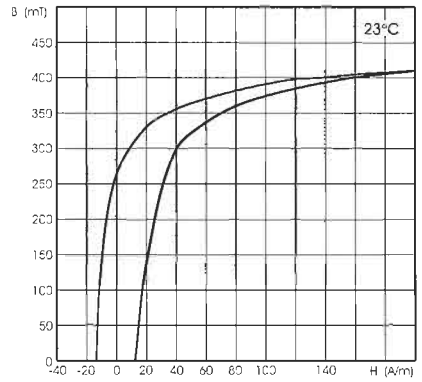
F9N Material

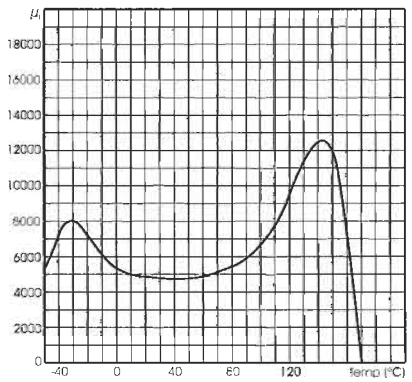
F9N is a Manganese-Zinc ferrite very similar in general characteristics to the main family of MMG high permeability Manganese-Zinc ferrites. This material was developed to obtain high permeability at very low temperatures (typically, 4000 at –55°C).

Parameter	Symbol	Unit	Standard Test Conditions	Value
Initial Permeability (Nominal)	μ_i	—	10 kHz ~ 0.1mT	4000 ± 20%
Saturation Flux Density (typical)	B_{sat}	mT	H=199A/m =2.5Oe	410
Residual Flux Density (typical)	B_r	mT	10 kHz	270
Coercive force (typical)	H_c	A/m	10 kHz	15
Relative Loss Factor (maximum)	Tan δ/μ_i	—	100 kHz ~ 0.1mT	30 X 10^{-6}
Curie Temperature (minimum)	T_c	°C	1kHz ~0.1mT	100°C
Normalized Impedance	Z	Ω	10 MHz	—
Volume Resistivity (typical)	ρ	Ω-cm	1V/cm 25°C	100

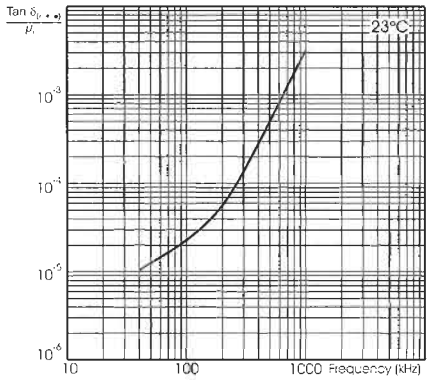
Dynamic Magnetization (BH) Loop



Initial Permeability vs. Temperature



Relative Loss Factor vs. Frequency



Complex Permeability vs. Frequency