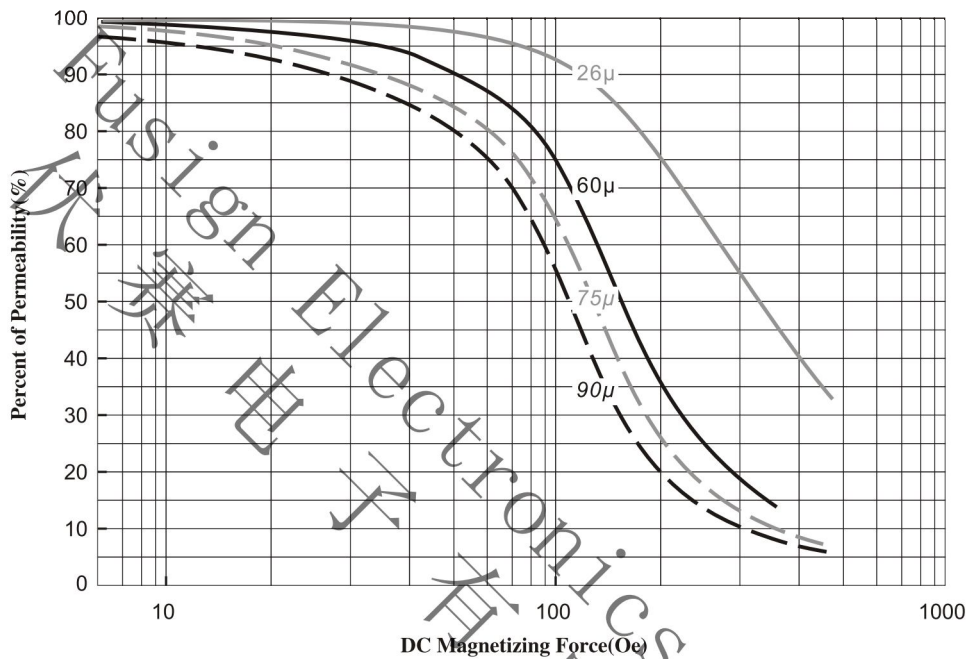




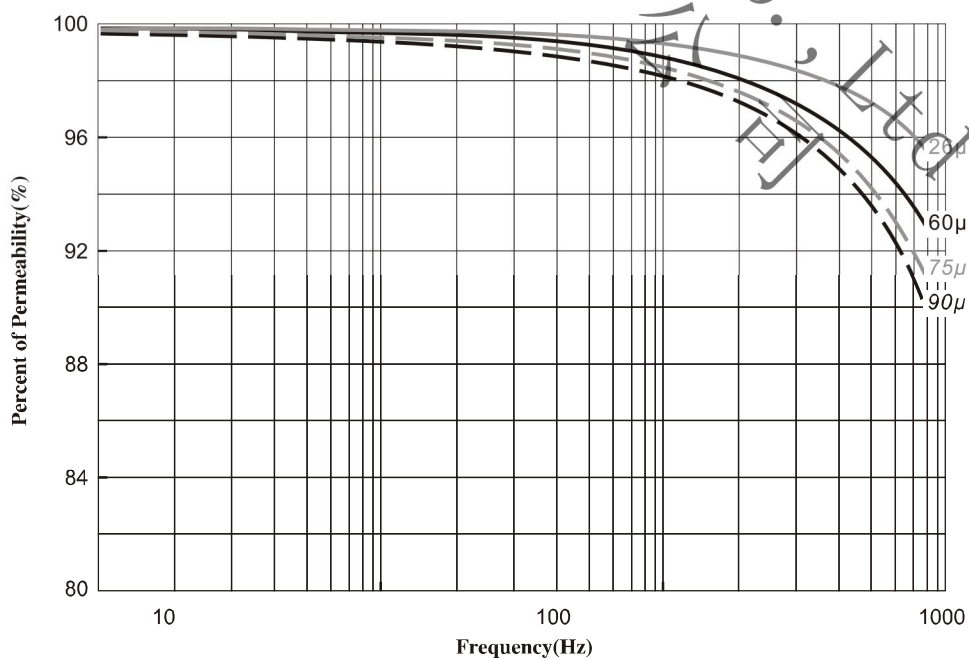
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Core Loss Density Curves, 26 μ

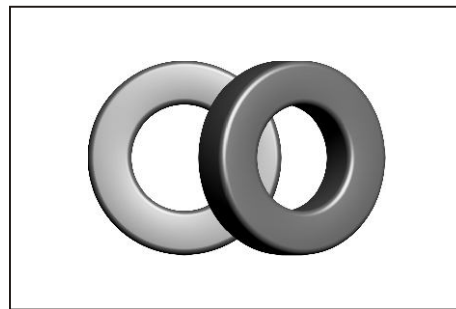


Core Loss Density Curves, 60~90 μ



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Permeability versus DC Bias Curve Fit Formula

Effective Permeability (μ_{eff})

For a magnetic circuit constructed with an air gap, or gaps, the permeability of a hypothetical homogeneous material that would provide the same reluctance, or net permeability.

$$\mu_{\text{eff}} = \sqrt{\frac{\mu_i^2 + a\mu_i^3 H + b\mu_i^4 H^2}{1 + c\mu_i H + d\mu_i^2 H^2}}$$

Value	a	b	c	d
26 μ	-7.24×10^{-5}	-2.31×10^{-9}	-5.21×10^{-5}	-1.50×10^{-8}
60 μ	-3.30×10^{-5}	-2.22×10^{-10}	-1.20×10^{-5}	-1.22×10^{-8}
75 μ	-3.46×10^{-5}	-4.28×10^{-11}	-1.70×10^{-5}	-2.40×10^{-8}
90 μ	-3.18×10^{-5}	-7.58×10^{-11}	-1.35×10^{-5}	-1.50×10^{-8}

Replacement Concept

High Flux 60 μ \longleftrightarrow APTxxP60

MPP 60 μ \longleftrightarrow APTxxP60

Note:

1. Number of winding is same.
2. Size of core is same for HF and MPP replacement.
3. Temperature rise of APC is smaller than High Flux, MPP.