CORES FOR POWER TRANSFORMERS

PRODUCT SUMMARY

Description

N50 series power transformer cores are made of nanocrystalline alloy of high permeability .

For the supply of electrical devices and equipments in the industrial rang today almost exclusively switched mode power supplies, witch supply one or more DC output voltages, are used.

Different converter principles are in use, depending upon the power rang. flyback converters (to approx. 500W), single ended forward transformer(to approx.1000W) or push-pull converters(up to the KW rang) are common.

Particularly for push-pull converters, toroidal tape-wound cores made of the nanocrystalline material are recommended. Advantages over ferrites are achieved by the substantially higher induction swing(high Bs) in connection with low hysteresis losses: lower weight, smaller volume, higher efficiency and an extended temperature rang(to 120) with negative coefficient.

The advantages mentioned are the more pronouncedly, the larger the transferred power is.

Beside the standard series, customized cores in oval or rectangle shape as well as toroids up to approx. 600mm outside diameter are available. Please contact us.

Main fields of application are(particularly apart from the power supplies of medium power) kilowatt power supplies for telecommunication and traction applications, e.g. mobile phone base stations, battery chargers, frequency converters or solar inverters. Additional fields of application are within almost all ranges of industrial power supplies in the KW range, where increasingly IGBT technology is used.

Feature

- High permeability: $\mu_0(H_m=0.08A/cm) \geq 30{,}000$
- Reduce the winding turns
- Low Winding DC resistance
- Low core loss: $P_{3/20K}$(20kHz 0.3T)≤25W/kg, $P_{3/50K}$(50kHz 0.3T)≤30W/kg
- Perfect response overall the wide-range of frequency
- Meet the EN500081 and EN 500082 standards.
- High flux: Bs(T)≥1.2T, Br(T)≤0.15T, Reduce in size
- Low profile (1~5mm height)
- High Tc Temperature, Extended operating temperature range from -55℃~+130℃

Application

- Inverter transformer for high power supplies
- DC-AC welding SMPS
- Solar light power supplies
- X-ray power supplies
- High speed rail car power supplies
- Telecommunication and traction power supplies
- High power battery chargers