MEGATRON AG
FERROXCUBE DISTRIBUTOR FOR MAGNETIC COMPONENTS



# DATA SHEET

# 3S3
# Material specification

Supersedes data of September 2004

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FERROXCUBE
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# Material specification 3S3

## 3S3 SPECIFICATIONS

This wideband EMI-suppression material is specified on impedance and optimized for frequencies from 30 to 1000 MHz in applications with high bias currents at elevated temperatures (e.g. rods for chokes in commutation motors).

| SYMBOL | CONDITIONS | VALUE | UNIT |
|---|---|---|---|
| $\mu_i$ | 25 °C; ≤10 kHz; 0.25 mT | ≈ 350 | |
| B | 25 °C; 10 kHz; 1200 A/m | ≈ 320 | mT |
| | 100 °C; 10 kHz; 1200 A/m | ≈ 270 | |
| $\|Z\|$ (1) | 25 °C; 30 MHz | ≥ 25 | Ω |
| | 25 °C; 100 MHz | ≥ 60 | |
| | 25 °C; 300 MHz | ≥ 100 | |
| ρ | DC; 25 °C | ≈ $10^4$ | Ωm |
| $T_C$ | | ≥ 225 | °C |
| density | | ≈ 4800 | kg/m$^3$ |

**Note**

1. Measured on a bead ∅5 × ∅2 × 10 mm.

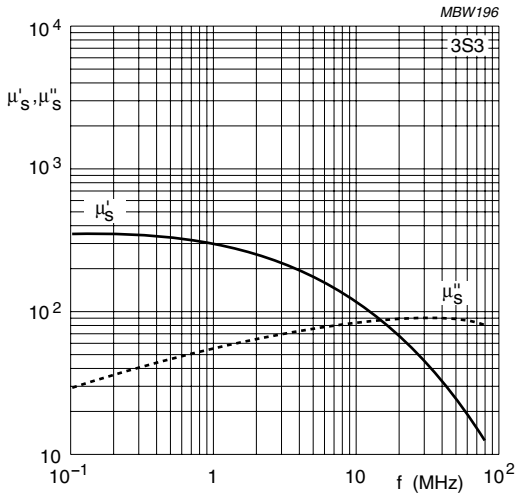


Fig.1 Complex permeability as a function of frequency.

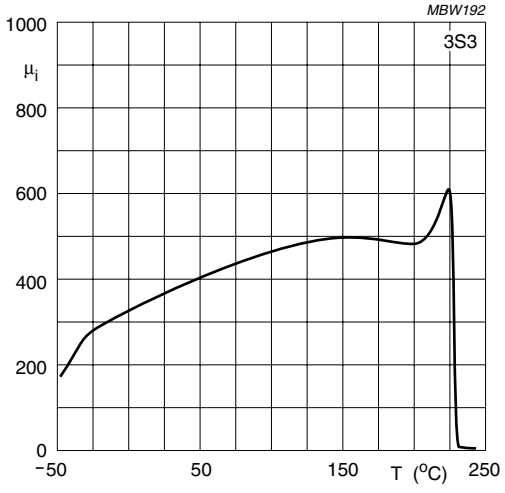


Fig.2 Initial permeability as a function of temperature.

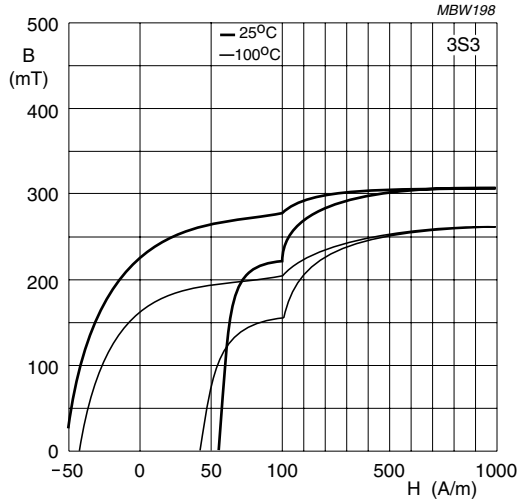


Fig.3 Typical B-H loops.



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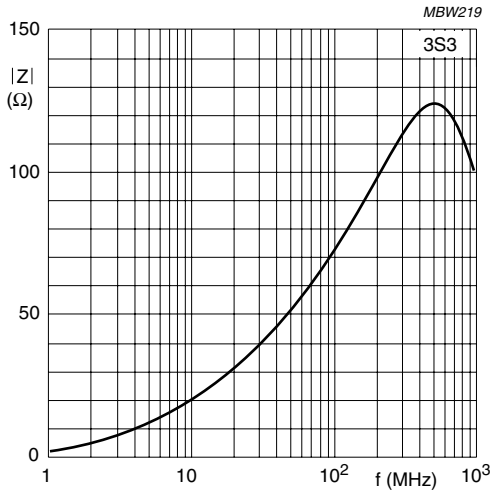


Fig.4 Impedance as a function of frequency measured on a bead ∅5 × ∅2 × 10 mm.



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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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## PRODUCT STATUS DEFINITIONS

| STATUS | INDICATION | DEFINITION |
|---|---|---|
| **Prototype** | prot | These are products that have been made as development samples for the purposes of technical evaluation only. The data for these types is provisional and is subject to change. |
| **Design-in** | des | These products are recommended for new designs. |
| **Preferred** | | These products are recommended for use in current designs and are available via our sales channels. |
| **Support** | sup | These products are **not** recommended for new designs and may not be available through all of our sales channels. Customers are advised to check for availability. |



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