MEGATRON AG
FERROXCUBE DISTRIBUTOR FOR MAGNETIC COMPONENTS

DATA SHEET

3C92
Material specification

Supersedes data of September 2004

2008 Sep 01

FERROXCUBE
A YAGEO COMPANY

Megatron AG - Wölferstrasse 5, 4414 Füllinsdorf, Switzerland | +41 55 617 00 88 |
sales@megatron.ch

Material specification 3C92

3C92 SPECIFICATIONS

A low frequency, high Bsat power material for use in power inductors at frequencies up to 0.2 MHz.

SYMBOL	CONDITIONS	VALUE	UNIT
μ_i	25 °C; ≤10 kHz; 0.25 mT	1500 ±20%	
μ_a	100 °C; 25 kHz; 200 mT	≈ 5000	
B	25 °C; 10 kHz; 1200 A/m	≈ 540	mT
	100 °C; 10 kHz; 1200 A/m	≈ 460	
	140 °C; 10 kHz; 1200 A/m	≈ 400	
P_V	100 °C; 100 kHz; 100 mT	≈ 50	kW/m^3
	100 °C; 100 kHz; 200 mT	≈ 350	
ρ	DC; 25 °C	≈ 5	Ωm
T_C		≥ 280	°C
density		≈ 4800	kg/m^3

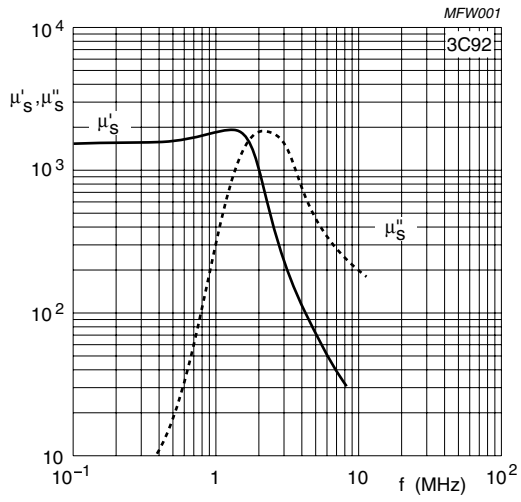

Fig.1 Complex permeability as a function of frequency.

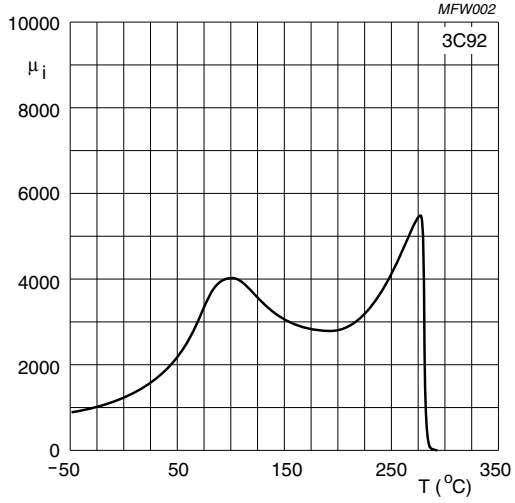

Fig.2 Initial permeability as a function of temperature.

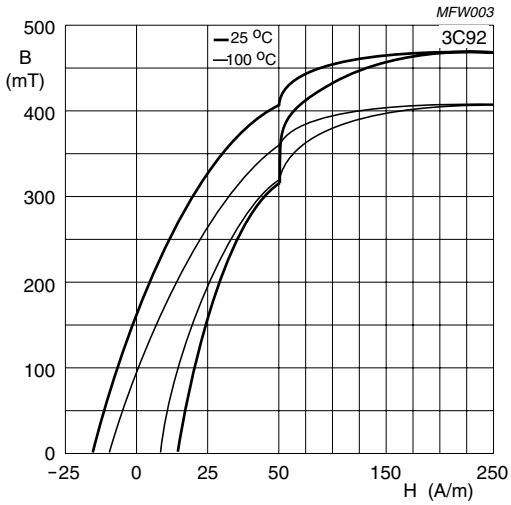

Fig.3 Typical B-H loops.

Megatron AG - Wölferstrasse 5, 4414 Füllinsdorf, Switzerland | +41 55 617 00 88 |
sales@megatron.ch

Material specification 3C92

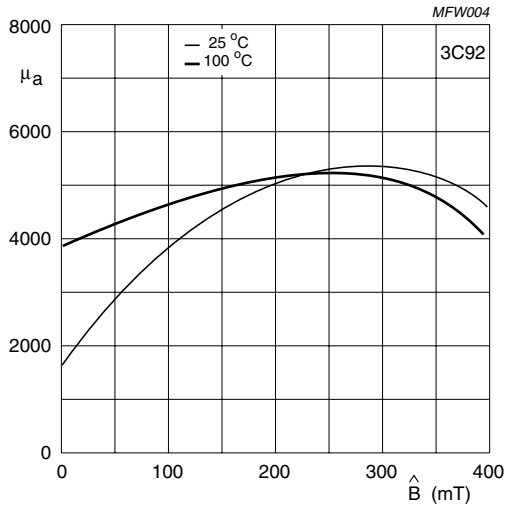

Fig.4 Amplitude permeability as a function of peak flux density.

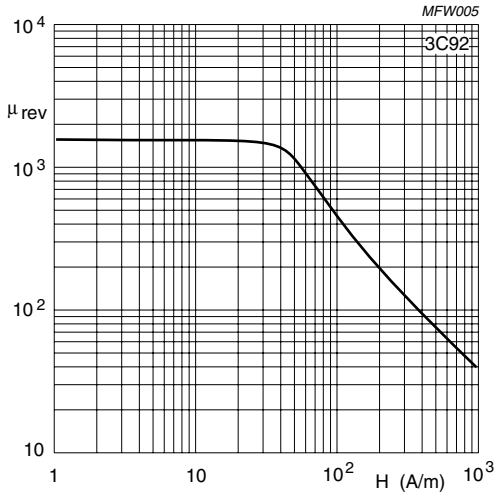

Fig.5 Reversible permeability as a function of magnetic field strength.

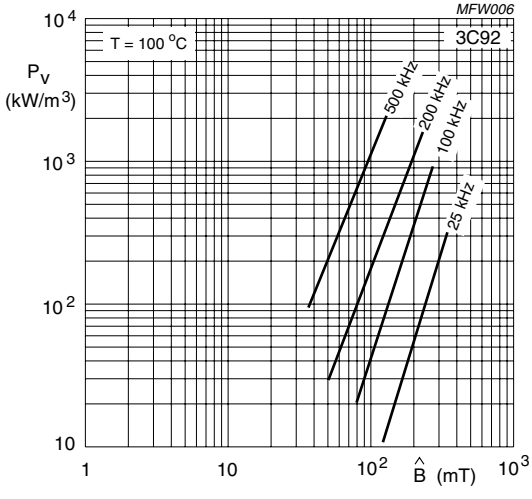

Fig.6 Specific power loss as a function of peak flux density with frequency as a parameter.

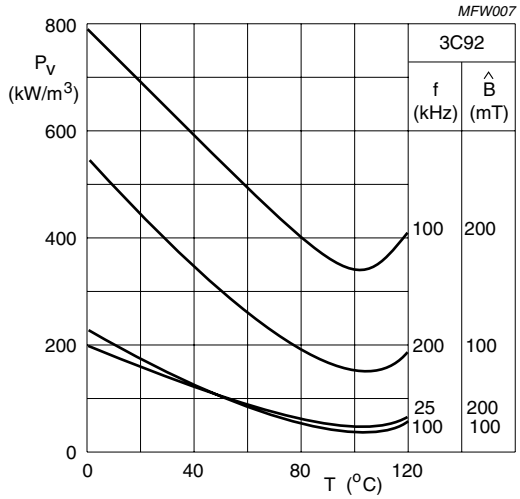

Fig.7 Specific power loss for several frequency/flux density combinations as a function of temperature.

Megatron AG - Wölferstrasse 5, 4414 Füllinsdorf, Switzerland | +41 55 617 00 88 |
sales@megatron.ch

Material specification 3C92

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
Prototype	prot	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	des	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	sup	These products are **not** recommended for new designs and may not be available through all of our sales channels. Customers are advised to check for availability.

Megatron AG - Wölferstrasse 5, 4414 Füllinsdorf, Switzerland | +41 55 617 00 88 |
sales@megatron.ch