

13、电阻率 Electrical resistivity, ρ (Ω/m)

具有单位截面积和单位长度的磁性材料的电阻。

This is the electrical resistance per unit length and cross-sectional area of a magnetic core.

14、密度 Density, $d(kg/m^3)$

单位体积材料的重量，即 $d=W/V$

式中 W 为磁芯的重量 (kg)， V 为磁芯的体积 (m^3)

This is the weight per unit volume of a magnetic core as expressed below: $d=W/V$

Where W : weight of magnetic body(kg), V : volume of magnetic body (m^3)

15、单位功率损耗 P_{cv} 或 P_{cm} Power loss P_{cv} & P_{cm} (kw/m^3 、 W/kg)

磁芯在高磁通密度下的单位体积损耗或单位重量损耗。该磁通密度可表示为 $B_m = \frac{E}{4.44fNA_e}$

式中 E 为施加在线圈上的电压有效值 (V)， B_m 为磁通密度的峰值 (T)， f 为频率 (Hz)， N 为线圈匝数， A_e 为有效截面积 (m^2)。

目前，功率损耗的常用测量方法包括乘积电压表法和波形记忆法。(图3)

Power loss denotes the loss by an electrical transformer, such as a switching power supply, under a magnetization condition featuring a high frequency and large amplitude. Operating magnetic flux density is given by the following equation.

$B_m = \frac{E}{4.44fNA_e}$

Where E : voltage effective value applied to coil, B_m : peak value of magnetic flux density, f : frequency(Hz)
 N : number of coil turns, A_e : effective cross-sectional area (m^2)

At present, the usual ways to measure the power loss are Multi-voltmeter Method and Waveform Memory Method. (Fig.3)

16、电感因数 Inductance factor, $A_L(nH/N^2)$

电感因数定义为具有一定形状和尺寸的磁芯上每一匝线圈产生的电感量，即 $A_L=L/N^2$

式中 L 为装有磁芯的线圈的电感量 (H)， N 为线圈匝数

This is the inductance per turn of the coil wound around the ferrite cores with definite shape and dimension.

$A_L=L/N^2$

Where L : inductance of the coil with ferrite core, N : turns of the coil