3C93 SPECIFICATIONS

A low to medium frequency power material with minimum power losses around 140 °C for use in power transformers at frequencies up to 0.5 MHz.

	CONDITIONS	VALUE	UNIT
μ_i	25 °C; ≤10 kHz; 0.25 mT	1800 ±20%	
μ_a	100 °C; 25 kHz; 200 mT	≈ 5000	
B	25 °C; 10 kHz; 1200 A/m	≈ 520	mT
	100 °C; 10 kHz; 1200 A/m	≈ 430	
	140 °C; 10 kHz; 1200 A/m	≈ 360	
P_V	140 °C; 100 kHz; 100 mT	≈ 50	kW/m^3
	140 °C; 100 kHz; 200 mT	≈ 350	
	140 °C; 500 kHz; 50 mT	≈ 300	
ρ	DC; 25 °C	≈ 5	Ωm
T_C		≥ 240	°C
density		≈ 4800	kg/m^3

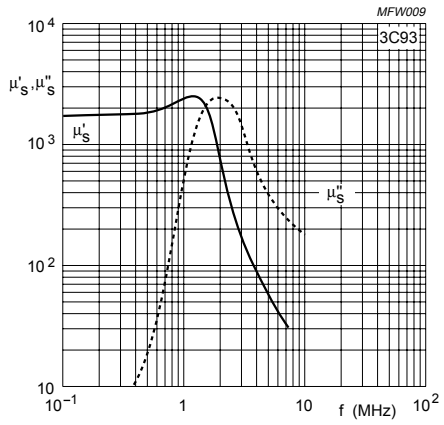

Fig.1 Complex permeability as a function of frequency.

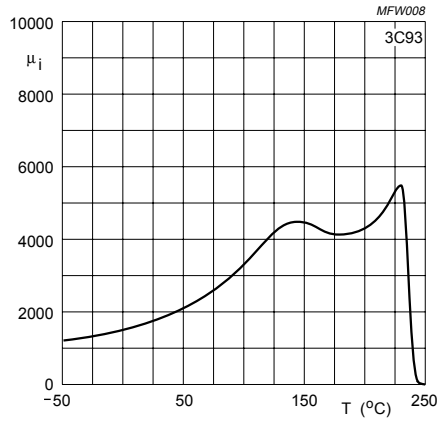

Fig.2 Initial permeability as a function of temperature.

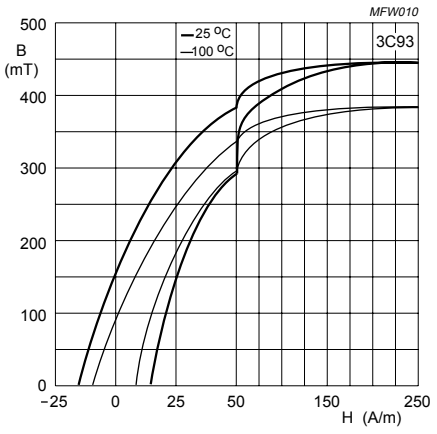

Fig.3 Typical B-H loops.

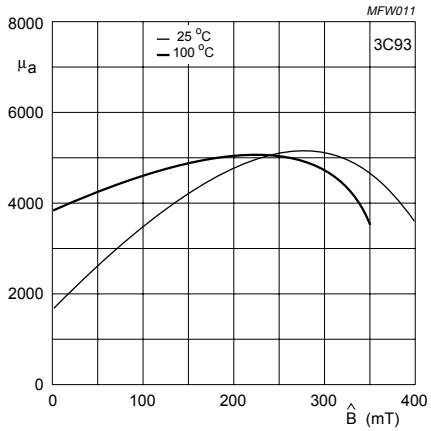

Fig.4 Amplitude permeability as a function of peak flux density.

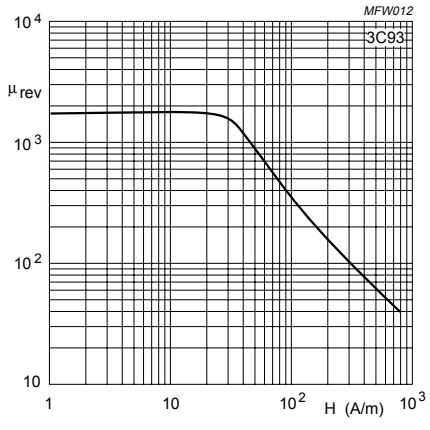

Fig.5 Reversible permeability as a function of magnetic field strength.

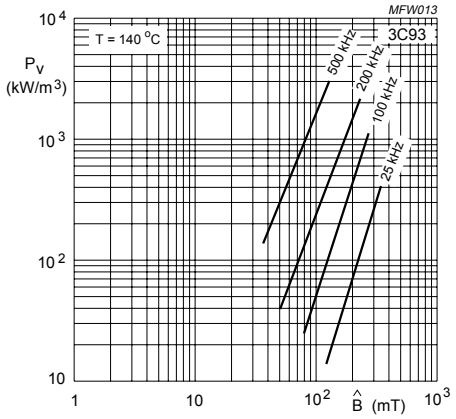

Fig.6 Specific power loss as a function of peak flux density with frequency as a parameter.

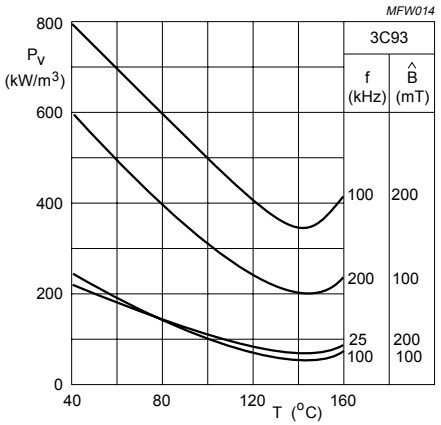

Fig.7 Specific power loss for several frequency/flux density combinations as a function of temperature.