

DATA SHEET

3E8

Material specification

Supersedes data of February 2002

2004 Sep 01

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3E8 SPECIFICATIONS

A high permeability material optimized for use in wideband transformers and delay lines where small size or a low number of turns are important design parameters.

| | CONDITIONS | VALUE ⁽¹⁾ | UNIT |
|--------------------|-------------------------------|--------------------------|-------------------|
| μ_i | 25 °C; ≤ 10 kHz; 0.25 mT | $18000 \pm 20\%$ | |
| B | 25 °C; 10 kHz; 1200 A/m | ≈ 380 | mT |
| | 80 °C; 10 kHz; 1200 A/m | ≈ 210 | |
| $\tan\delta/\mu_i$ | 25 °C; 10 kHz; 0.25 mT | $\leq 10 \times 10^{-6}$ | |
| | 25 °C; 30 kHz; 0.25 mT | $\leq 30 \times 10^{-6}$ | |
| η_B | 25 °C; 10 kHz; 1.5 to 3 mT | $\leq 1 \times 10^{-3}$ | T ⁻¹ |
| ρ | DC; 25 °C | ≈ 0.1 | Ωm |
| T_C | | ≥ 100 | °C |
| density | | ≈ 5000 | kg/m ³ |

Note

1. Measured on sintered, non-ground ring cores of dimensions $\varnothing 14 \times \varnothing 9 \times 5$ which are not subjected to external stresses.

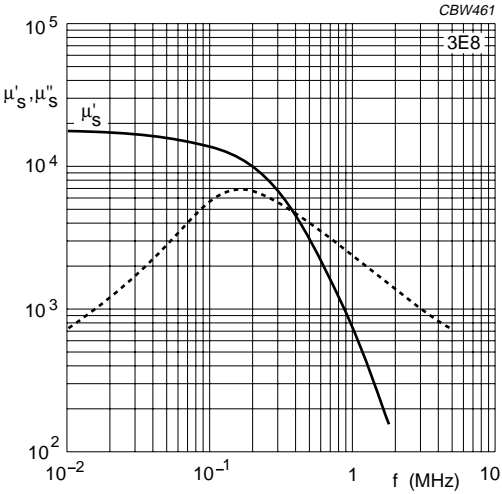


Fig.1 Complex permeability as a function of frequency.

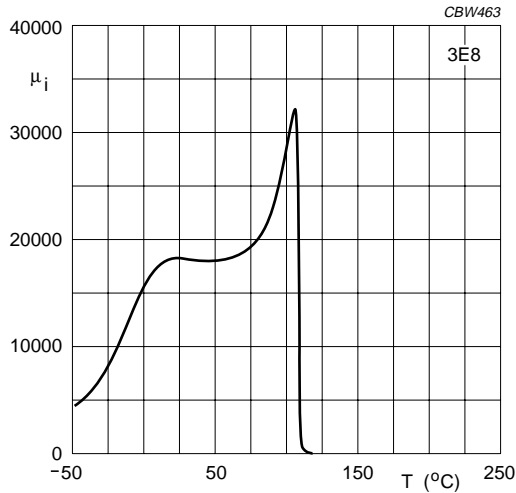


Fig.2 Initial permeability as a function of temperature.

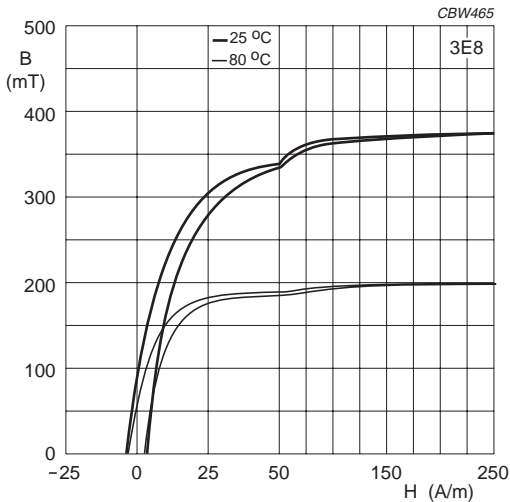


Fig.3 Typical B-H loops.

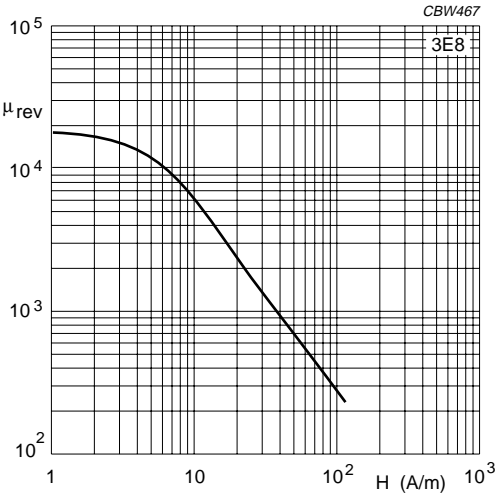


Fig.4 Reversible permeability as a function of magnetic field strength.

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DATA SHEET STATUS DEFINITIONS

| DATA SHEET STATUS | PRODUCT STATUS | DEFINITIONS |
|---------------------------|----------------|--|
| Preliminary specification | Development | This data sheet contains preliminary data. Ferroxcube reserves the right to make changes at any time without notice in order to improve design and supply the best possible product. |
| Product specification | Production | This data sheet contains final specifications. Ferroxcube reserves the right to make changes at any time without notice in order to improve design and supply the best possible product. |

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| STATUS | INDICATION | DEFINITION |
|------------------|---|--|
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