Material Characteristics (9)

	Symbol	Unit	Measuring Conditions			Automobile Material
			Freq.	Flux den.	Temp.	N10
Initial Permeability	μi				25°C	10000 ± 30%
					-20°C	> 9000
Relative Loss Factor	tan δ /μi	10^{-6}	10kHz	< 0.25mT	25°C	< 10
			100kHz		25°C	< 90
Saturation Flux Density	Bms	mT	10kHz	H=1200A/m	25°C	380
					100°C	160
Remanence	Brms	mT	10kHz	H=1200A/m	25°C	160
					100°C	110
Temperature Factor of Permeability	α F	10^{-6}/°C	10kHz	< 0.25mT	0-20°C	-1 ~ 0
					25-55°C	-1 ~ 1
Hysteresis Material Constant	η B	10^{-6}/mT	10kHz	1.5-3.0mT	25°C	< 0.5
Disaccommodation Factor	D_F	10^{-6}	10kHz	< 0.25mT	25°C	< 2
Curie Temperature	Tc	°C				> 110
Resistivity	ρ	Ωm				0.12
Density	d	g/cm³				5.0

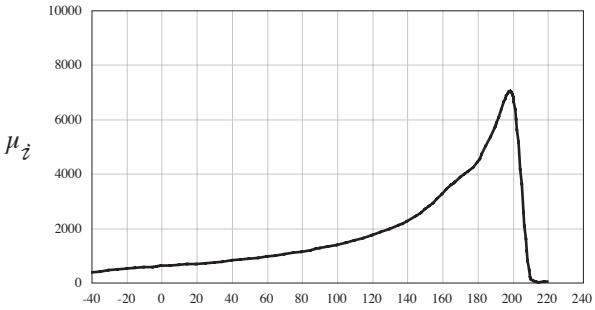
Material Characteristics (10)

	Symbol	Unit	Measuring Conditions			High Squareness Material
			Freq.	Flux den.	Temp.	S3
Initial Permeability	μi				25°C	≈ 800
Relative Loss Factor	tan δ /μi	10^{-6}	10kHz	< 0.25mT	25°C	
			100kHz		25°C	
Power Loss	Pv	KW/m³	25kHz	200mT	25°C	
					100°C	
			100kHz	200mT	25°C	
					100°C	1900
			300kHz	100mT	25°C	
					100°C	
			500kHz	50mT	25°C	
					100°C	
Saturation Flux Density	Bms	mT	1kHz	H=1200A/m	25°C	
					100°C	
Remanence	Brms	mT	1kHz	H=1200A/m	25°C	
					100°C	
Coercivity	Hc	A/m	1kHz	H=1200A/m	25°C	
					100°C	
			25kHz	H=100A/m	25°C	≤ 40
Temperature Factor of Permeability	α F	10^{-6}/°C	10kHz	< 0.25mT	5-20°C	
					25-55°C	
Hysteresis Material Constant	η B	10^{-6}/mT	10kHz	1.5-3.0mT	25°C	> 200
Disaccommodation Factor	D_F	10^{-6}	10kHz	< 0.25mT	25°C	> 200
Curie Temperature	Tc	°C				> 200
Resistivity	ρ	Ωm				42
Density	d	g/cm³				≈ 4.8
Squareness			25kHz	H=100A/m	25°C	≥ 0.93

Remark:

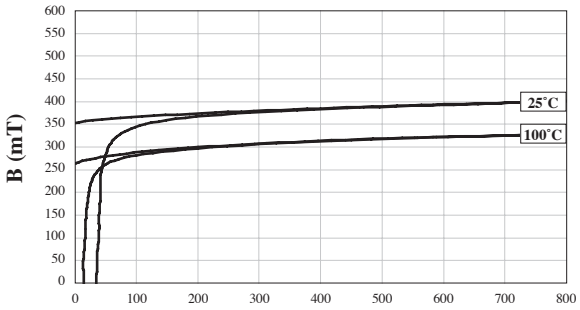
S3: Highest Squareness factor.

Initial Permeability V.S. Temperature



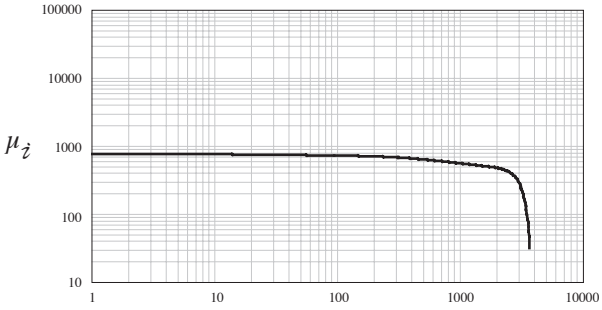
Test Core : T25*15*10

Saturation Flux Density V.S. Magnetic Field



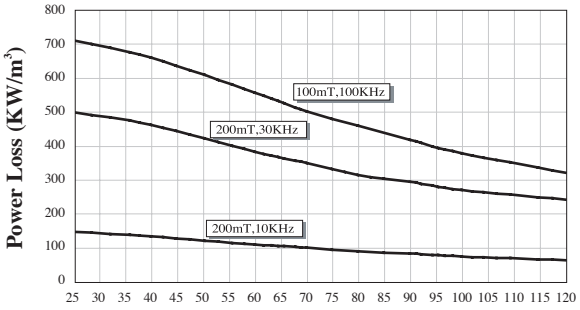
Test Core : T25*15*10

Initial Permeability V.S. Frequency



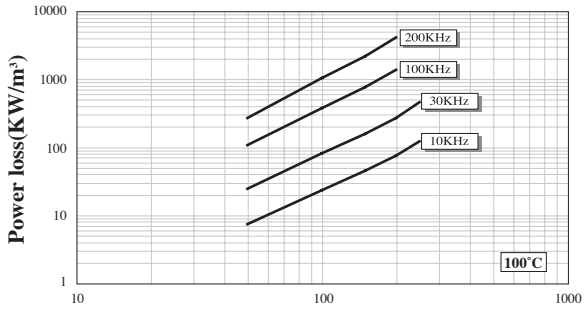
Test Core : T25*15*10

Power Loss V.S. Temperature



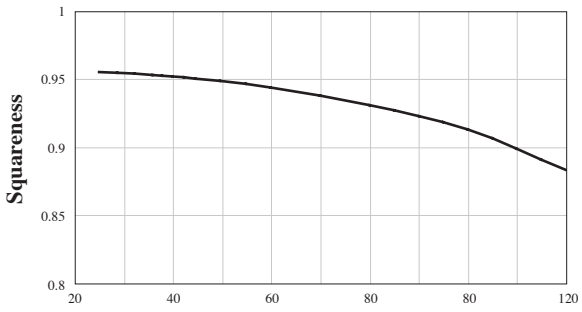
Test Core : T25*15*10

Power Loss V.S. Temperature/Flux Density/Frequency



Test Core : T25*15*10

Squareness V.S. Temperature



Test Core : T25*15*10