

DATA SHEET

3C97T

Material specification (draft)

2024 October 30th



3C97T SPECIFICATION

A medium frequency power material optimized for 100-400kHz power conversion, with flat losses in 25-140°C.

SYMBOL	CONDITIONS	VALUE	UNIT
μ_i	25°C; 10kHz; 0.25mT	3300 ± 25%	
μ_a	100°C; 25kHz; 200mT	≈ 5000	
B	25°C; 10kHz; 1200A/m	≈ 550	mT
	100°C; 10kHz; 1200A/m	≈ 435	
Pv	25°C; 100kHz; 200mT	≈ 230	kW / m ³
	60°C; 100kHz; 200mT	≈ 235	
	80°C; 100kHz; 200mT	≈ 245	
	100°C; 100kHz; 200mT	≈ 270	
	120°C; 100kHz; 200mT	≈ 310	
	140°C; 100kHz; 200mT	≈ 370	
Pv	25°C; 200kHz; 125mT	≈ 185	kW / m ³
	100°C; 200kHz; 125mT	≈ 210	
	140°C; 200kHz; 125mT	≈ 320	
Pv	25°C; 300kHz; 120mT	≈ 355	kW / m ³
	100°C; 300kHz; 120mT	≈ 435	
	120°C; 300kHz; 120mT	≈ 520	
Pv	25°C; 400kHz; 100mT	≈ 415	kW / m ³
	100°C; 400kHz; 100mT	≈ 490	
	120°C; 400kHz; 100mT	≈ 600	
ρ_{DC}	25°C	≈ 7	Ωm
Tc		≥ 250	°C
density		≈ 4900	kg / m ³

Based on a standard toroid $\varnothing 25/\varnothing 15/8$.

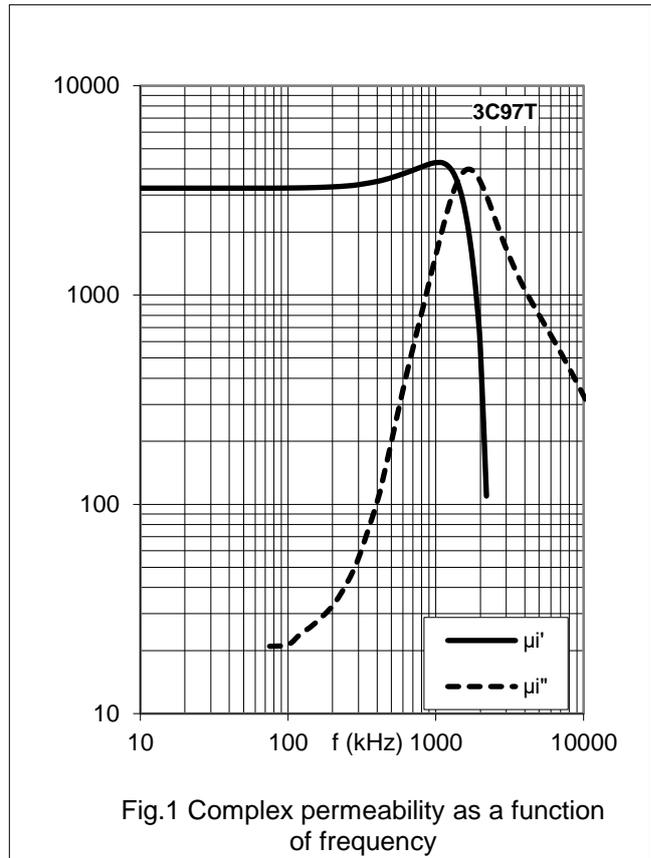


Fig.1 Complex permeability as a function of frequency

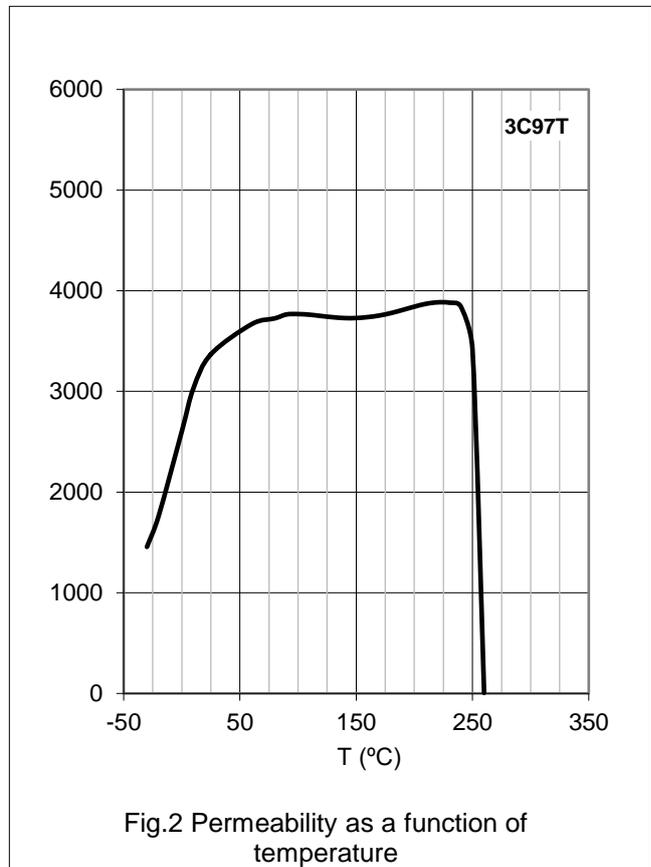
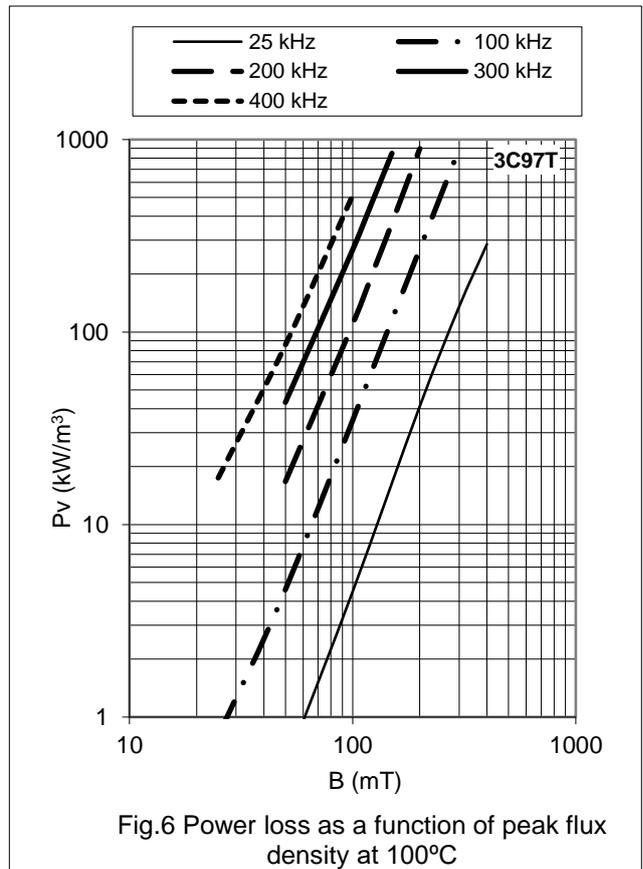
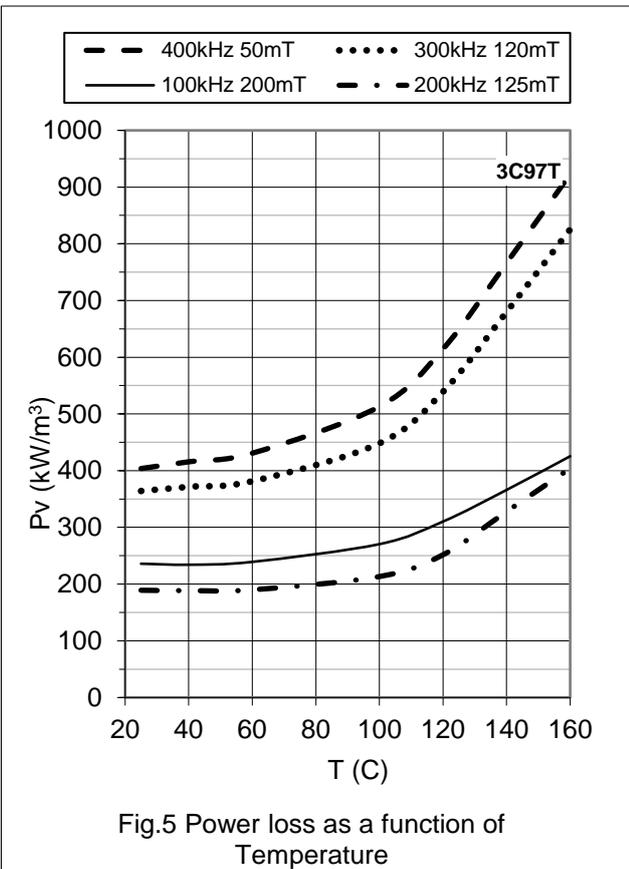
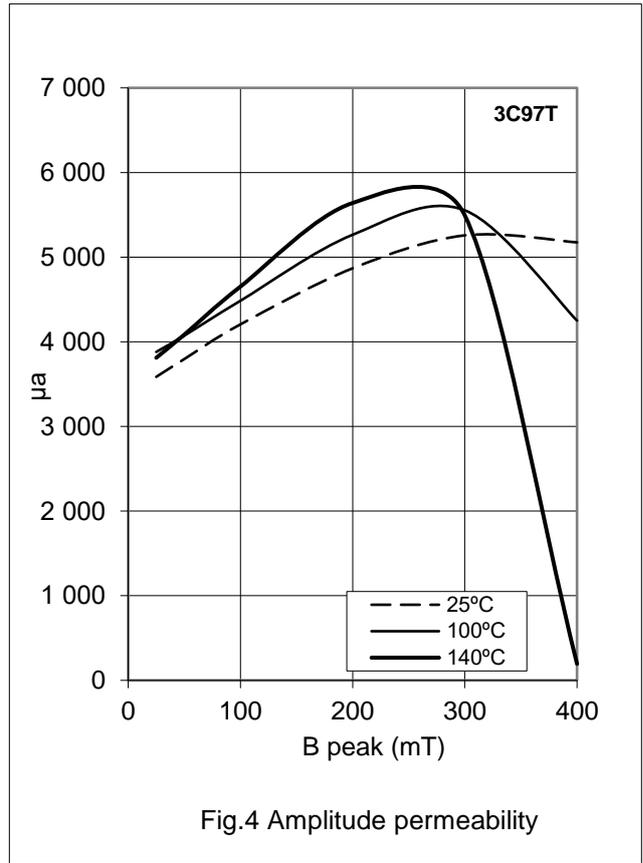
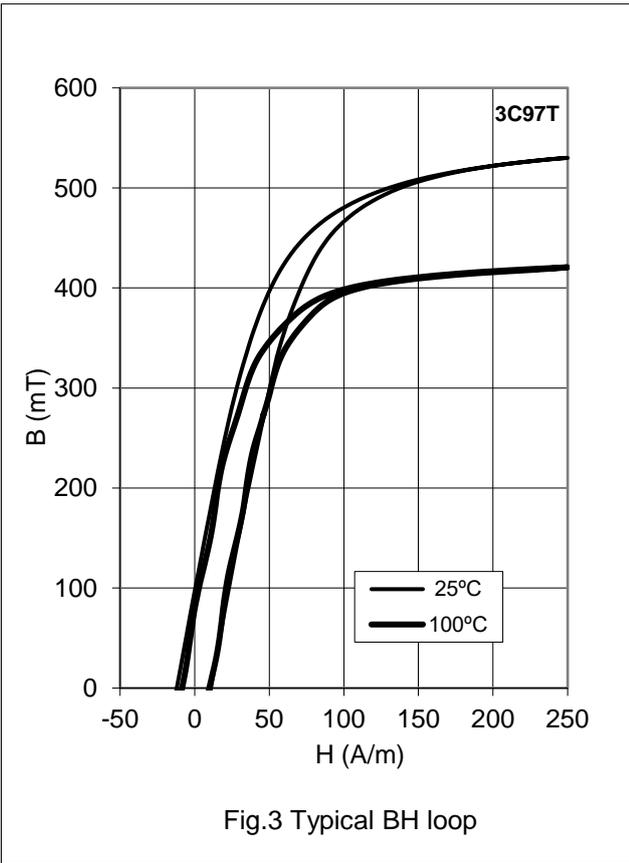


Fig.2 Permeability as a function of temperature



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 DEFINITION

STATUS	INDICATIONS	DEFINITIONS
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	pref	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.