MEGATRON AG
FERROXCUBE DISTRIBUTOR FOR MAGNETIC COMPONENTS

DATA SHEET

4F1
Material specification

Supersedes data of September 2004 2008 Sep 01

FERROXCUBE
A YAGEO COMPANY

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4F1 SPECIFICATIONS

A very high frequency NiZn power material for use in power and general purpose transformers optimized for frequencies of 4 - 10 MHz.

SYMBOL	CONDITIONS	VALUE	UNIT
μ_i	25 °C; ≤10 kHz; 0.25 mT	≈ 80	
μ_a	100 °C; 25 kHz; 200 mT	≈ 300	
B	25 °C; 10 kHz; 3000 A/m 100 °C; 10 kHz; 3000 A/m	≈ 320 ≈ 260	mT
P_V	100 °C; 3 MHz; 10 mT 100 °C; 10 MHz; 5 mT	≤ 200 ≤ 200	kW/m^3
ρ	DC; 25 °C	≈ 10^5	Ωm
T_C		≥ 260	°C
density		≈ 4600	kg/m^3

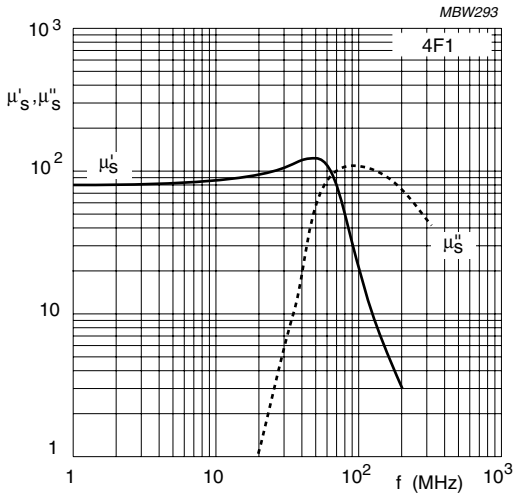

Fig.1 Complex permeability as a function of frequency.

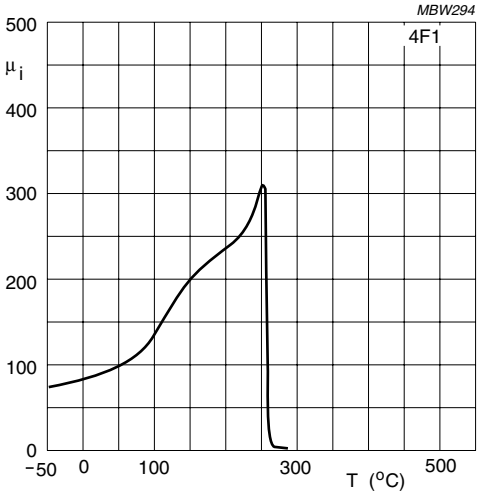

Fig.2 Initial permeability as a function of temperature.

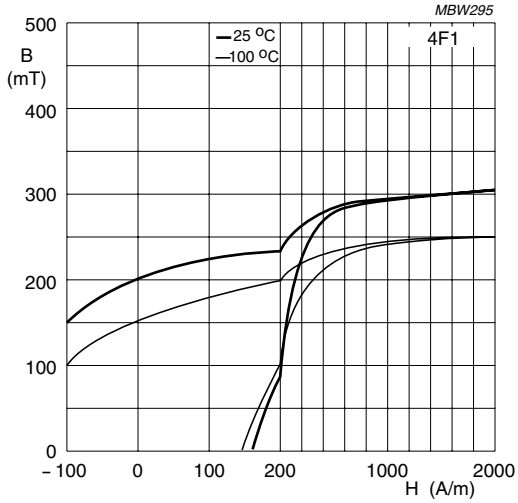

Fig.3 Typical B-H loops.

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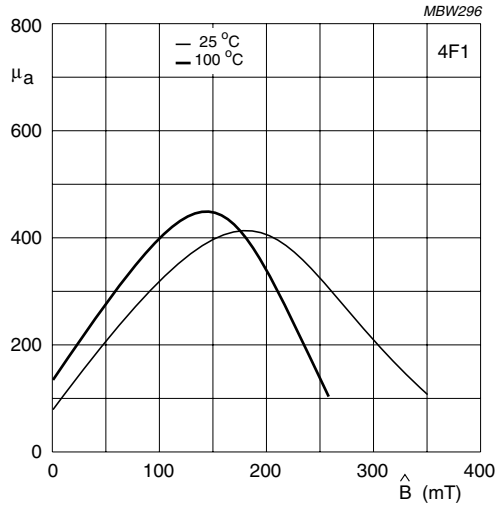

Fig.4 Amplitude permeability as function of peak flux density.

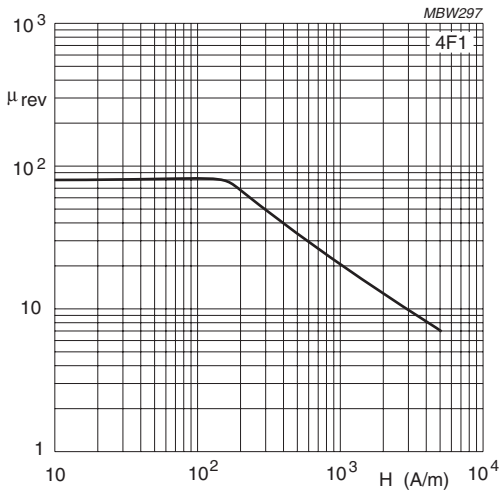

Fig.5 Reversible permeability as a function of magnetic field strength.

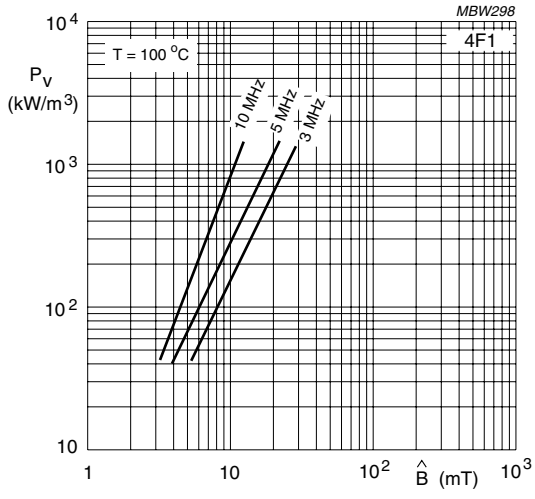

Fig.6 Specific power loss as a function of peak flux density with frequency as a parameter.

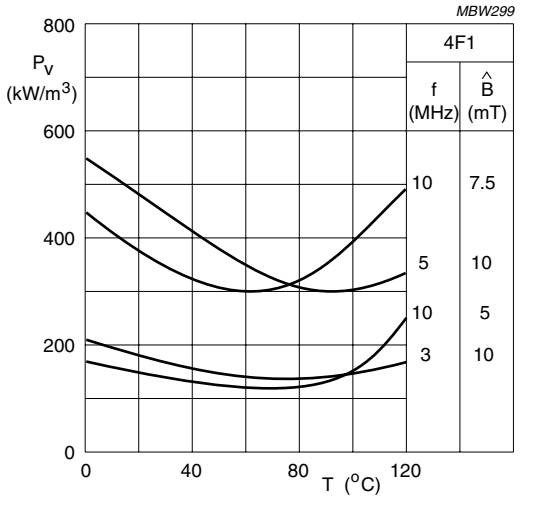

Fig.7 Specific power loss for several frequency/flux density combinations as a function of temperature.

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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

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.

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