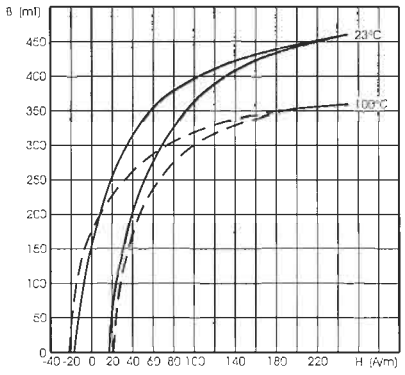
FB3 Material

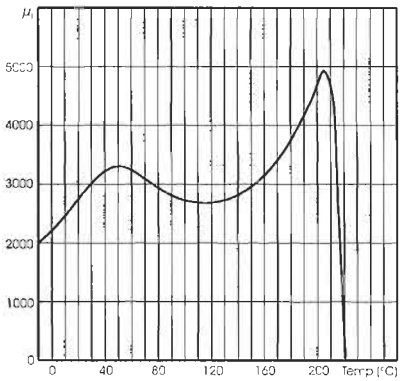
FB3 is a high saturation Manganese-Zinc ferrite designed for high flux power applications. The losses are optimized for the 40°–60°C range because most of the transformers of this type are designed to run hot where efficiency levels are highest. The frequency range for this material is between 10kHz and 200kHz. FB3 is available in a wide variety of shapes including toroids, slugs, bobbins, and cup and tack assemblies.

Parameter	Symbol	Unit	Standard Test Conditions	Value
Initial Permeability	μ_i	—	10 kHz ~ 0.1mT	3000 ± 20%
Amplitude Permeability	μ_a	—	400mT 25°C 320mT 100°C	2400 1825
Saturation Flux Density	B_{sat}	mT	H=796A/m =10 Oe @ 25°C @100°C	460 330
Residual Flux Density	B_r	mT	H⇒0 (from near saturation) 10kHz 25°C	150
Coercive force	H_c	A/m	B⇒0 (from near saturation) 10kHz 25°C	18
Relative Loss Factor	Tan δ/μ_i	10^{-6}	100 kHz ~ 0.1mT	30 X 10^{-6}
Curie Temperature	T_c	°C	B<0.1mT 10kHz	180
Normalized Impedance	Z	Ω	10 MHz	—
Total Pow er Loss Density	P_v	mW/cc	200mT 16kHz 25°C 200mT 16kHz 60°C 200mT 16kHz 100°C 200mT 25kHz 60°C 200mT 25kHz 100°C	120 110 110 190 190
Volume Resistivity	ρ	Ω-cm	1V/cm 25°C	100

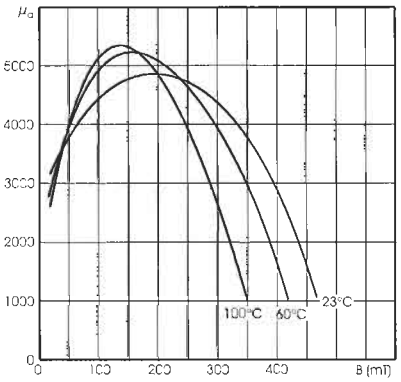
Dynamic Magnetization (BH) Loop



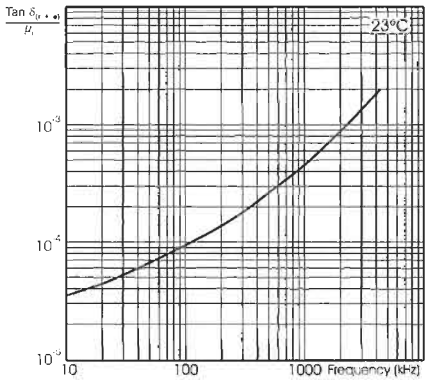
Initial Permeability vs. Temperature



Static Magnetization: Permeability vs. B



Relative Loss Factor vs. Frequency



Complex Permeability vs. Frequency