F58

Material Type: Manganese-Zinc Ferrite

Properties:
*High stability of inductance
*Low temperature coefficient
*Low loss factors at higher frequencies in the recommended range

Frequency range: 200kHz-1MHz (Subject to application)

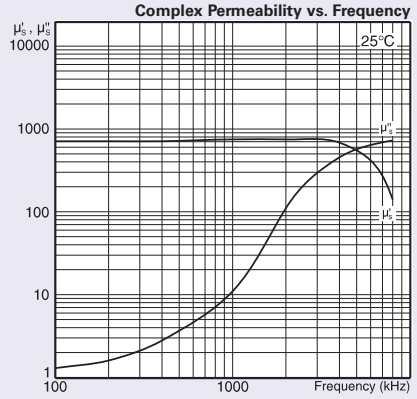
Typical Applications: Filter applications, proximity switches and gate drive transformers for SMPS.

Available core shapes: RM and Pot Cores

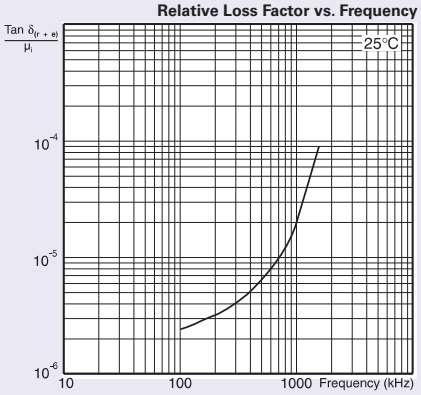
Material Specification

Parameter	Symbol	Standard Conditions of test	Unit	F58
Initial Permeability *(nominal)*	-	B<0.1mT 10kHz 25°C	-	**750** *±20%*
Saturation Flux Density *(typical)*	B_{sat}	H=796 A/m = 10 Oe 25°C	mT	**450**
Remanent Flux Density *(typical)*	B_r	H→ 0 (from near Saturation) 10kHz 25°C	mT	**94**
Coercivity *(typical)*	H_c	B→ 0 (from near Saturation) 10kHz 25°C	A/m	**47**
Loss Factor *(maximum)*	$\frac{\tan \delta_{(i+e)}}{\mu_i}$	B<0.10mT 200kHz 25°C 1MHz	10^{-6}	**12** **20**
Curie Temperature *(minimum)*	Θ_C	B<0.10mT 10kHz	°C	**200**
Hysteresis Material Constant *(maximum)*	η_B	B from 1.5 to 3mT 10kHz 25°C	10^{-6}/ °C	**1.8**
Disaccommodation Factor *(maximum)*	$\frac{\Delta\mu}{\mu_i^2 . \log_{10}(t_2/t_1)}$	10 to 100mins. 50°C B<0.25mT 10kHz	10^{-6}	**12**
Temperature Factor	$\frac{\Delta\mu}{\mu_i^2 . \Delta T}$	+25°C to +55°C B<0.10mT 10kHz	°C	**0.5 to 2.3**
Resistivity *(typical)*	ρ	1 V/cm 25°C	ohm-cm	**100**

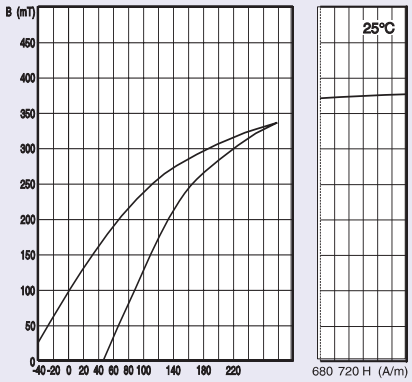
Complex Permeability vs. Frequency



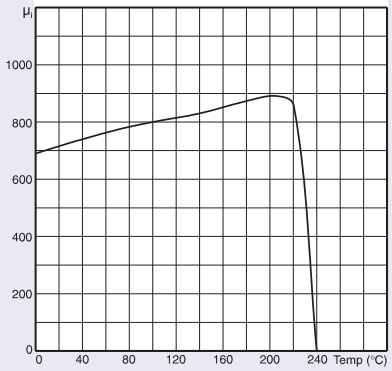
Relative Loss Factor vs. Frequency



Dynamic Magnetisation: Typical B-H Loops



Initial Permeability vs. Temperature



Data is derived from measurements on a ring core of 30mm outside diameter.

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