

DATA SHEET

3C95 Material specification

New data

2008 Sep 01

3C95 SPECIFICATIONS

A low to medium frequency power material with low power losses from 25 to 100 °C for use in power transformers at frequencies up to 0.5 MHz. Especially suited for broad temperature range applications like automotive, lighting and mobile / handheld.

| SYMBOL | CONDITIONS | VALUE | UNIT |
|---------|----------------------------------|------------------|-------------------|
| μ_i | 25 °C; ≤ 10 kHz; 0.25 mT | $3000 \pm 20 \%$ | |
| μ_a | 100 °C; 25 kHz; 200 mT | ≈ 5000 | |
| B | 25 °C; 10 kHz; 1200 A/m | ≈ 530 | mT |
| | 100 °C; 10 kHz; 1200 A/m | ≈ 410 | |
| P_V | 25 °C; 100 kHz; 200 mT | ≈ 350 | kW/m ³ |
| | 100 °C; 100 kHz; 200 mT | ≈ 290 | |
| ρ | DC, 25 °C | ≈ 5 | Ωm |
| T_C | | ≥ 215 | °C |
| density | | ≈ 4800 | kg/m ³ |

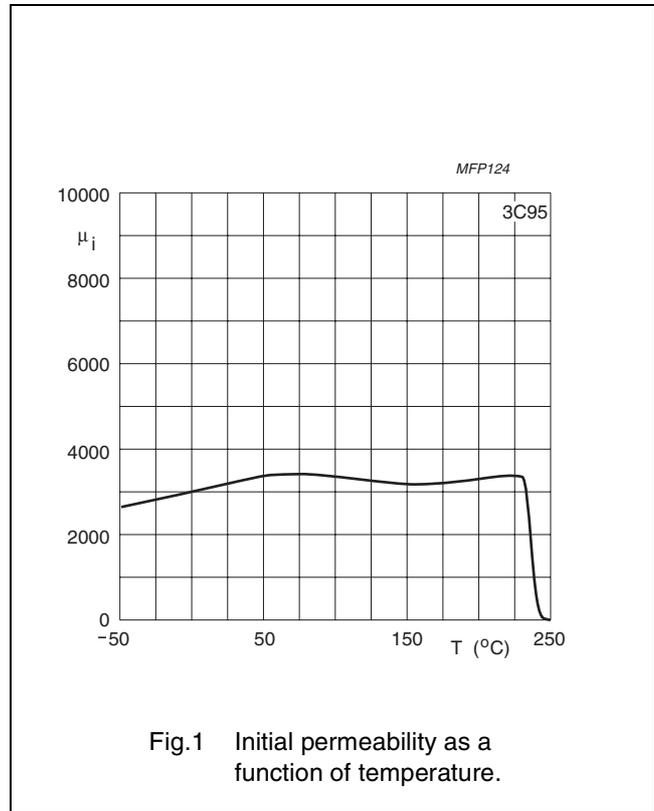


Fig.1 Initial permeability as a function of temperature.

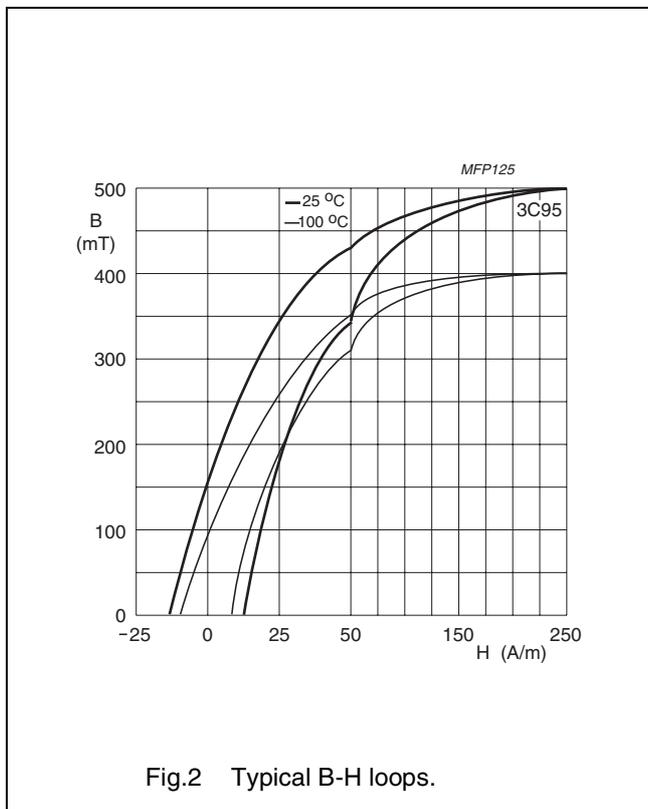


Fig.2 Typical B-H loops.

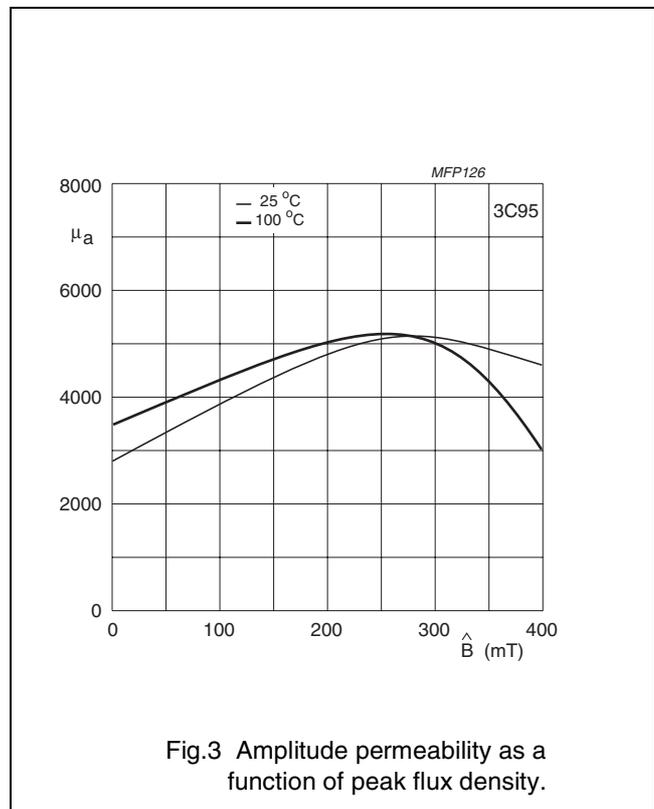


Fig.3 Amplitude permeability as a function of peak flux density.

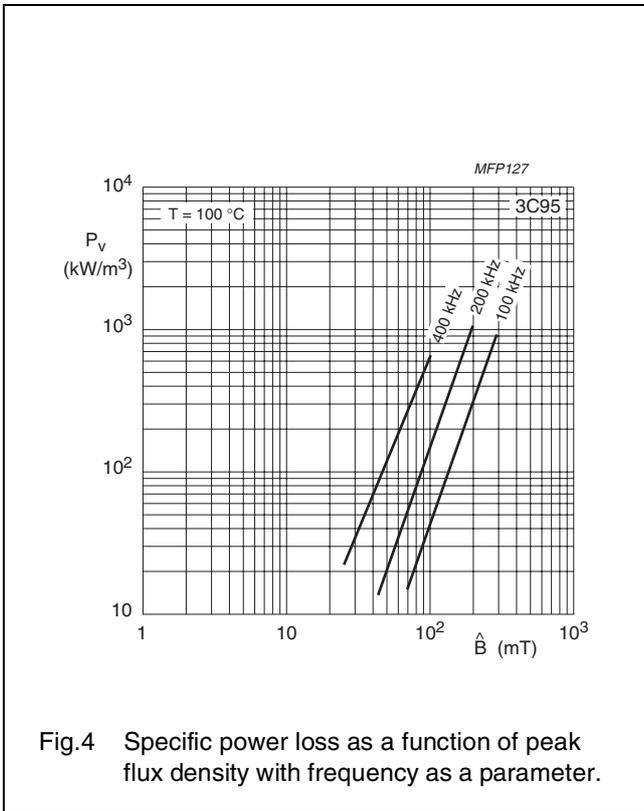


Fig.4 Specific power loss as a function of peak flux density with frequency as a parameter.

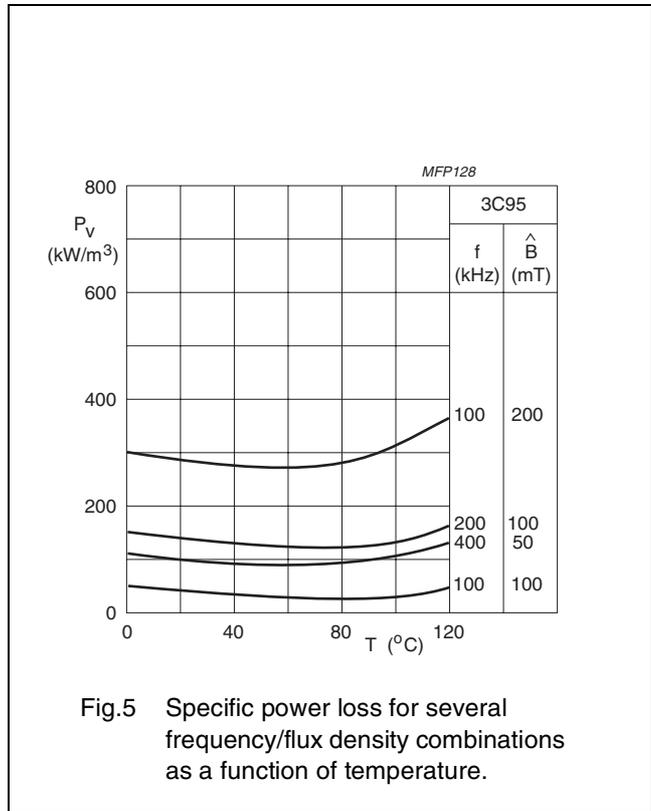


Fig.5 Specific power loss for several frequency/flux density combinations as a function of temperature.

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 |
|------------------|---|--|
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| Preferred | | These products are recommended for use in current designs and are available via our sales channels. |
| Support |  | 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. |