

# DATA SHEET

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**3E55**

Material specification

Supersedes data of February 2002

2004 Sep 01

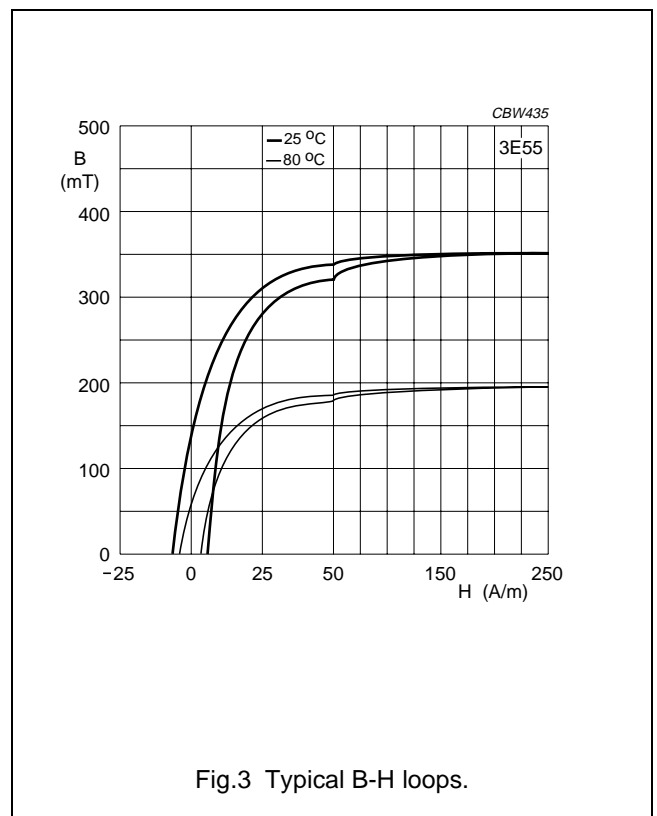
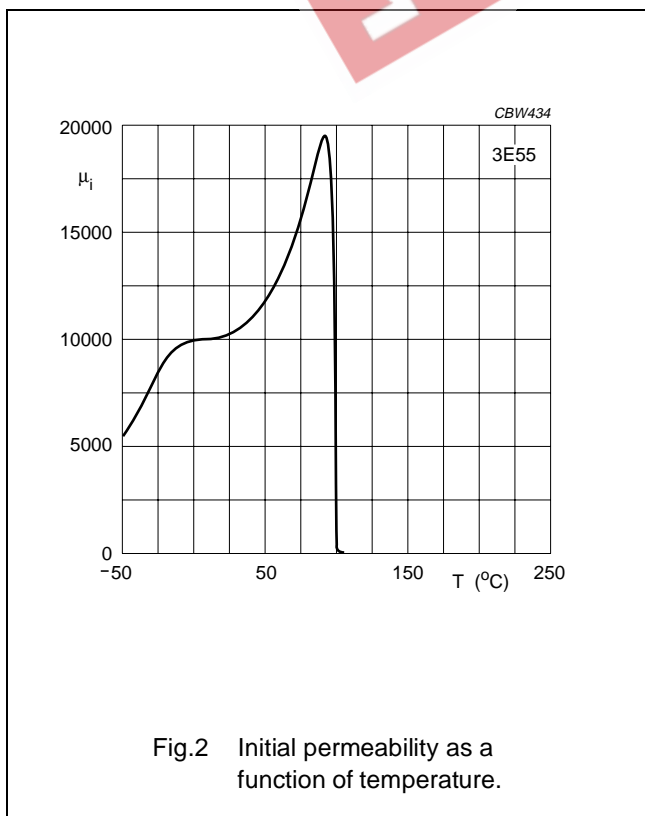
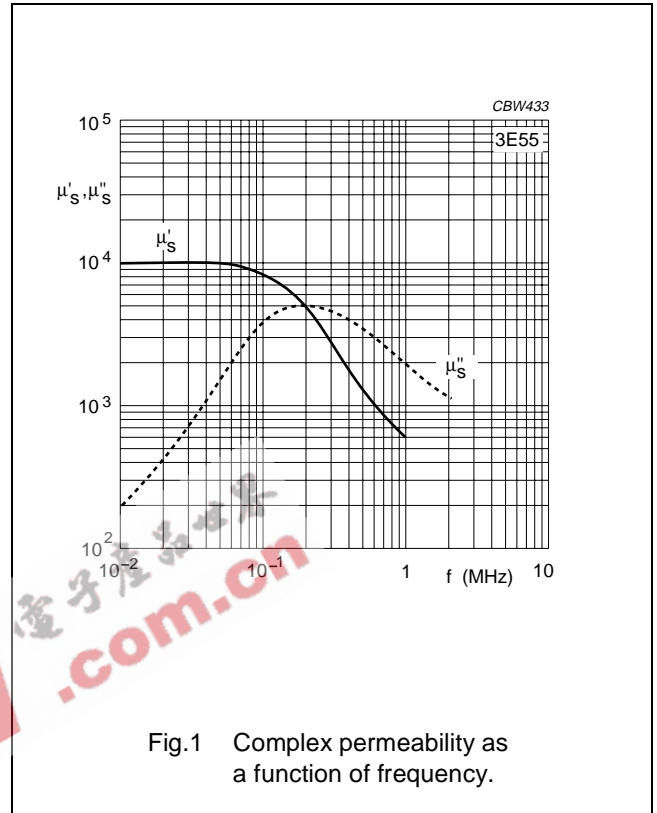
Material specification

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3E55 SPECIFICATIONS

A high permeability material optimized for a very low Total Harmonic Distortion factor (THD/ $\mu_a$ ) over the full operating temperature range of DSL wideband transformers.

SYMBOL	CONDITIONS	VALUE	UNIT
$\mu_i$	25 °C; $\leq 10$ kHz; 0.25 mT	$10000 \pm 20\%$	
B	25 °C; 10 kHz; 1200 A/m 80 °C; 10 kHz; 1200 A/m	$\approx 370$ $\approx 200$	mT
$\tan\delta/\mu_i$	25 °C; 10 kHz; 0.25 mT 25 °C; 30 kHz; 0.25 mT	$\leq 10 \times 10^{-6}$ $\leq 30 \times 10^{-6}$	
$\eta_B$	25 °C; 10 kHz; 1.5 to 3 mT	$\leq 0.2 \times 10^{-3}$	T <sup>-1</sup>
$\rho$	DC; 25 °C	$\approx 0.1$	$\Omega\text{m}$
$T_C$		$\geq 100$	°C
density		$\approx 5000$	kg/m <sup>3</sup>



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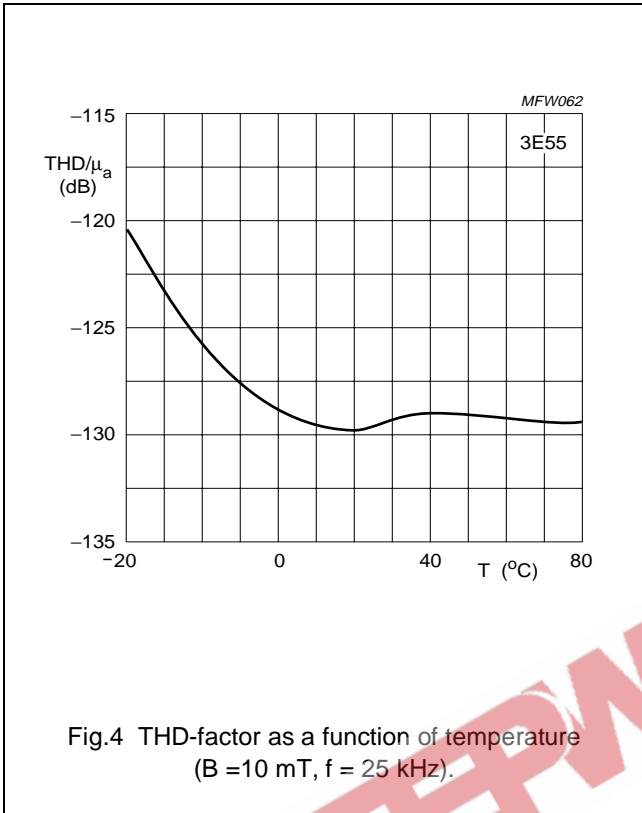


Fig.4 THD-factor as a function of temperature  
(B = 10 mT, f = 25 kHz).

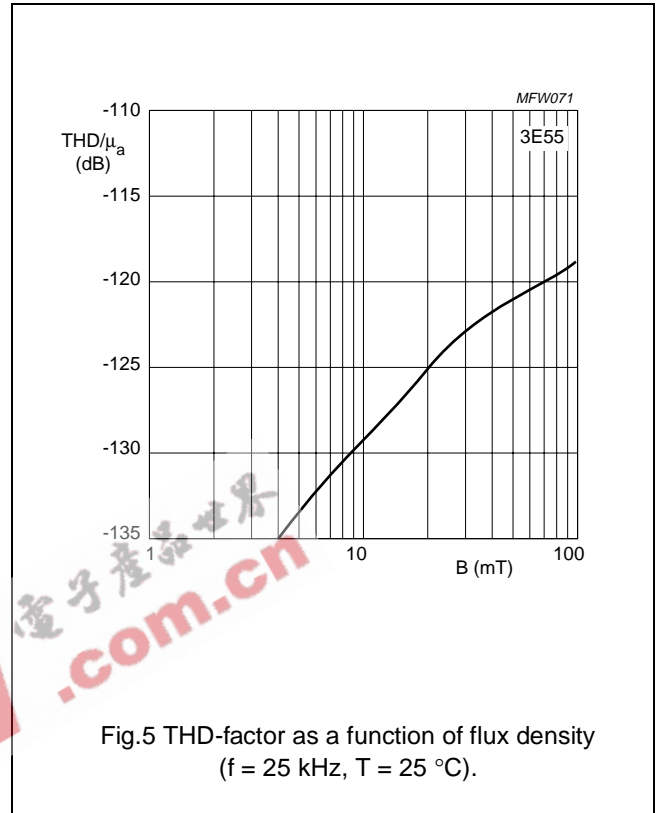


Fig.5 THD-factor as a function of flux density  
(f = 25 kHz, T = 25 °C).

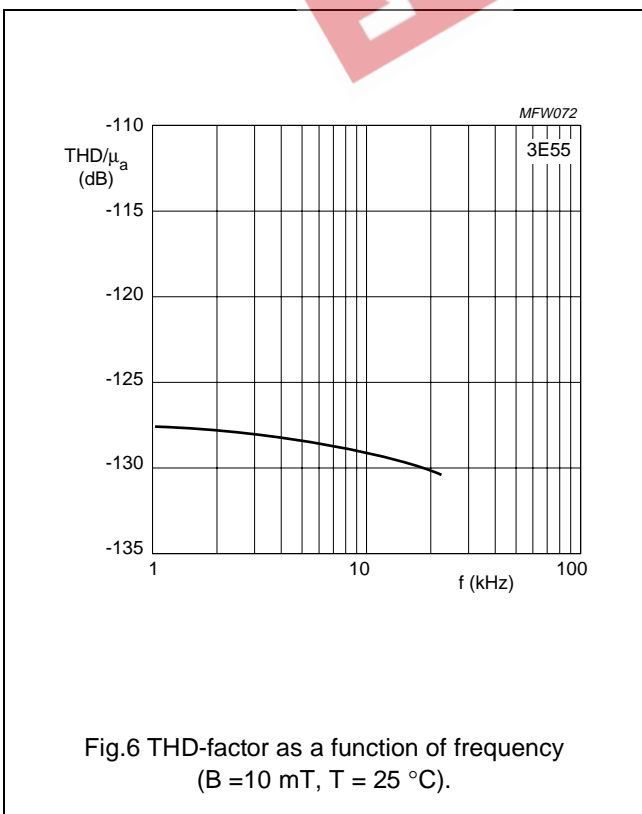


Fig.6 THD-factor as a function of frequency  
(B = 10 mT, T = 25 °C).




## 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 <b>not</b> recommended for new designs and may not be available through all of our sales channels. Customers are advised to check for availability.