

Introduction of material:

Fe-based Amorphous ribbon(1K101)

Main composition:

Iron :77.5%、 silicon : 13.5% 、 boron : 9%. Its saturation flux density can reach 1.56T and magnetic performance is much better than silicon with competitive price. It's the most suitable material to replace silicon as cores for medium and low frequency transformers. Such as distributing transformer, medium-frequency transformer, high-power anti-saturation inductor, inductor, current transformer...etc.

Characteristics :

High saturation flux density, high permeability, low loss, low excitation current, good temperature stability.

Applications :

- ✧ Distributing, pulse, medium power supply, switch power supply transformer;
- ✧ Filter inductor ;
- ✧ PFC inductor ; reactor
- ✧ Anti-saturation inductor ;
- ✧ Power, AC/DC current, voltage transformer;

1) Physical property of Fe-based amorphous material:

Bs	1.56 T	Saturation magnetostriction coefficient	27×10^{-6}
Tc	550 °C	density	7.2 g/cm ³
Tx	410 °C	Specific resistance	130μOhm-cm
Hv	960kg/mm ²	Working temperature	-55°C -130°C

2) Magnetic property of Fe-based amorphous material:

	No magnetic field annealing	Transverse magnetic field annealing	Longitudinal magnetic field annealing
Max permeability	$> 20 \times 10^4$	$> 2 \times 10^4$	$> 25 \times 10^4$
Saturation flux density	1.56T	1.56T	1.56T
Residual magnetic flux density	0.6-1.0T	< 0.5T	< 1.2T
Coercive force	< 6A/m	< 4A/m	< 2.5A/m
Core loss (50Hz 1.4T)	< 0.13w/Kg	< 0.2w/Kg	< 0.25w/Kg
Core loss (400Hz 1.4T)	< 1.25w/Kg	< 1.8w/Kg	< 2w/Kg
Core loss (8000Hz 1.4T)	< 60w/Kg	< 80w/Kg	< 100w/Kg
Core loss rate per temperature -55°C -125°C	< 15%	< 15%	< 15%