

DATA SHEET

3B46

Material specification

New data

2004 Sep 01

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3B46 SPECIFICATIONS

A medium permeability material with high saturation flux density. This material is suitable as linear filter choke with dc bias current, over a broad temperature range. It has been specifically designed for use in POTS-splitters for DSL applications.

SYMBOL	CONDITIONS	VALUE	UNIT
μ_i	25 °C; ≤ 10 kHz; 0.25 mT	$3800 \pm 20\%$	
B	25 °C; 10 kHz; 1200 A/m 100 °C; 10 kHz; 1200 A/m	≈ 545 ≈ 435	mT
$\tan\delta/\mu_i$	25 °C; 10 kHz; 0.25 mT 25 °C; 100 kHz; 0.25 mT	$\approx 0.6 \times 10^{-6}$ $\approx 1.6 \times 10^{-6}$	
η_B	25 °C; 10 kHz; 1.5–3 mT	$\approx 0.12 \times 10^{-6}$	mT ⁻¹
α_F	≤ 10 kHz; 0.25 mT; 5 to 25 °C ≤ 10 kHz; 0.25 mT; 25 to 55 °C	$\approx 4.4 \times 10^{-6}$ $\approx -2.2 \times 10^{-6}$	K ⁻¹ K ⁻¹
ρ	DC; 25 °C	≈ 10	Ωm
T_C		≥ 255	°C
density		≈ 4800	kg/m ³

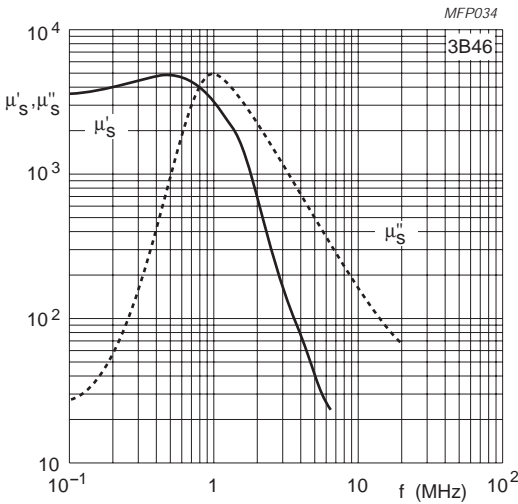


Fig.1 Complex permeability as a function of frequency.

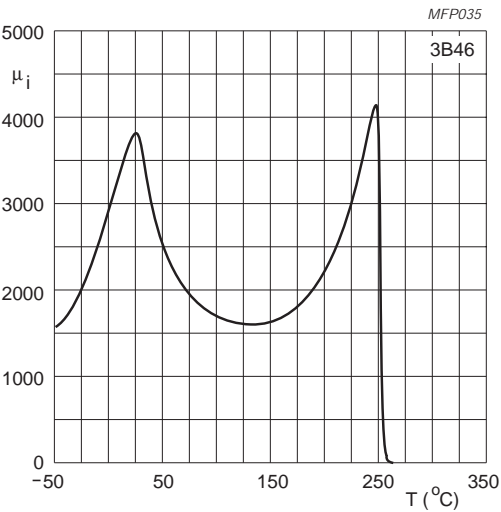


Fig.2 Initial permeability as a function of temperature.

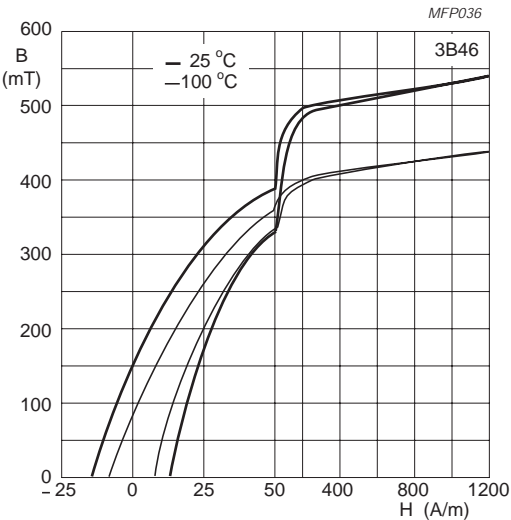


Fig.3 Typical B-H loops.

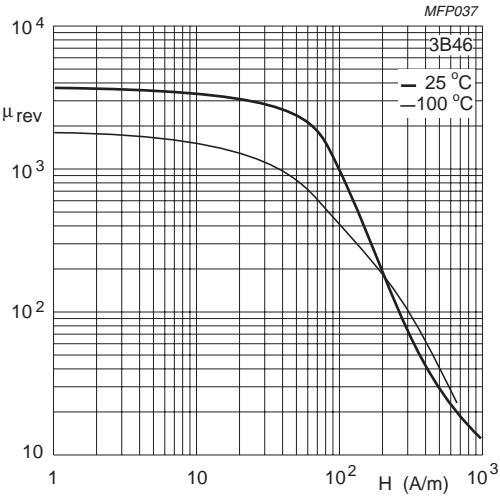


Fig.4 Reversible permeability as a function of magnetic field strength.

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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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PRODUCT STATUS DEFINITIONS

STATUS	INDICATION	DEFINITION
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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.