

# DATA SHEET

## **3F4** Material specification

Supersedes data of September 2004

2008 Sep 01

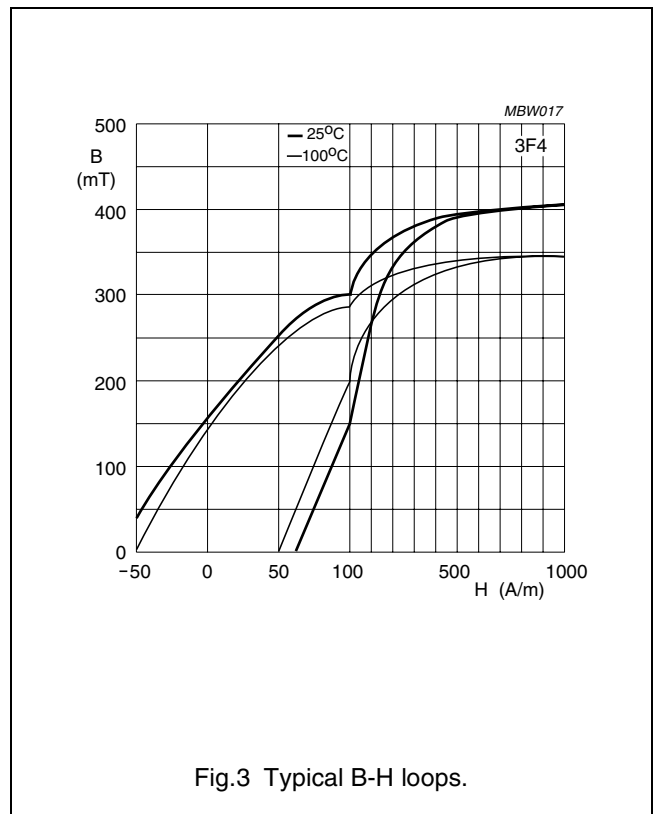
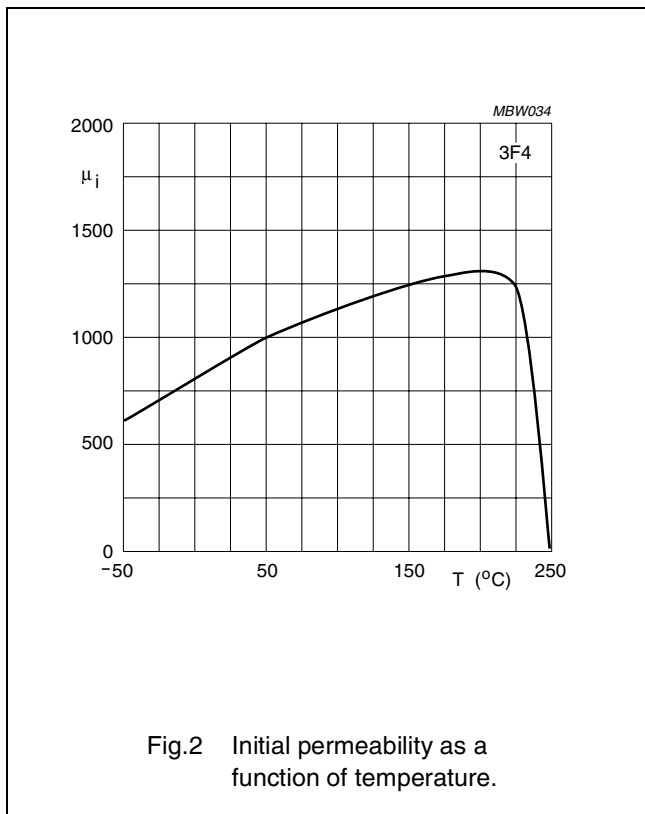
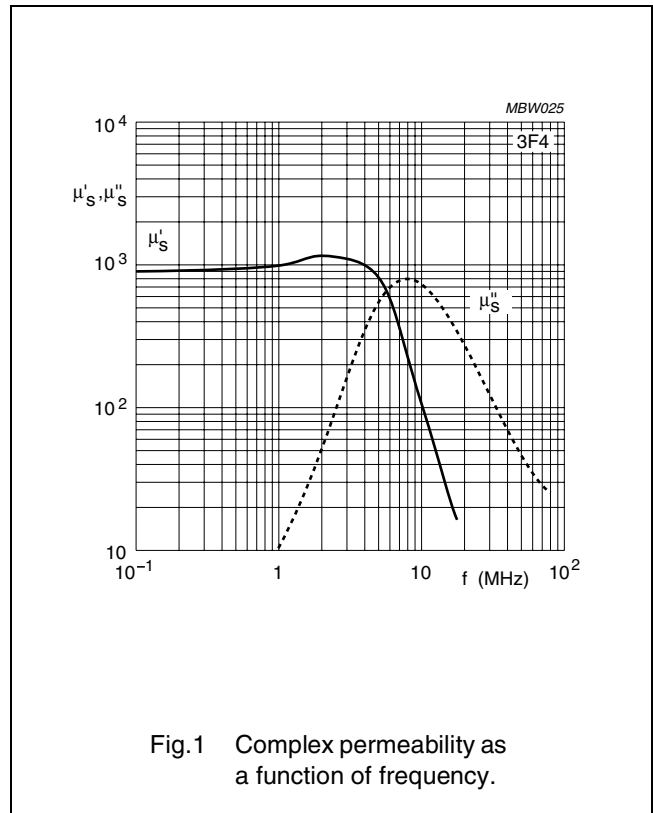
Material specification

3F4

3F4 SPECIFICATIONS

A high frequency power material for use in power and general purpose transformers at frequencies of 1 - 2 MHz.

SYMBOL	CONDITIONS	VALUE	UNIT
$\mu_i$	25 °C; $\leq 10$ kHz; 0.25 mT	900 $\pm 20\%$	
$\mu_a$	100 °C; 25 kHz; 200 mT	$\approx 1700$	
B	25 °C; 10 kHz; 1200 A/m 100 °C; 10 kHz; 1200 A/m	$\approx 410$ $\approx 350$	mT
$P_V$	100 °C; 1 MHz; 30 mT 100 °C; 3 MHz; 10 mT	$\approx 130$ $\approx 220$	kW/m <sup>3</sup>
$\rho$	DC; 25 °C	$\approx 10$	$\Omega\text{m}$
$T_C$		$\geq 220$	°C
density		$\approx 4700$	kg/m <sup>3</sup>



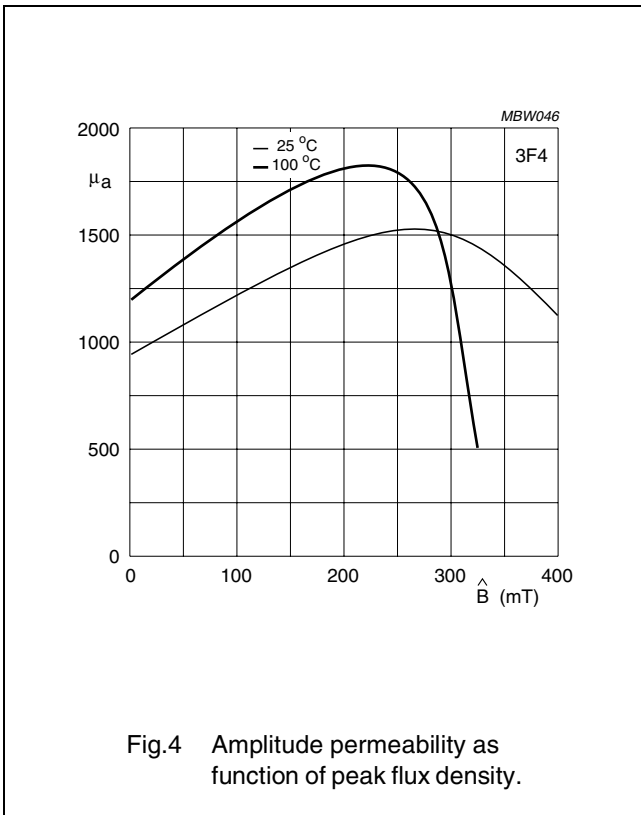


Fig.4 Amplitude permeability as function of peak flux density.

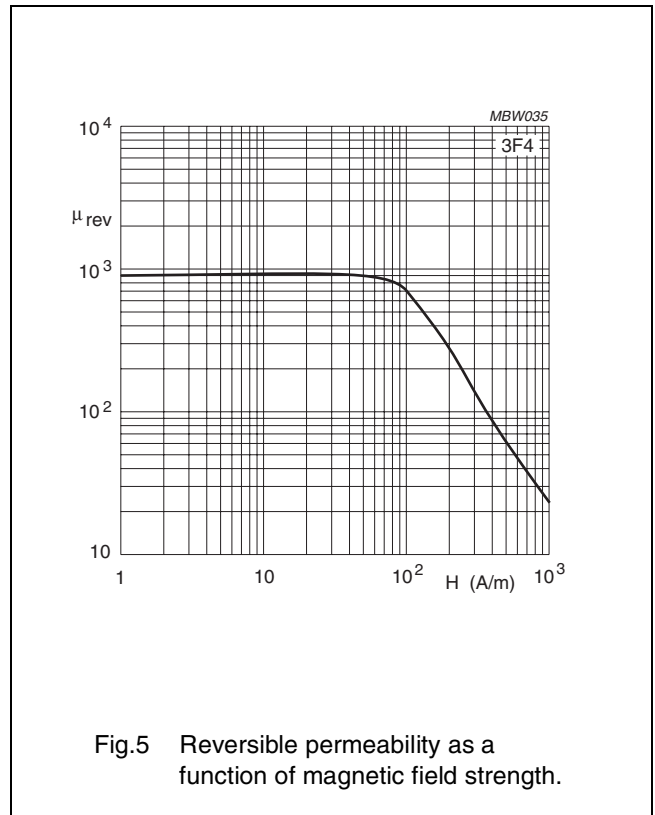


Fig.5 Reversible permeability as a function of magnetic field strength.

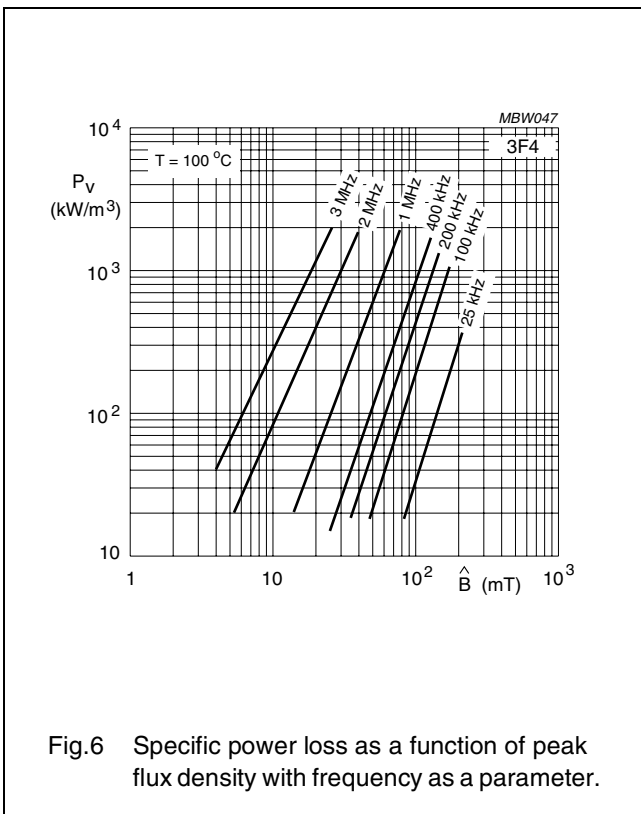


Fig.6 Specific power loss as a function of peak flux density with frequency as a parameter.

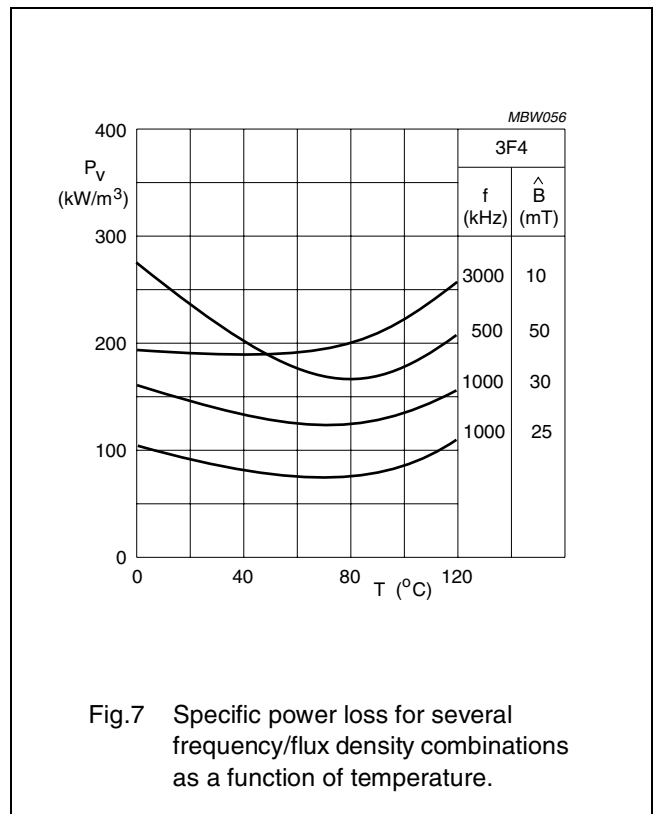


Fig.7 Specific power loss for several frequency/flux density combinations as a function of temperature.

**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**

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<b>Preferred</b>		These products are recommended for use in current designs and are available via our sales channels.
<b>Support</b>		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.