

DATA SHEET

3E5 Material specification

Supersedes data of November 2000

2002 Feb 01

Material specification

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3E5 SPECIFICATIONS

A high permeability material optimized for use in wideband transformers as well as EMI-suppression filters.

SYMBOL	CONDITIONS	VALUE	UNIT
μ_i	25 °C; ≤ 10 kHz; 0.1 mT	$10000 \pm 20\%$	
B	25 °C; 10 kHz; 250 A/m	≈ 380	mT
	100 °C; 10 kHz; 250 A/m	≈ 210	
$\tan\delta/\mu_i$	25 °C; 30 kHz; 0.1 mT	$\leq 25 \times 10^{-6}$	
	25 °C; 100 kHz; 0.1 mT	$\leq 75 \times 10^{-6}$	
η_B	25 °C; 10 kHz; 1.5 to 3 mT	$\leq 1 \times 10^{-3}$	T ⁻¹
ρ	DC; 25 °C	≈ 0.5	Ωm
T_C		≥ 125	°C
density		≈ 4900	kg/m ³

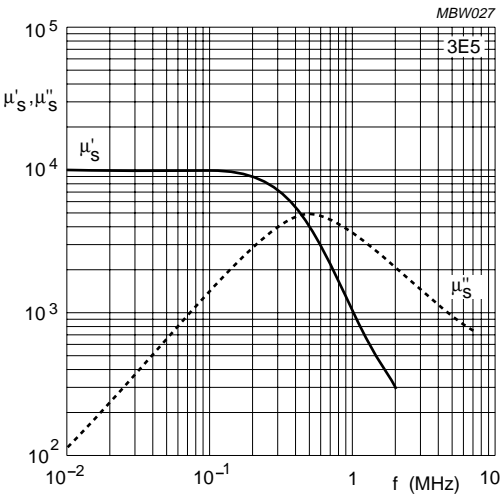


Fig.1 Complex permeability as a function of frequency.

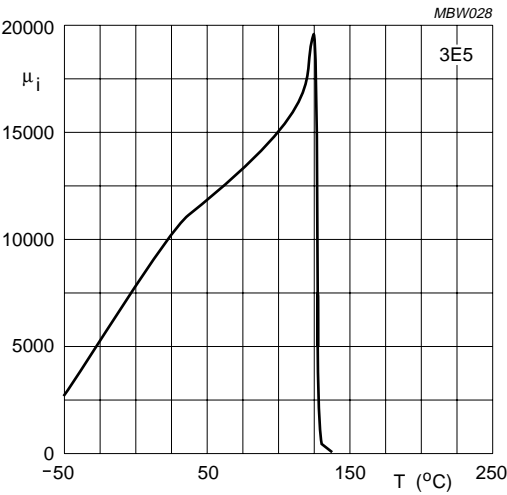


Fig.2 Initial permeability as a function of temperature.

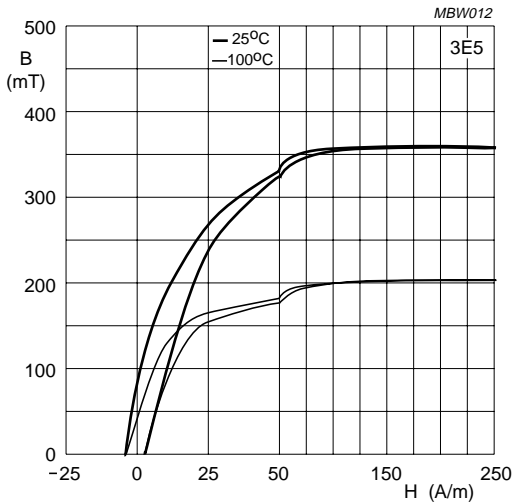


Fig.3 Typical B-H loops.

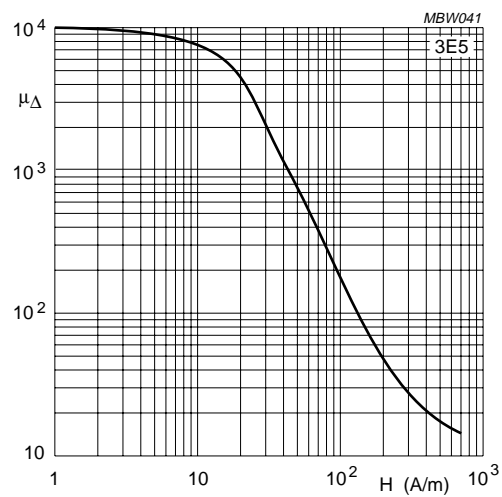


Fig.4 Incremental permeability as a function of magnetic field strength.

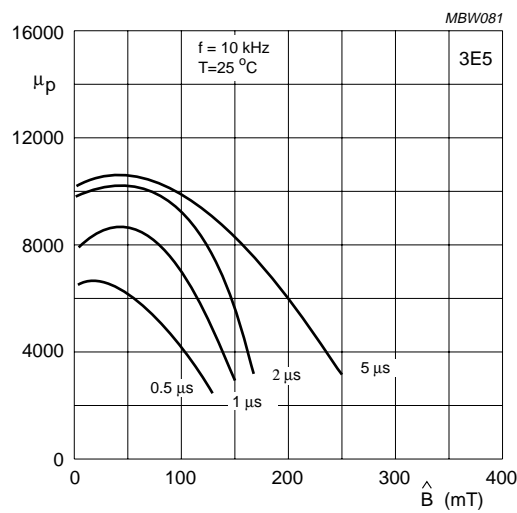


Fig.5 Pulse characteristics (unipolar pulses).

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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

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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.