

DATA SHEET

3D3 Material specification

Supersedes data of September 2004

2008 Sep 01



FERROXCUBE
A YAGEO COMPANY

Material specification

3D3

3D3 SPECIFICATIONS

A medium frequency filter and tuning material optimized for frequencies from 0.2 up to 2 MHz.

SYMBOL	CONDITIONS	VALUE	UNIT
μ_i	25 °C; ≤ 10 kHz; 0.25 mT	$750 \pm 20\%$	
B	25 °C; 10 kHz; 1200 A/m 100 °C; 10 kHz; 1200 A/m	≈ 380 ≈ 310	mT
$\tan\delta/\mu_i$	25 °C; 300 kHz; 0.25 mT 25 °C; 1 MHz; 0.25 mT	$\leq 10 \times 10^{-6}$ $\leq 30 \times 10^{-6}$	
η_B	25 °C; 100 kHz; 1.5 to 3 mT	$\leq 1.8 \times 10^{-3}$	T ⁻¹
D_F	25 °C; 10 kHz; 0.25 mT	$\leq 12 \times 10^{-6}$	
α_F	25 to 70 °C; ≤ 10 kHz; 0.25 mT	$(1.5 \pm 1) \times 10^{-6}$	K ⁻¹
ρ	DC; 25 °C	≈ 2	Ωm
T_C		≥ 200	°C
density		≈ 4700	kg/m ³

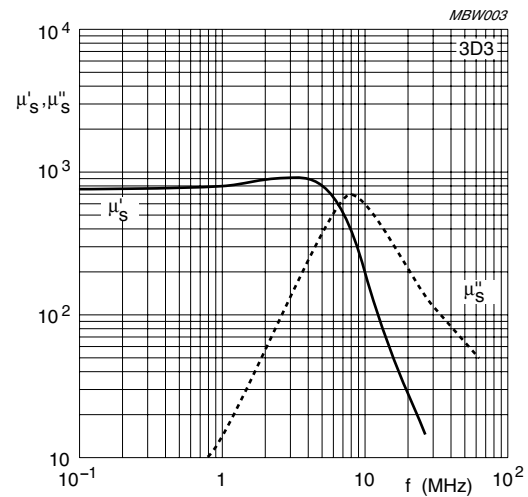


Fig.1 Complex permeability as a function of frequency.

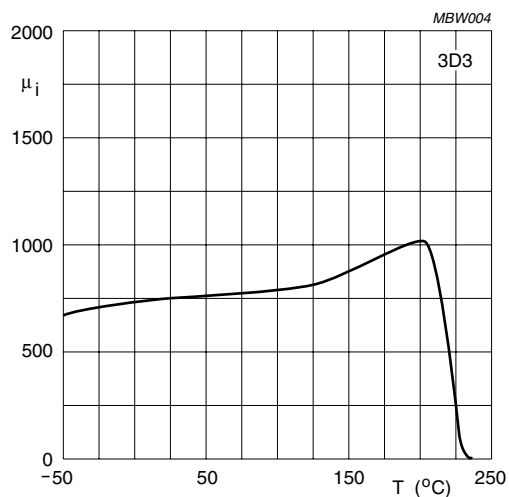


Fig.2 Initial permeability as a function of temperature.

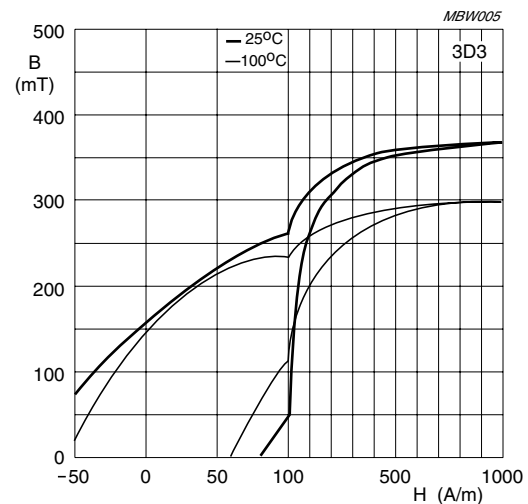


Fig.3 Typical B-H loops.

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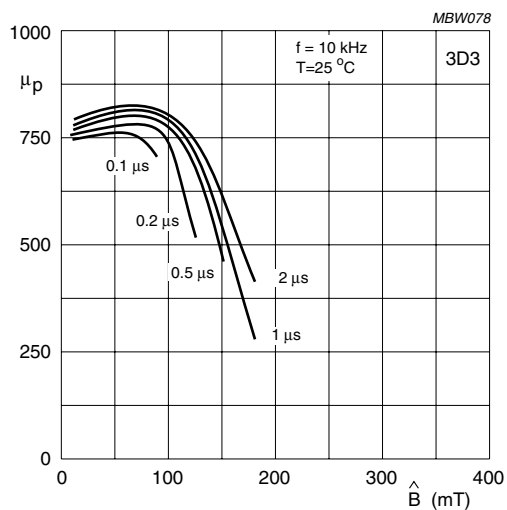


Fig.4 Pulse characteristics (unipolar pulses).

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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		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		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		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.