MEGATRON AG
FERROXCUBE DISTRIBUTOR FOR MAGNETIC COMPONENTS

# DATA SHEET

## 3C98
Material specification

2013 Jun 03

FERROXCUBE
A YAGEO COMPANY

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## 3C98 SPECIFICATIONS

A low to medium frequency power material for use in power and general purpose transformers at frequencies up to 0.4 MHz.

| | CONDITIONS | VALUE | UNIT |
|---|---|---|---|
| $\mu_i$ | 25 °C; ≤10 kHz; 0.25 mT | 2500 ±20% | |
| $\mu_a$ | 100 °C; 25 kHz; 200 mT | ≈ 5500 | |
| B | 25 °C; 10 kHz; 1200 A/m | ≈ 530 | mT |
| | 100 °C; 10 kHz; 1200 A/m | ≈ 440 | |
| $P_V$ | 25 °C; 100 kHz; 200 mT | ≈ 500 | kW/m$^3$ |
| | 60 °C; 100 kHz; 200 mT | ≈ 350 | |
| | 100°C; 100 kHz; 200 mT | ≈ 250 | |
| ρ | DC; 25 °C | ≈ 8 | Ωm |
| $T_C$ | | ≥ 230 | °C |
| density | | ≈ 4850 | kg/m$^3$ |

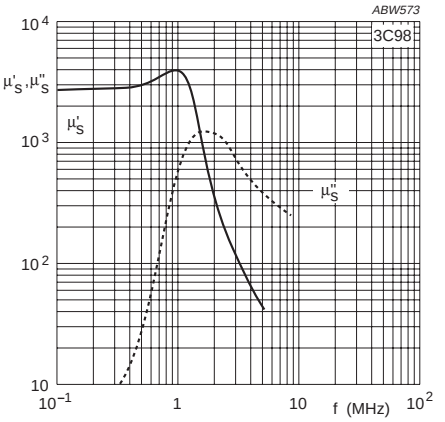


Fig.1 Complex permeability as a function of frequency.

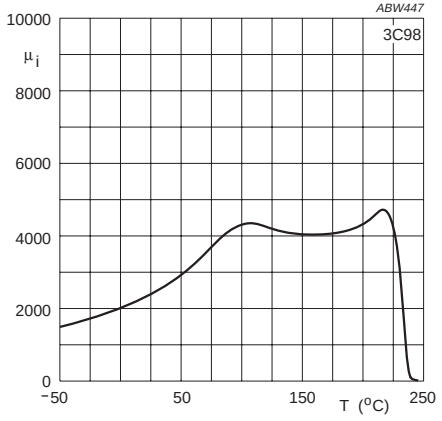


Fig.2 Initial permeability as a function of temperature.

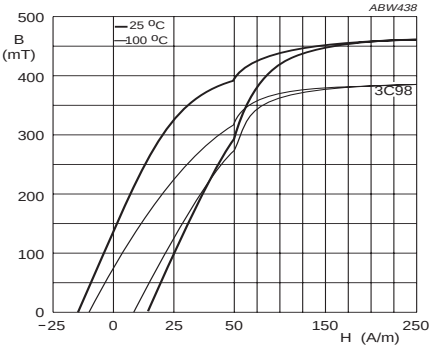


Fig.3 Typical B-H loops.



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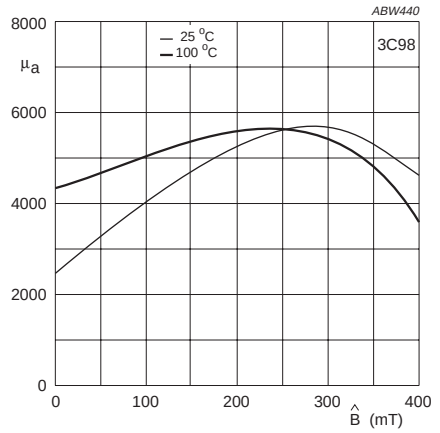


Fig.4 Amplitude permeability as a function of peak flux density.

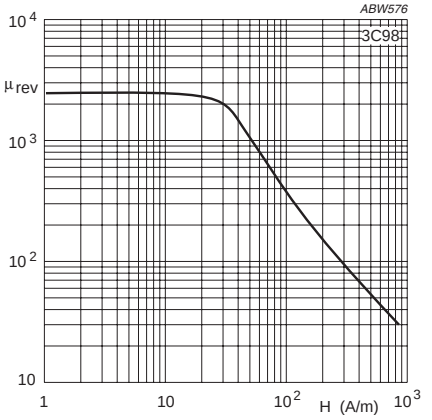


Fig.5 Reversible permeability as a function of magnetic field strength.

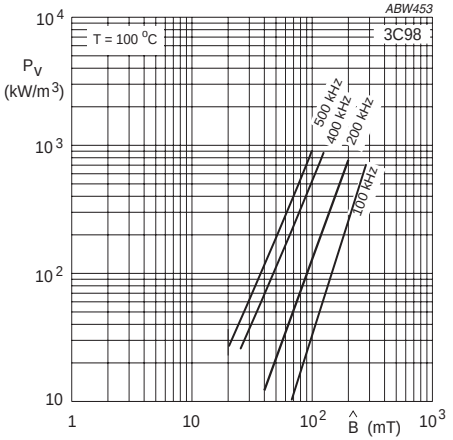


Fig.6 Specific power loss as a function of peak flux density with frequency as a parameter.

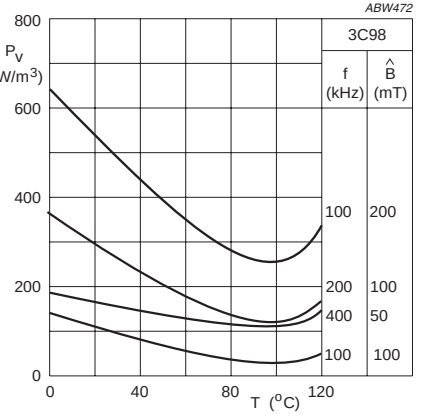


Fig.7 Specific power loss for several frequency/flux density combinations as a function of temperature.



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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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