Nanocrystalline

Nanocrystalline and Amorphous

Powder Core from Chopped Nanocrystalline Alloy:

Nanocrystalline alloy powder is obtained by comminution of Fe-based nanocrystalline ribbon. The core is obtained by powder technology using a proper bonding material. The core is characterized by high saturation magnetization (Bs), relatively high magnetic permeability (μ), high saturation magnetic field strength (Hs), low high frequency loss and remarkable frequency characteristics and temperature stability.

Use:

The product is applicable to various switch mode power supply working under the high frequency and heavy current conditions. It can be used as filter inductance and energy storage in the PFC technology. Its performance is superior to Fe-Ni and Fe-NiMo magnetic powder core (MPP powder core)

Material specification and performance

Table 1 Code and Characteristics for Magnetic Nanocrystalline Alloy Powder Material

Code	TIE-PN1	TIE-PN2	TIE-PN3	TIE-PE4
Permeability	30～40	40～50	55～75	75～100
Working frequency	＞150	100～200	20～100	＜20

Table 2 Nanocrystalline Powder Core Specifications

Exradius D_2 (cm)	Exradius D_1 (cm)	Height(cm)	Average aMagnetic Path Length(cm)	Effetive Section Area(cm^2)	AL×10^2(μH)
1.5	0.7	0.7	3.45	0.20	5.0
2.7	1.4	1.0	6.44	0.46	6.5
3.6	2.2	1.3	9.11	0.64	6.4
4.7	2.5	1.5	11.30	1.16	8.7
8.0	5.0	1.5	20.41	1.58	6.2

Note: *(1) Magnetic power core may be processesd as per customers' needs,such table is only used for reference.*

Figure 1 Magnetic Powder Core Magnetized Curve