

# DATA SHEET

## **3C92** Material specification

Supersedes data of September 2004

2008 Sep 01

Material specification

3C92

3C92 SPECIFICATIONS

A low frequency, high Bs<sub>at</sub> power material for use in power inductors at frequencies up to 0.2 MHz.

SYMBOL	CONDITIONS	VALUE	UNIT
$\mu_i$	25 °C; $\leq 10$ kHz; 0.25 mT	1500 $\pm 20\%$	
$\mu_a$	100 °C; 25 kHz; 200 mT	$\approx 5000$	
B	25 °C; 10 kHz; 1200 A/m 100 °C; 10 kHz; 1200 A/m 140 °C; 10 kHz; 1200 A/m	$\approx 540$ $\approx 460$ $\approx 400$	mT
P <sub>V</sub>	100 °C; 100 kHz; 100 mT 100 °C; 100 kHz; 200 mT	$\approx 50$ $\approx 350$	kW/m <sup>3</sup>
$\rho$	DC; 25 °C	$\approx 5$	$\Omega\text{m}$
T <sub>C</sub>		$\geq 280$	°C
density		$\approx 4800$	kg/m <sup>3</sup>

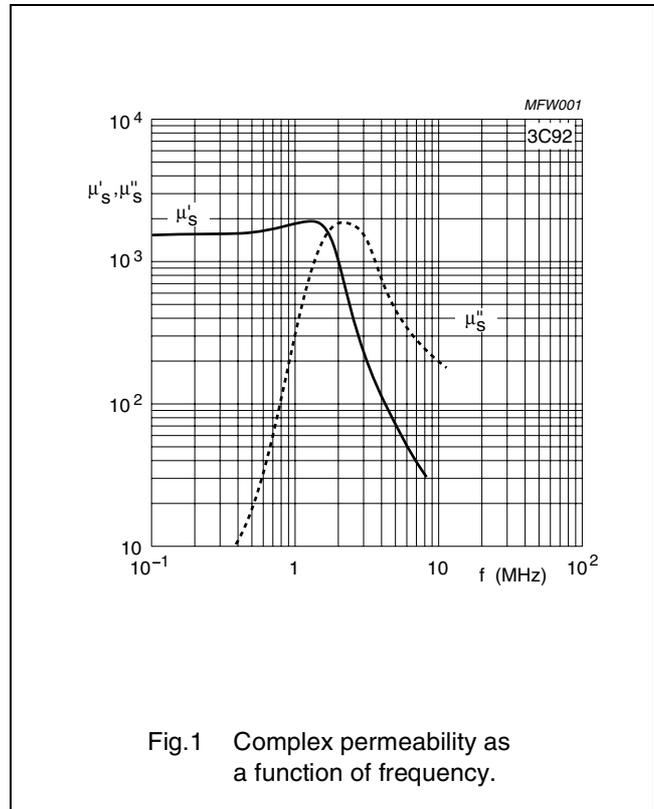


Fig.1 Complex permeability as a function of frequency.

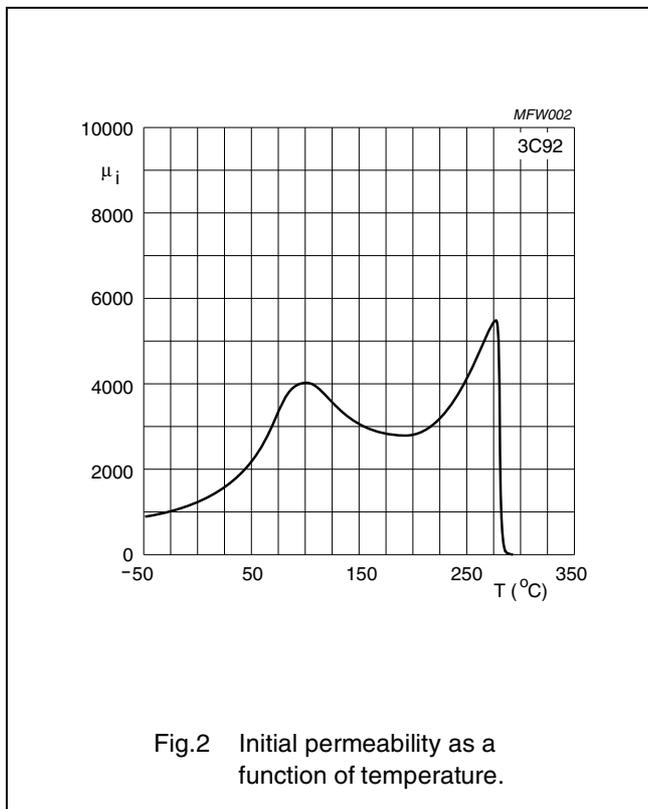


Fig.2 Initial permeability as a function of temperature.

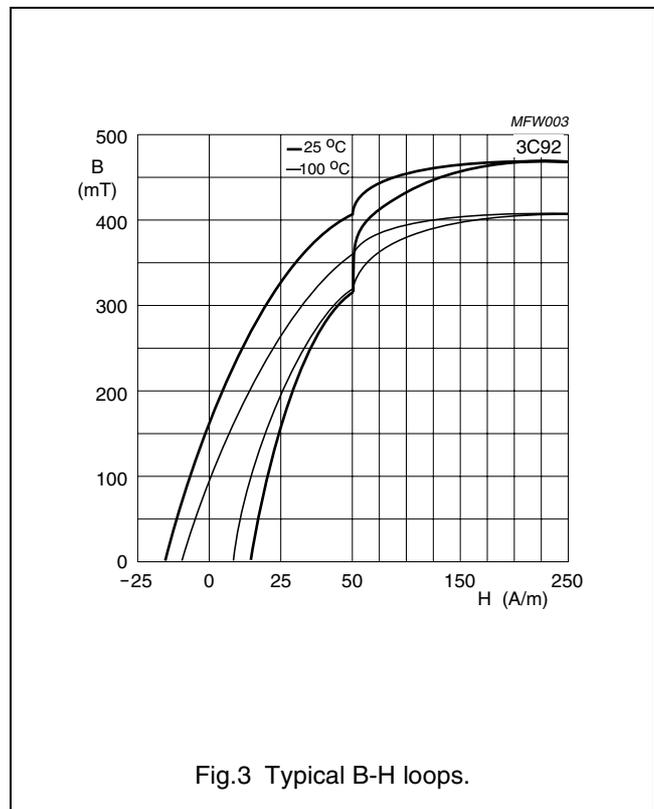
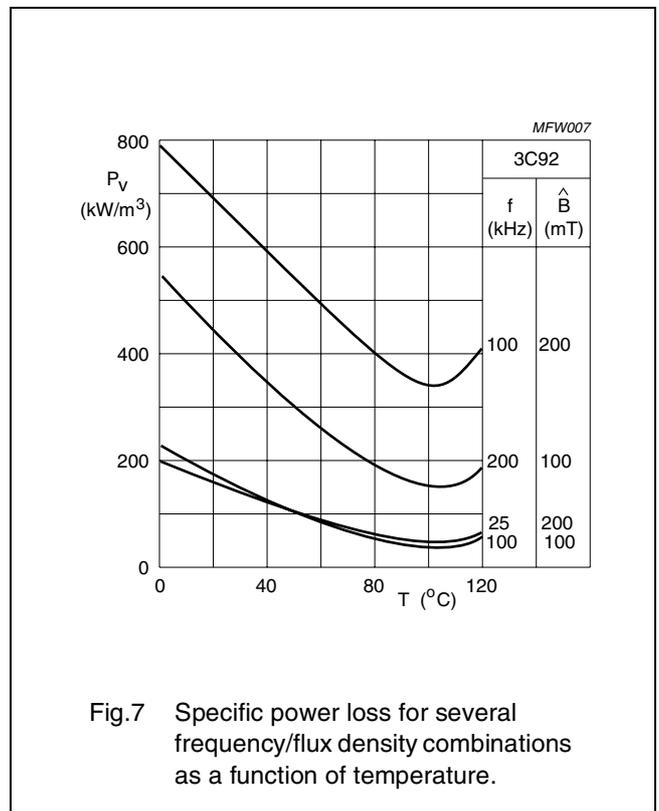
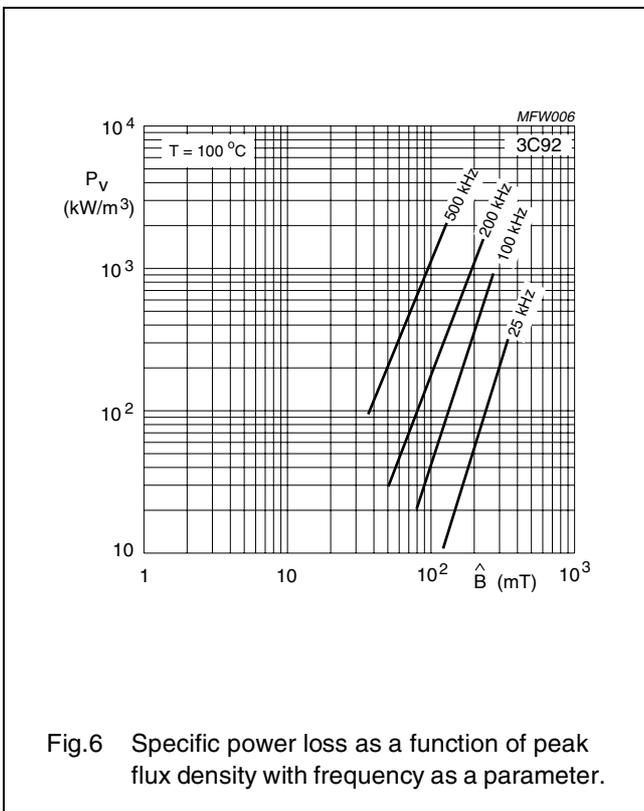
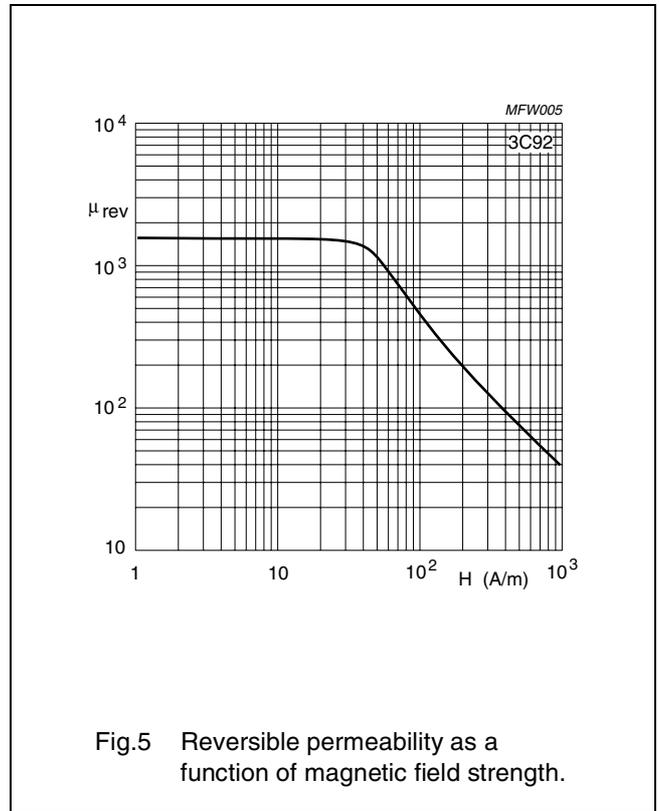
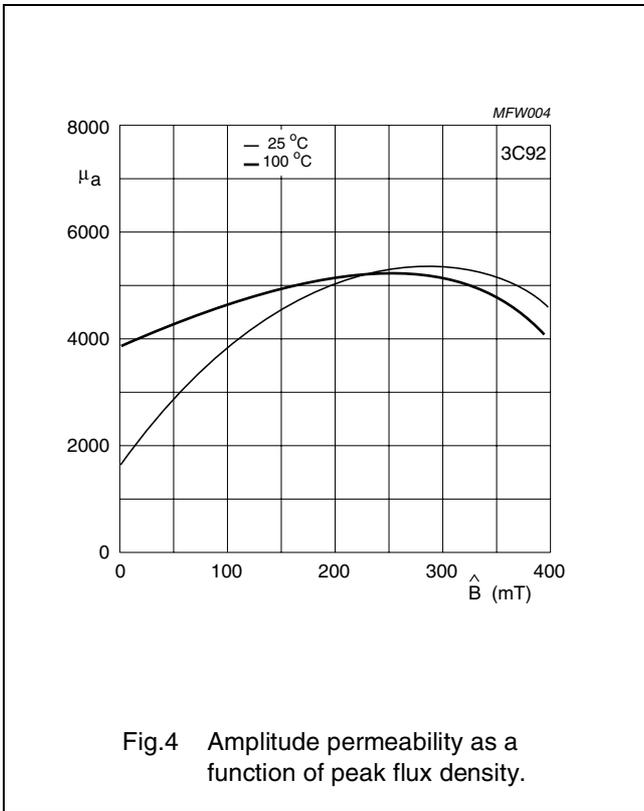


Fig.3 Typical B-H loops.



**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.

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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.