

# DATA SHEET

## **3C90** Material specification

Supersedes data of September 2004

2008 Sep 01

Material specification

3C90

3C90 SPECIFICATIONS

A low frequency power material for use in power and general purpose transformers at frequencies up to 0.2 MHz.

	CONDITIONS	VALUE	UNIT
$\mu_i$	25 °C; $\leq 10$ kHz; 0.25 mT	2300 $\pm 20\%$	
$\mu_a$	100 °C; 25 kHz; 200 mT	5500 $\pm 25\%$	
B	25 °C; 10 kHz; 1200 A/m	$\approx 470$	mT
	100 °C; 10 kHz; 1200 A/m	$\approx 380$	mT
$P_V$	100 °C; 25 kHz; 200 mT	$\leq 80$	kW/m <sup>3</sup>
	100 °C; 100 kHz; 100 mT	$\leq 80$	
	100 °C; 100 kHz; 200 mT	$\approx 450$	
$\rho$	DC, 25 °C	$\approx 5$	$\Omega\text{m}$
$T_C$		$\geq 220$	°C
density		$\approx 4800$	kg/m <sup>3</sup>

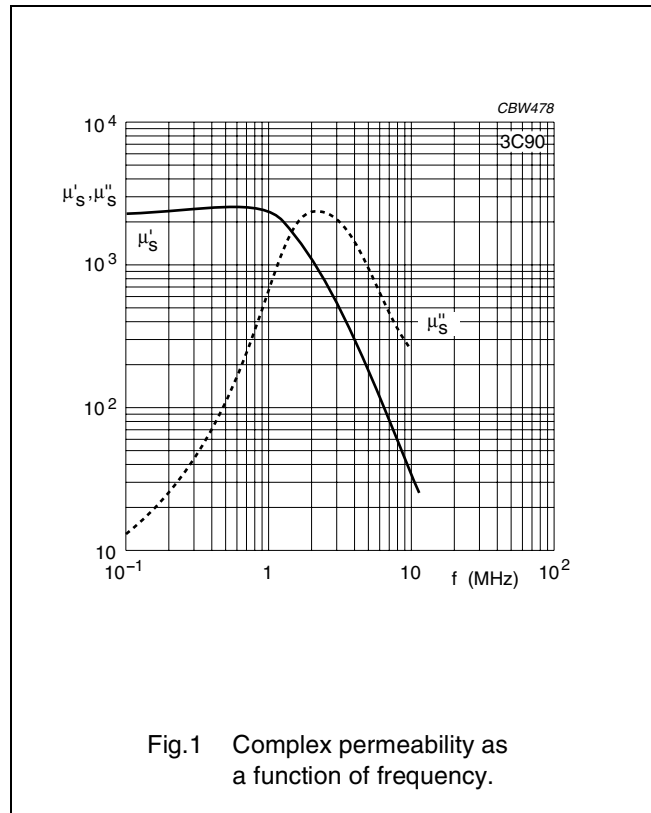


Fig.1 Complex permeability as a function of frequency.

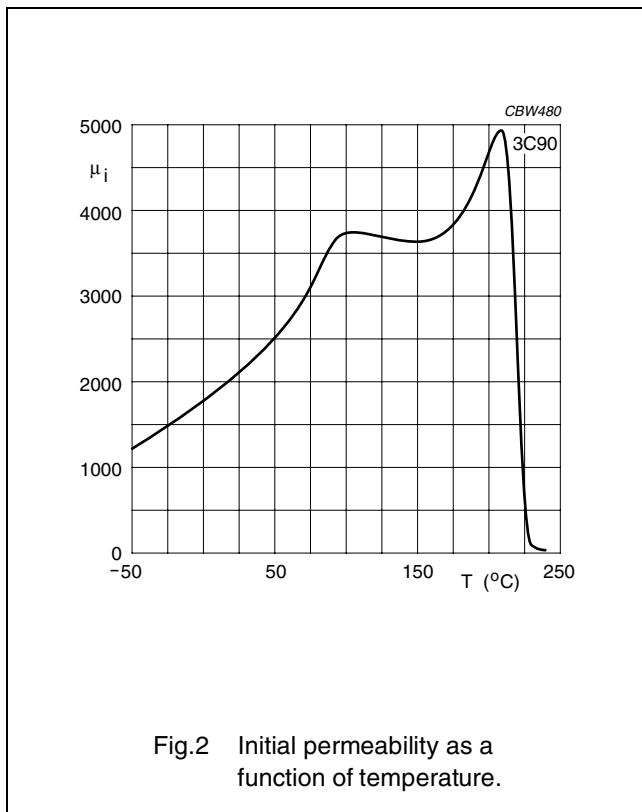


Fig.2 Initial permeability as a function of temperature.

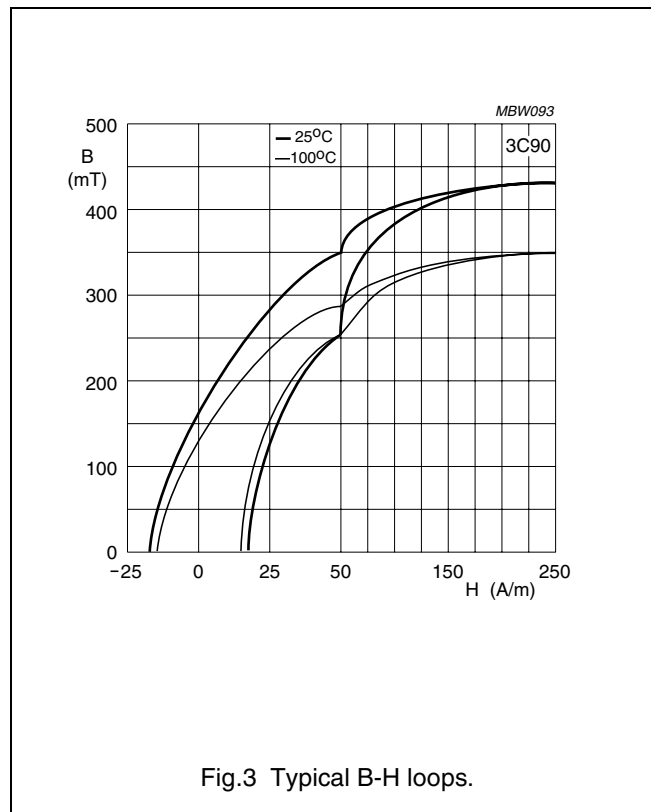
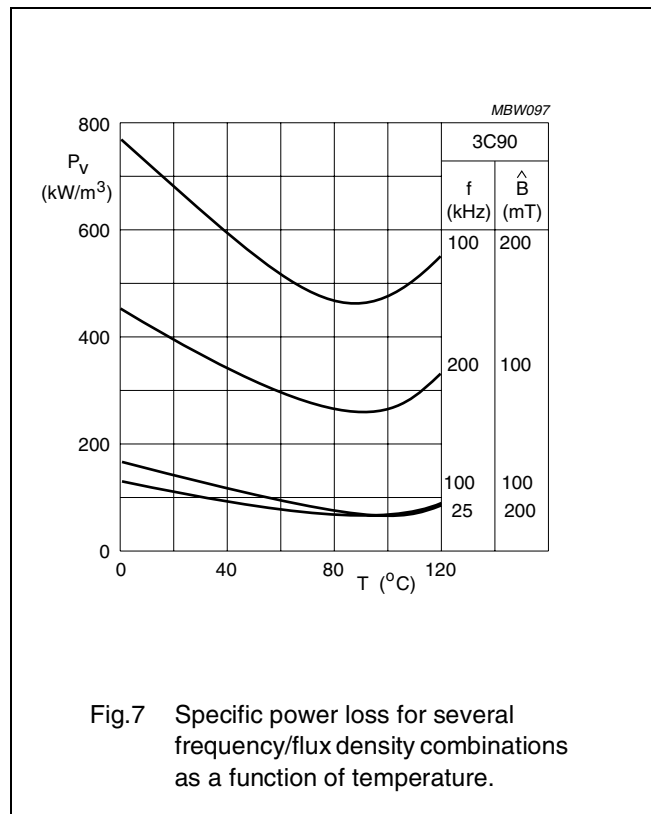
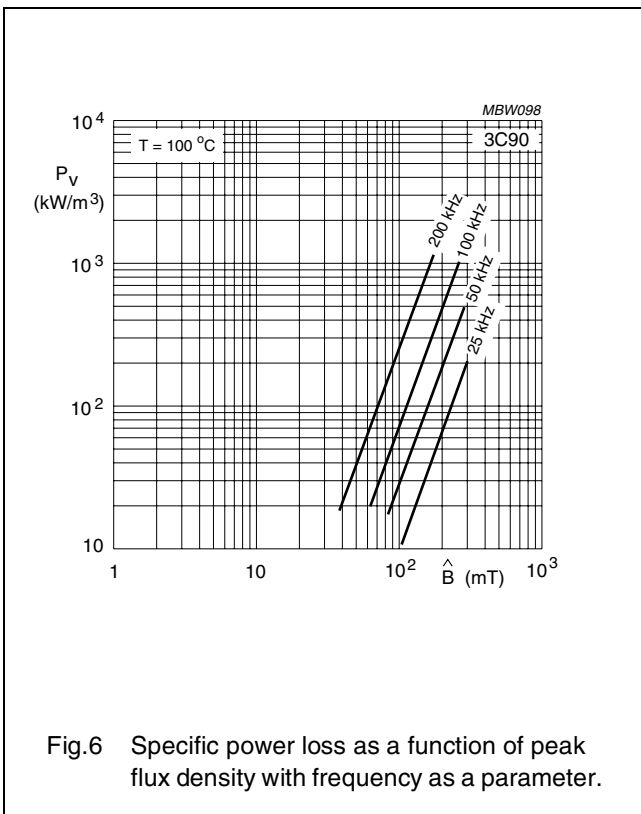
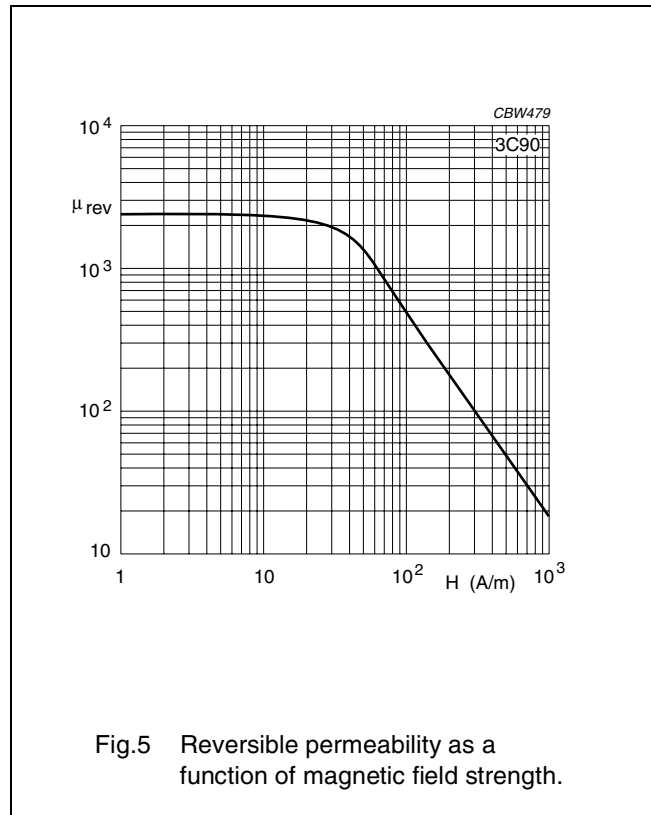
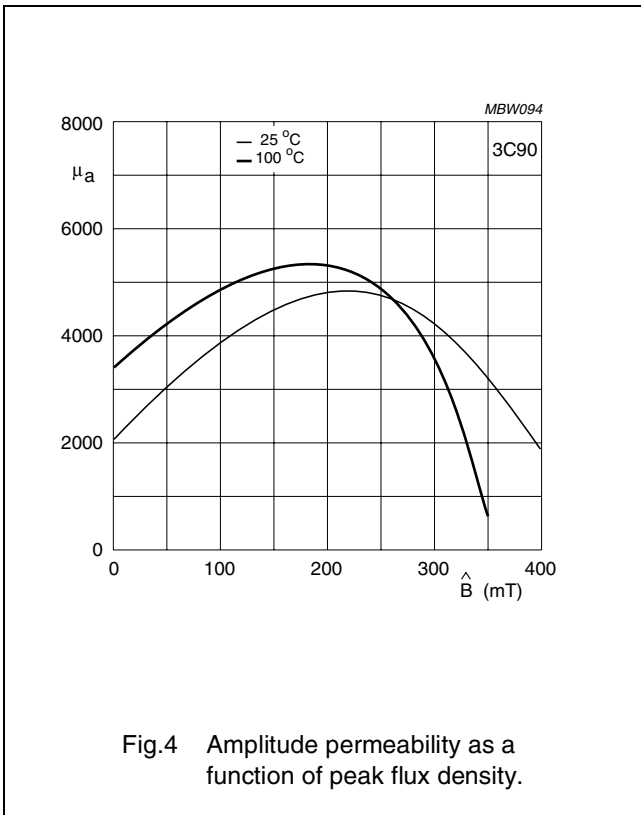


Fig.3 Typical B-H loops.






**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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**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.