

DATA SHEET

3C97

Material specification

Supersedes data of June 2013

2018 August 09th



3C97 SPECIFICATION

A low to medium frequency power material with low power losses from 50 to 150 °C. For use in power and general purpose transformers at frequencies up to 0.5MHz. Material should not be exposed to temperatures exceeding 150°C for long time.

SYMBOL	CONDITIONS	VALUE	UNIT
μ_i	25°C; 10kHz; 0.25mT	$3000 \pm 25\%$	
μ_a	25°C; 25kHz; 200mT	≈ 5000	
B	25°C; 10kHz; 1200A/m	≈ 550	mT
	100°C; 10kHz; 1200A/m	≈ 430	
	140°C; 10kHz; 1200A/m	≈ 360	
Pv	60°C; 100kHz; 200mT	≈ 320	kW / m ³
	140°C; 100kHz; 200mT	≈ 380	
ρ_{DC}	25°C	≈ 10	$\Omega \cdot m$
Tc		≥ 215	°C
density		≈ 4850	kg / m ³

Typical performance of unstressed ring T25/15/12

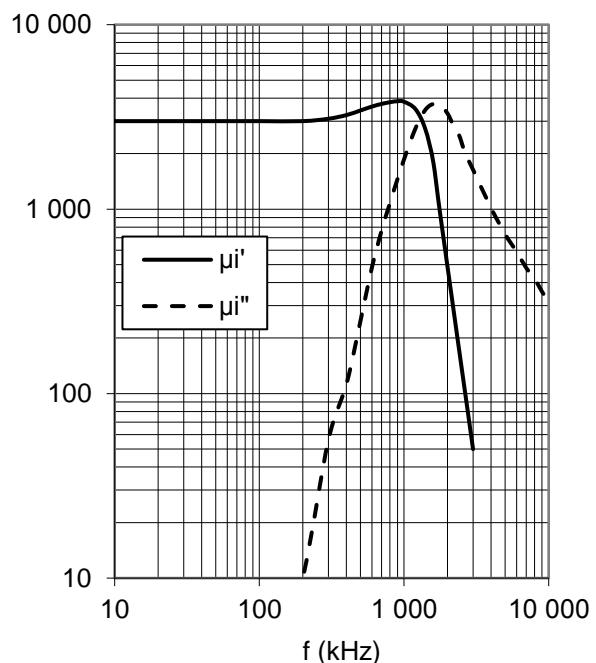


Fig.1 Complex permeability as function of frequency

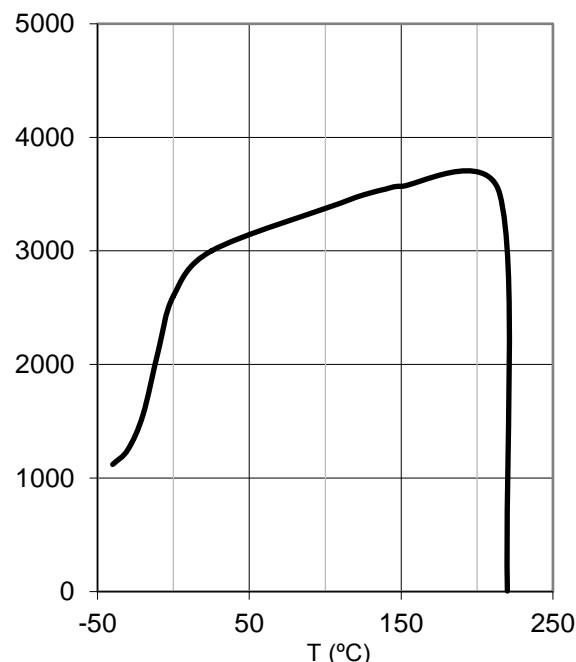


Fig.2 Permeability as function of temperature

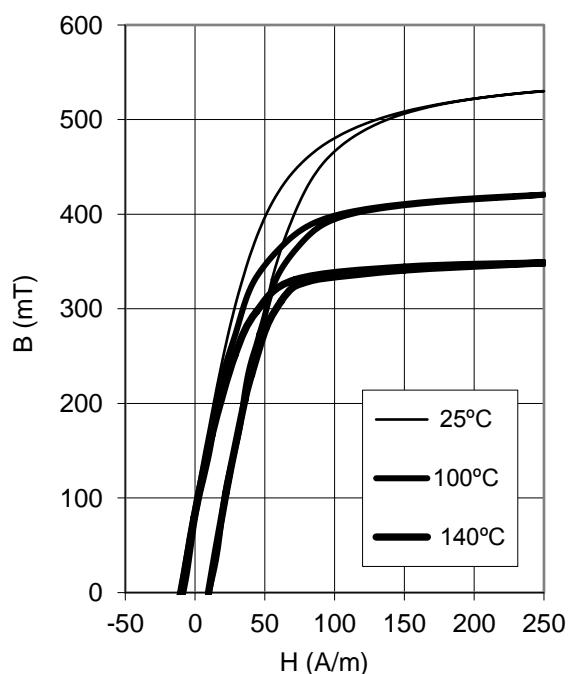


Fig.3 Typical BH loop

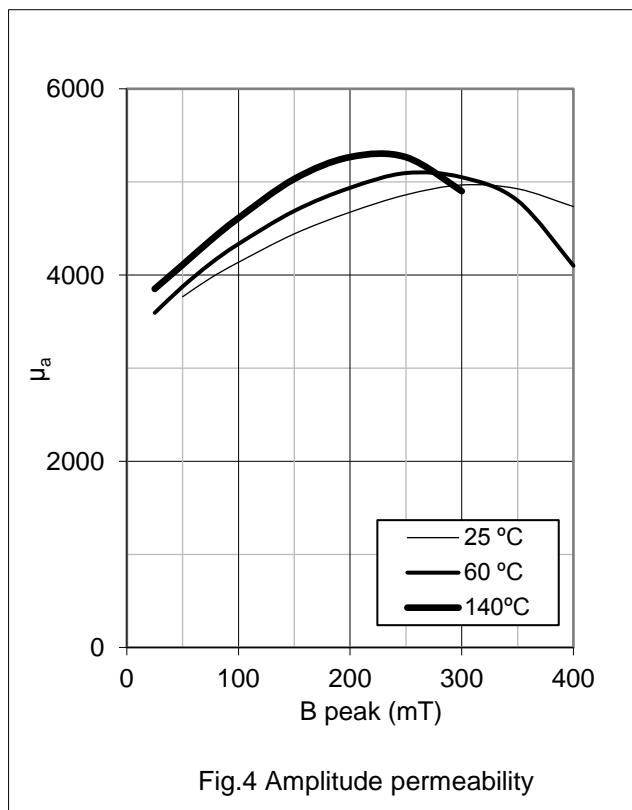


Fig.4 Amplitude permeability

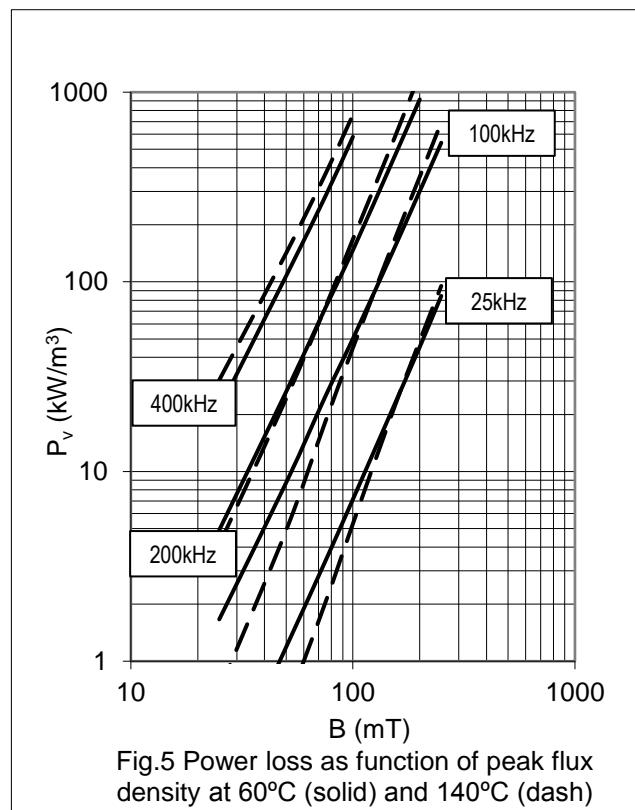


Fig.5 Power loss as function of peak flux density at 60°C (solid) and 140°C (dash)

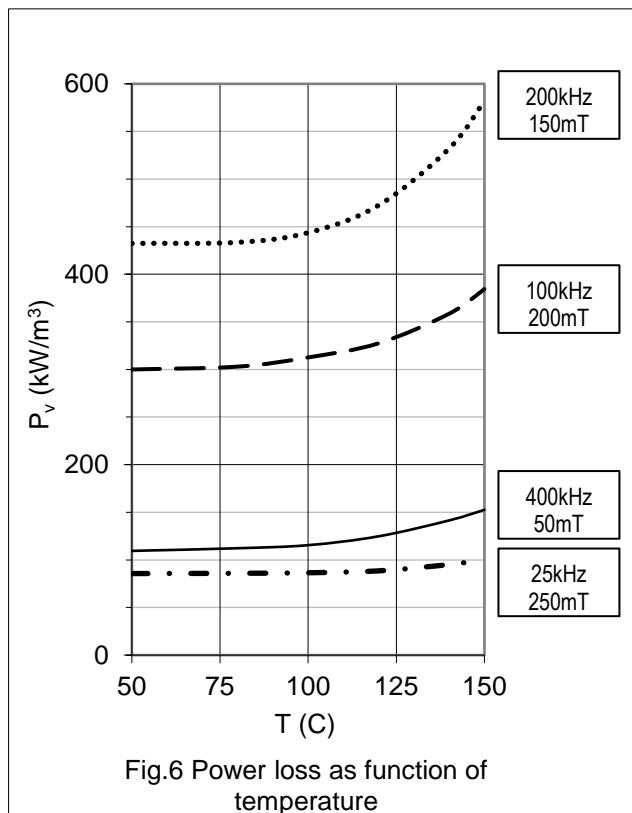


Fig.6 Power loss as function of temperature