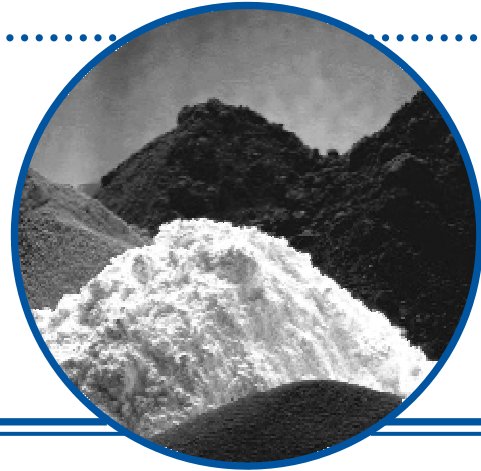


# F49

## Power Ferrite Material

### Features

- Optimized formulation for POL applications
- Very high saturation flux density
- Losses minimized from 60 to 80 °C



The F49 material grade was specifically designed for point-of-load inductors that require a core material with the ability to handle high saturation currents in a relatively small package size with low losses. Although its power loss density is higher than our F48 commercial grade, the improved saturation flux density makes it the material of choice for many power management applications. F49 is available in all of our standard geometries including ER, planar, RM, U, ETD and EFD cores.

### Material Data

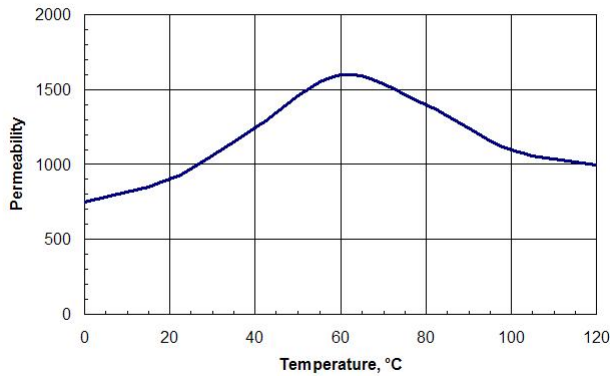
Parameter	Symbol	Standard Test Condition		Unit	Value
Initial permeability (nominal)	$\mu_i$	f = 10 kHz	B < 0.1 mT	25 °C -	1000 ± 30%
Saturation flux density (typical)	B <sub>sat</sub>	H = 796 A/m = 10 Oe		25 °C mT 100 °C	580 480
Amplitude permeability (nominal)	$\mu_a$	B = 400 mT B = 320 mT		25 °C - 100 °C	1800 2000
Remanent flux density (minimum)	B <sub>r</sub>	H → 0 (from near saturation) f = 10 kHz		mT 25 °C	230
Coercivity (typical)	H <sub>c</sub>	B → 0 (from near saturation) f = 10 kHz		A / m 25 °C	25
Curie temperature (minimum)	T <sub>c</sub>	f = 10 kHz	B < 0.1 mT	°C	290
Resistivity (typical)	$\rho$	1 V/cm		25 °C $\Omega \cdot \text{cm}$	100
Total power loss density (maximum)	P <sub>v</sub>	f = 25 kHz f = 50 kHz	B = 200 mT B = 200 mT	80 °C mW / cm <sup>3</sup> 80 °C	200 500

#### General Note

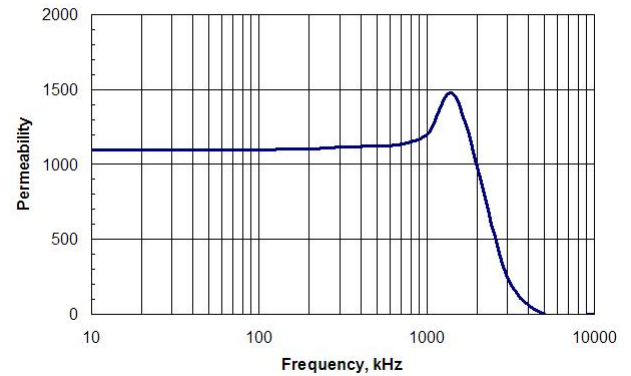
MMG reserves the right to make changes in product specification without notice or liability. All information is subject to MMG's own data and is considered accurate at time of going to print.

## Material Data

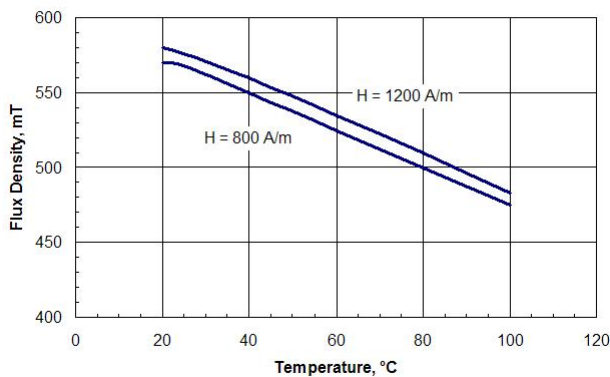
Initial Permeability vs. Temperature



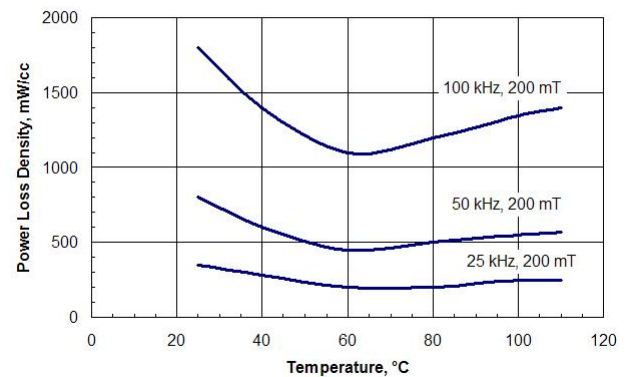
Initial Permeability vs. Frequency



Peak Flux Density vs. Temperature



Power Loss Density vs. Temperature



## Applications

- DC/DC buck converters
- Point-of-load (POL) modules
- Voltage regulator modules (VRM)
- POTS filter inductors for DSL

For additional information or to discuss your specific requirements please contact a member of our Applications Engineering Team.