

# DATA SHEET

## **3C81** Material specification

Supersedes data of February 2002

2004 Sep 01

3C81 SPECIFICATIONS

A low frequency power material with minimum power losses around 60 °C for use in power and general purpose transformers at frequencies up to 0.2 MHz.

SYMBOL	CONDITIONS	VALUE	UNIT
$\mu_i$	25 °C; $\leq 10$ kHz; 0.25 mT	2700 $\pm 20\%$	
$\mu_a$	100 °C; 25 kHz; 200 mT	5500 $\pm 20\%$	
B	25 °C; 10 kHz; 1200 A/m	$\approx 450$	mT
	100 °C; 10 kHz; 1200 A/m	$\approx 360$	
$P_V$	100 °C; 25 kHz; 200 mT	$\leq 185$	kW/m <sup>3</sup>
$\rho$	DC; 25 °C	$\approx 1$	$\Omega\text{m}$
$T_C$		$\geq 210$	°C
density		$\approx 4800$	kg/m <sup>3</sup>

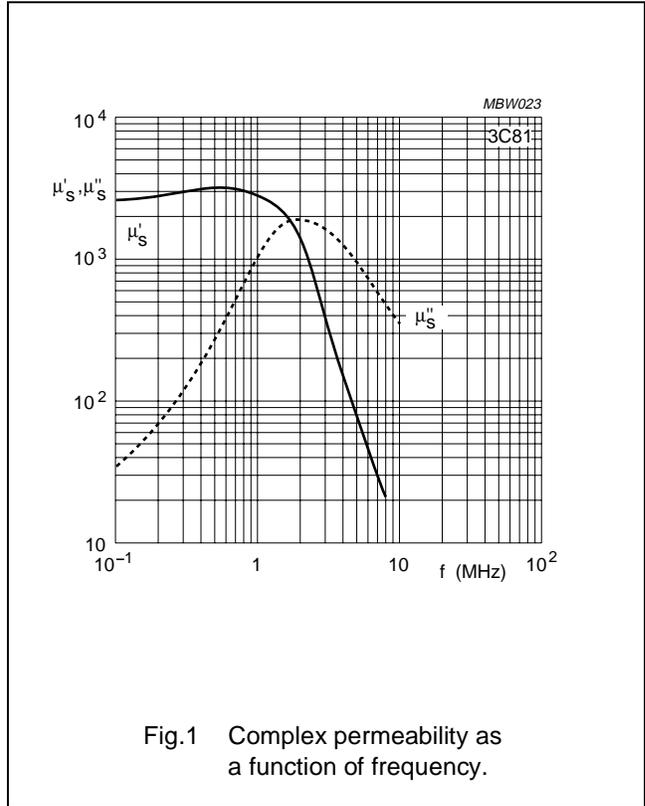


Fig.1 Complex permeability as a function of frequency.

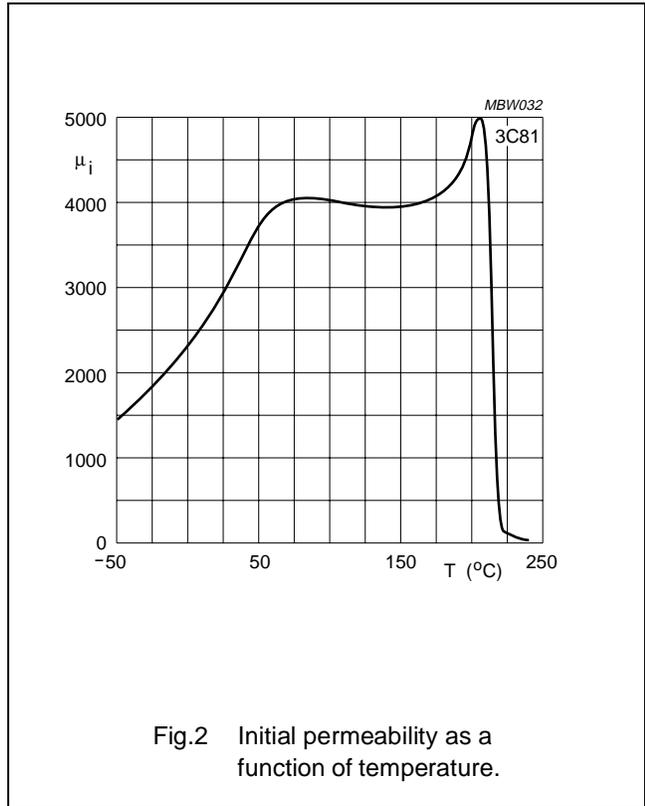


Fig.2 Initial permeability as a function of temperature.

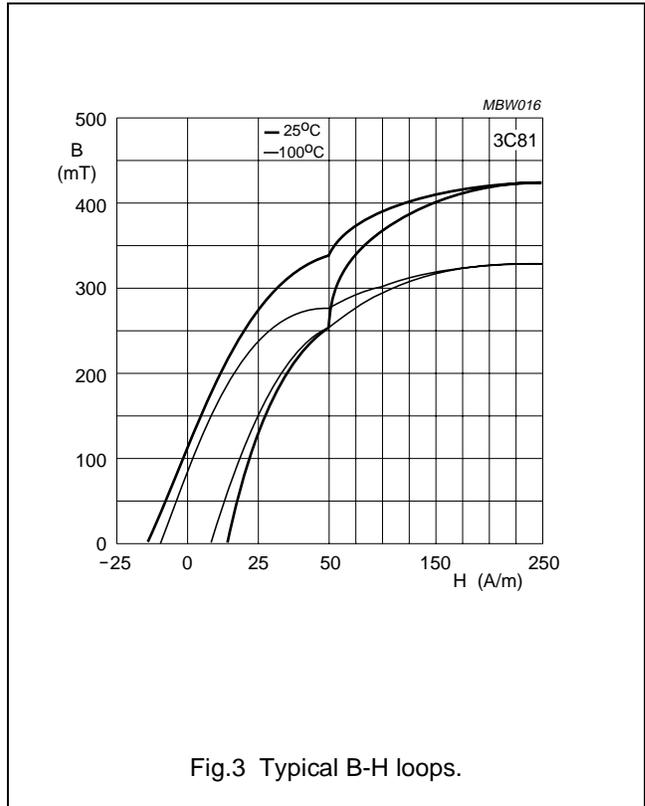
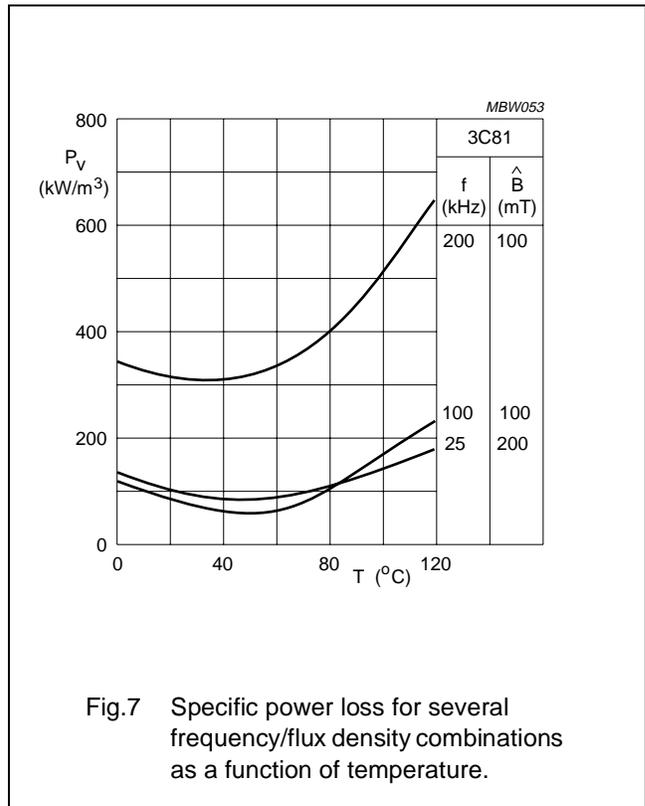
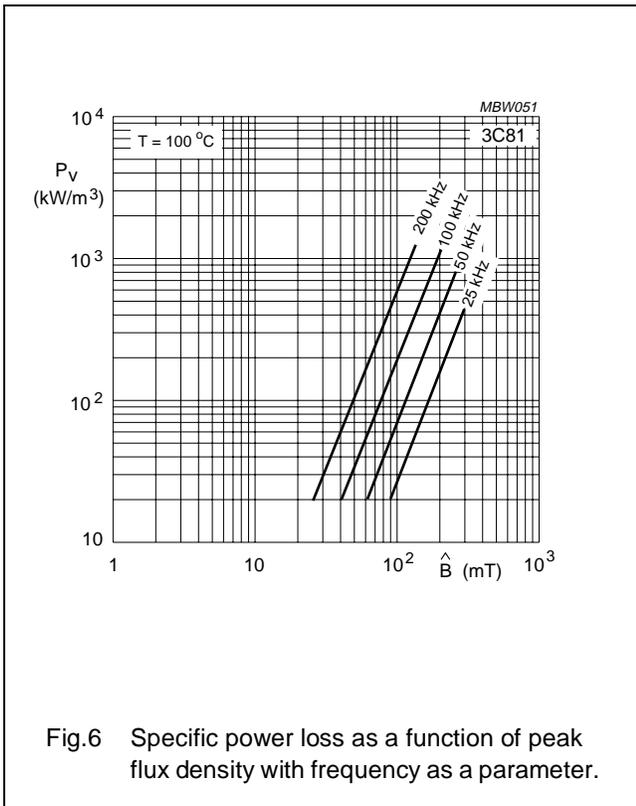
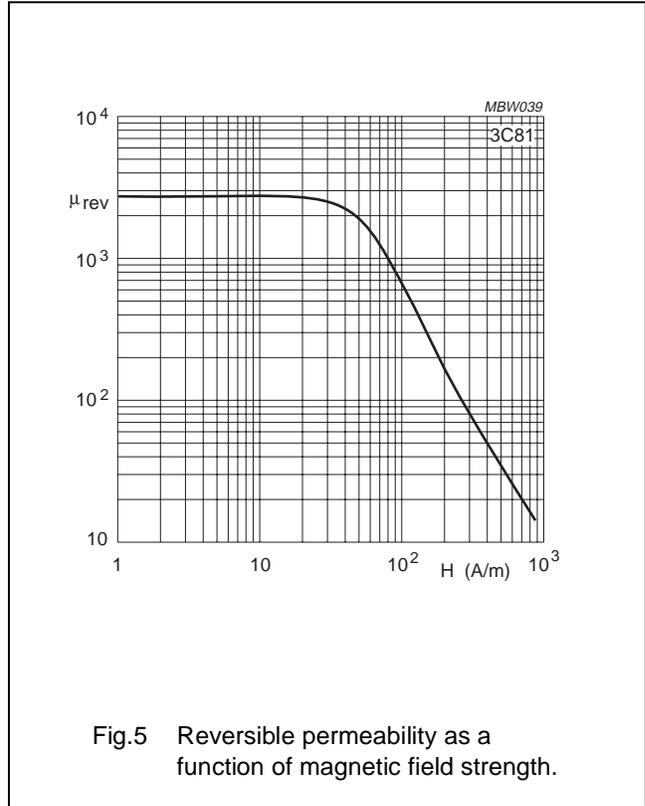
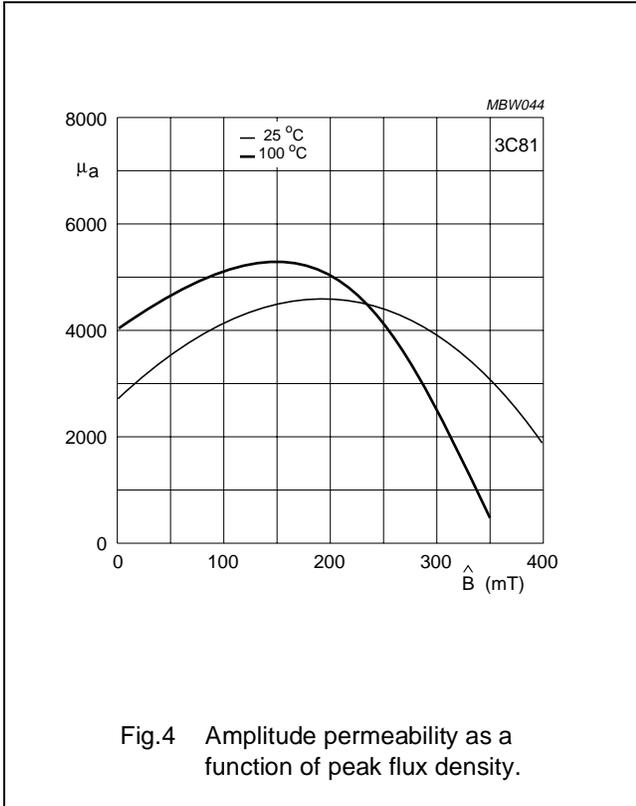


Fig.3 Typical B-H loops.



**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.

**DISCLAIMER**

**Life support applications** — These products are not designed for use in life support appliances, devices, or systems where malfunction of these products can reasonably be expected to result in personal injury. Ferroxcube customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Ferroxcube for any damages resulting from such application.

**PRODUCT STATUS DEFINITIONS**

STATUS	INDICATION	DEFINITION
<b>Prototype</b>		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.
<b>Design-in</b>		These products are recommended for new designs.
<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.