MnZn-ferrite power materials

Features	Grade	Initial Permeability μ_i	Saturation Flux Density Bs (mT)	Remanence Br (mT)	Coercivity Hc (A/m)	Curie Temperature Tc (℃)	Resistivity ρ (Ω · m)	Page
Conventional Low Loss	P4	2500	480	135	14	220	5.50	20
	P41	2400	495	170	13	230	4.00	21
	P42	1800	520	230	13	240	8.00	22
	P48	2500	515	150	13	220	5.00	23
Wide temp. Low Loss	P45	3100	530	80	8	215	5.00	24
	P451	3800	540	70	8	215	5.00	25
	P452	3000	520	100	13	215	5.00	26
	P47	3000	520	100	11	220	5.00	27
High Bs	P49	1700	540	280	15	280	3.00	28
	P491	1500	600	140	21	300	5.00	29
High Frequency Low Loss	P5	2000	470	135	17	220	6.40	30
	P51	1500	490	215	35	250	12.00	31
	P52	2000	500	140	21	250	6.50	32
	P53	1200	515	180	38	280	10.00	33
	P61	900	515	200	50	280	10.00	34
	P63	900	540	205	50	280	10.00	35

MnZn-ferrite hi-permeability materials

Features	Grade	Initial Permeability μ_i	Saturation Flux Density Bs (mT)	Remanence Br (mT)	Temperature Factor α_F (x10^{-6}/℃)	Curie Temperature Tc (℃)	Resistivity ρ (Ω · m)	Page
Conventional High μ for CM Chokes	A10	10000	410	140	-0.5~1	130	0.15	36
	A121	12000	380	130	-0.5~1	110	0.12	37
	A13	12000	400	120	-1~1	125	0.15	38
	A151	15000	400	220	-1~1	110	0.10	39
Wide Band Filter	A05	5000	440	80	0~2	140	0.20	40
	A06	6000	420	70	0~2.5	140	0.20	41
	A07	7000	400	150	-1~1	130	0.35	42
	A071	7000	440	80	-1~1	145	0.35	43
	A102	10000	380	95	-1~1	120	0.15	44
High μ & Tc for Automotives	A072	7000	485	95	-1.5~1.5	180	0.20	45
	A104	10000	460	105	-1.5~0	155	0.15	46
High μ Wide Temperature	A044	4000	450	55	-1~1	170	1.00	47
	A064	6000	470	135	-1~1	170	1.00	48
	N10	10000	380	160	-1~1	100	0.12	49

MnZn-ferrite telecommunication materials

Features	Grade	Initial Permeability μ_i	Saturation Flux Density Bs (mT)	Remanence Br (mT)	Loss Factor tanδ/μ (x10^{-6})	Curie Temperature Tc (℃)	Resistivity ρ (Ω · m)	Page
For Wide Temp. LAN	A043	4500	460	65	<10	160	0.20	50
	A062	6000	460	100	<30	160	0.20	51
	N07	7000	400	70	<30	130	0.15	52
Low THD	A101	10000	400	175	<90	130	0.15	53
Low η_B	N4	2500	450	180	<3	170	7.50	54
	N42	3800	530	100	<2.5	250	5.00	55
	N43	750	490	400	<15	250	2.00	56

MnZn-ferrite EMI suppression materials

Features	Grade	Initial Permeability μ_i	Saturation Flux Density Bs (mT)	Remanence Br (mT)	Temperature Factor α_F (x10^{-6}/℃)	Curie Temperature Tc (℃)	Resistivity ρ (Ω · m)	Page
EMI Filter	N5	2000	370	240	<1.1	130	140	57

Material Characteristics (1)

	Symbol	Unit	Measuring Conditions			Conventional Low Loss Materials			
			Freq.	Flux den.	Temp.	P4	P41	P42	P48
Initial Permeability	μ_i		≤ 10kHz	0.25mT	25°C	2500 ± 25%	2400 ± 25%	1800 ± 25%	2500 ± 25%
Amplitude Permeability	μ_a		25kHz	200mT	25°C	> 4500	> 4500	> 5000	> 5000
					100°C	> 4500	> 4500	> 5000	> 5000
Power Loss	Pv	KW/m³	25kHz	200mT	25°C	105	125	125	-
					100°C	55	50	50	-
			100kHz	200mT	25°C	630	650	750	550
					100°C	450	350	350	250
			300kHz	100mT	25°C	660	820	900	570
					100°C	430	500	500	330
			500kHz	50mT	25°C	380	400	450	250
					100°C	330	300	300	200
Saturation Flux Density	Bs	mT	10kHz	H = 1200A/m	25°C	480	495	520	515
					100°C	380	395	420	410
Remanence	Br	mT	10kHz	H = 1200A/m	25°C	135	170	230	150
					100°C	75	55	60	55
Coercivity	Hc	A/m	10kHz	H = 1200A/m	25°C	14	13	13	13
					100°C	9	6	8	6
Hysteresis Material Constant	η_B	10^{-6}/mT	10kHz	1.5-3.0mT	25°C	< 1.2	< 1	< 1	< 1
Disaccommodation Factor	D_F	10^{-6}	10kHz	< 0.25 mT	25°C	< 2	< 2	< 2	< 2
Curie Temperature	Tc	°C				≥ 220	≥ 230	≥ 240	≥ 220
Resistivity	ρ	Ωm				5.50	4.00	8.00	5.00
Density	d	g/cm³				4.80	4.85	4.90	4.90

Note: Material characteristics are typical for a toroid core.
Product specification will differ from these data due to the influence of geometry and size.

Material Characteristics (2)

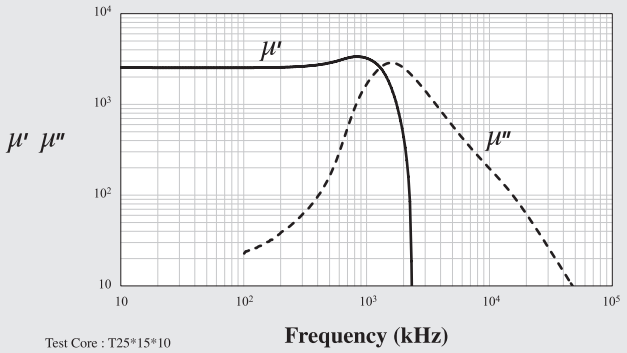
	Symbol	Unit	Measuring Conditions			Wide Temperature Low Loss Materials			
			Freq.	Flux den.	Temp.	P45	P451	P452	P47
Initial Permeability	μ_i		≤ 10kHz	0.25mT	25°C	3100 ± 25%	3800 ± 25%	3000 ± 25%	3000 ± 25%
Amplitude Permeability	μ_a		25kHz	200mT	25°C	> 5000	> 5000	> 3900	> 4500
					100°C	> 5000	> 5000	> 4450	> 4500
Power Loss	Pv	KW/m³	100kHz	200mT	25°C	360	270	310	340
					100°C	260	310	380	350
			300kHz	100mT	25°C	400	295	300	350
					100°C	350	385	260	350
			500kHz	50mT	25°C	200	165	100	230
					100°C	200	230	120	230
Saturation Flux Density	Bs	mT	10kHz	H = 1200A/m	25°C	530	540	520	520
					100°C	405	420	415	420
Remanence	Br	mT	10kHz	H = 1200A/m	25°C	80	70	100	100
					100°C	50	40	80	70
Coercivity	Hc	A/m	10kHz	H = 1200A/m	25°C	8	8	13	11
					100°C	5	6	11	8
Hysteresis Material Constant	η_B	10^{-6}/mT	10kHz	1.5-3.0mT	25°C	< 0.6	< 0.6	< 0.6	< 0.6
Disaccommodation Factor	D_F	10^{-6}	10kHz	< 0.1 mT	25°C	< 1	< 1	< 1	< 1
Curie Temperature	Tc	°C				≥ 215	≥ 215	≥ 215	≥ 220
Resistivity	ρ	Ωm				5.00	5.00	5.00	5.00
Density	d	g/cm³				4.90	4.90	4.85	4.90

Note: Material characteristics are typical for a toroid core.
Product specification will differ from these data due to the influence of geometry and size.

	Symbol	Unit	Measuring Conditions			Conventional Low Loss Material
			Freq.	Flux den.	Temp.	P4
Initial Permeability	μ_i		≤ 10kHz	0.25mT	25°C	2500 ± 25%
Amplitude Permeability	μ_a		25kHz	200mT	25°C	> 4500
					100°C	> 4500
Power Loss	Pv	KW/m³	25kHz	200mT	25°C	105
					100°C	55
			100kHz	200mT	25°C	630
					100°C	450
			300kHz	100mT	25°C	660
					100°C	430
			500kHz	50mT	25°C	380
					100°C	330
Saturation Flux Density	Bs	mT	10kHz	H = 1200A/m	25°C	480
					100°C	380
Remanence	Br	mT	10kHz	H = 1200A/m	25°C	135
					100°C	75
Coercivity	Hc	A/m	10kHz	H = 1200A/m	25°C	14
					100°C	9
Hysteresis Material Constant	η_B	10^{-6}/mT	10kHz	1.5-3.0mT	25°C	< 1.2
Disaccommodation Factor	D_F	10^{-6}	10kHz	< 0.25 mT	25°C	< 2
Curie Temperature	Tc	°C				≥ 220
Resistivity	ρ	Ωm				5.50
Density	d	g/cm³				4.80

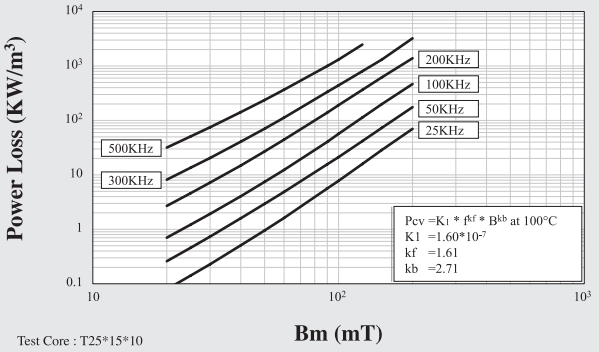
Note: Material characteristics are typical for a toroid core.
Product specification will differ from these data due to the influence of geometry and size.

Complex Permeability V.S. Frequency



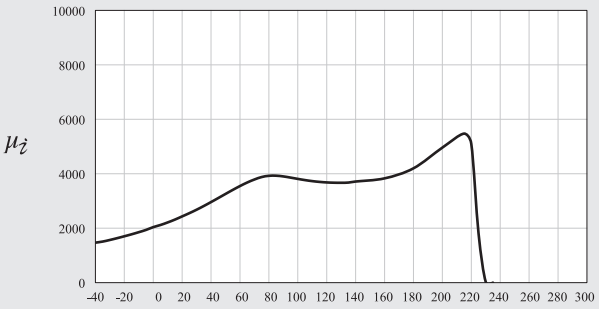
Test Core : T25*15*10

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



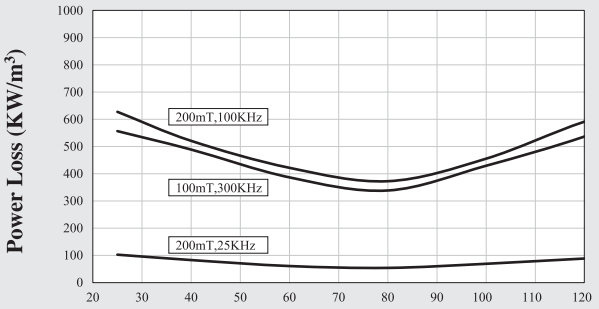
Test Core : T25*15*10

Initial Permeability V.S. Temperature



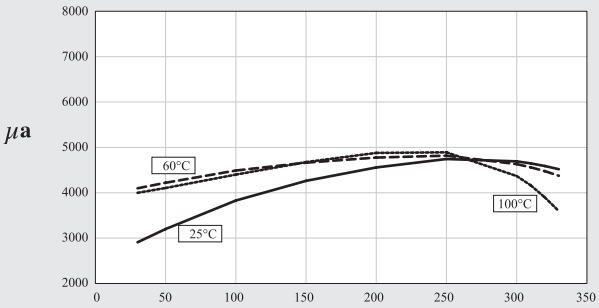
Test Core : T25*15*10

Power Loss V.S. Temperature



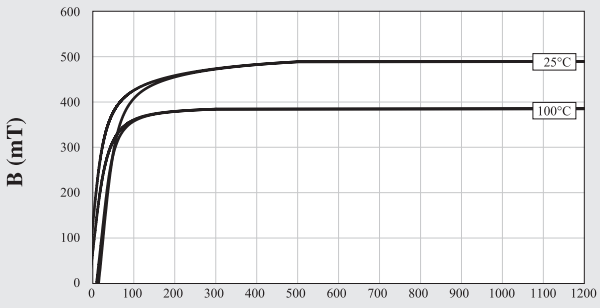
Test Core : T25*15*10

Amplitude Permeability V.S. Flux Density (Bm)



Test Core : T25*15*10

Saturation Flux Density V.S. Magnetic Field

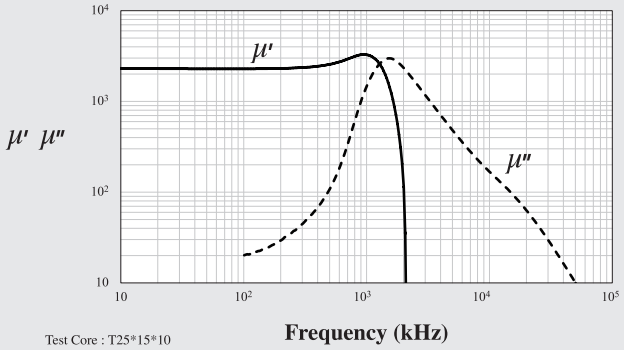


Test Core : T25*15*10

	Symbol	Unit	Measuring Conditions			Conventional Low Loss Material
			Freq.	Flux den.	Temp.	P41
Initial Permeability	μ_i		≤ 10kHz	0.25mT	25°C	2400 ± 25%
Amplitude Permeability	μ_a		25kHz	200mT	25°C	> 4500
					100°C	> 4500
Power Loss	Pv	KW/m³	25kHz	200mT	25°C	125
					100°C	50
			100kHz	200mT	25°C	650
					100°C	350
			300kHz	100mT	25°C	820
					100°C	500
			500kHz	50mT	25°C	400
					100°C	300
Saturation Flux Density	Bs	mT	10kHz	H = 1200A/m	25°C	495
					100°C	395
Remanence	Br	mT	10kHz	H = 1200A/m	25°C	170
					100°C	55
Coercivity	Hc	A/m	10kHz	H = 1200A/m	25°C	13
					100°C	6
Hysteresis Material Constant	η_B	10^{-6}/mT	10kHz	1.5-3.0mT	25°C	< 1
Disaccommodation Factor	D_F	10^{-6}	10kHz	< 0.25 mT	25°C	< 2
Curie Temperature	Tc	°C				≥ 230
Resistivity	ρ	Ωm				4.00
Density	d	g/cm³				4.85

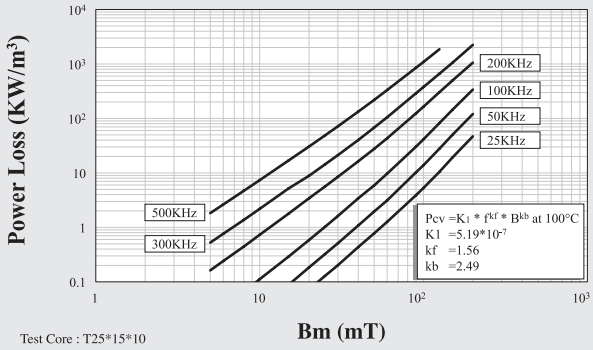
Note: Material characteristics are typical for a toroid core.
Product specification will differ from these data due to the influence of geometry and size.

Complex Permeability V.S. Frequency



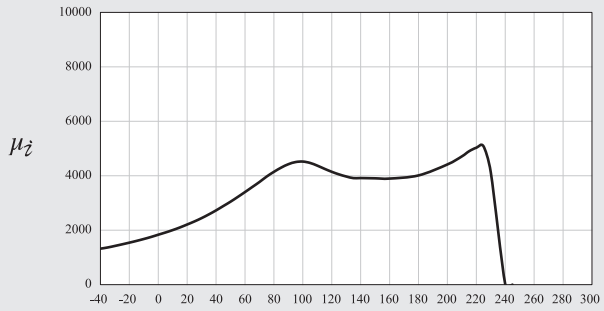
Test Core : T25*15*10

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



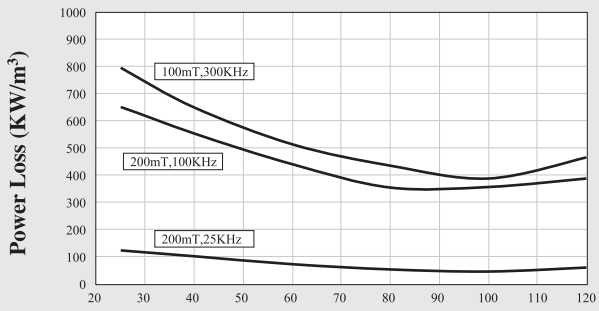
Test Core : T25*15*10

Initial Permeability V.S. Temperature



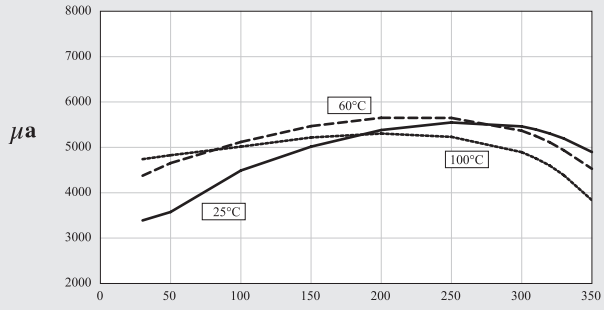
Test Core : T25*15*10

Power Loss V.S. Temperature



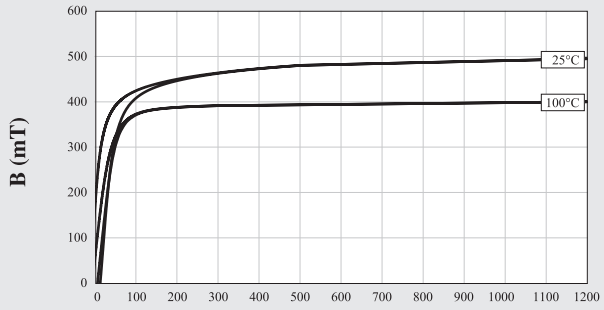
Test Core : T25*15*10

Amplitude Permeability V.S. Flux Density (Bm)



Test Core : T25*15*10

Saturation Flux Density V.S. Magnetic Field

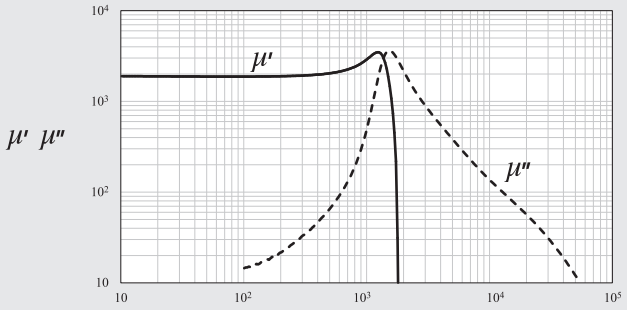


Test Core : T25*15*10

	Symbol	Unit	Measuring Conditions			Conventional Low Loss Material
			Freq.	Flux den.	Temp.	P42
Initial Permeability	μ_i		≤ 10kHz	0.25mT	25°C	1800 ± 25%
Amplitude Permeability	μ_a		25kHz	200mT	25°C	> 5000
					100°C	> 5000
Power Loss	Pv	KW/m³	25kHz	200mT	25°C	125
					100°C	50
			100kHz	200mT	25°C	750
					100°C	350
			300kHz	100mT	25°C	900
					100°C	500
			500kHz	50mT	25°C	450
					100°C	300
Saturation Flux Density	Bs	mT	10kHz	H = 1200A/m	25°C	520
					100°C	420
Remanence	Br	mT	10kHz	H = 1200A/m	25°C	230
					100°C	60
Coercivity	Hc	A/m	10kHz	H = 1200A/m	25°C	13
					100°C	8
Hysteresis Material Constant	η_B	10^{-6}/mT	10kHz	1.5-3.0mT	25°C	< 1
Disaccommodation Factor	D_F	10^{-6}	10kHz	< 0.25 mT	25°C	< 2
Curie Temperature	Tc	°C				≥ 240
Resistivity	ρ	Ωm				8.00
Density	d	g/cm³				4.90

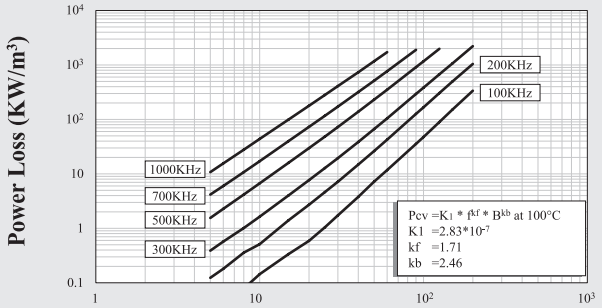
Note: Material characteristics are typical for a toroid core.
Product specification will differ from these data due to the influence of geometry and size.

Complex Permeability V.S. Frequency



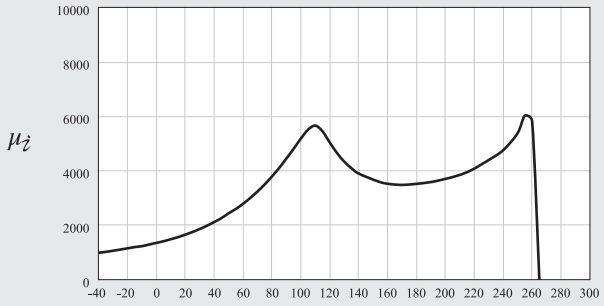
Test Core : T25*15*10

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



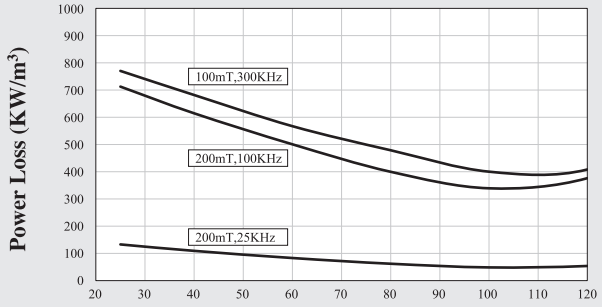
Test Core : T25*15*10

Initial Permeability V.S. Temperature



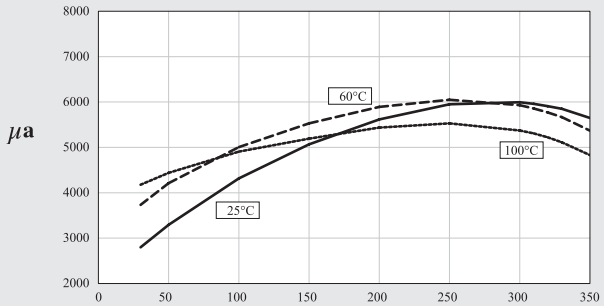
Test Core : T25*15*10

Power Loss V.S. Temperature



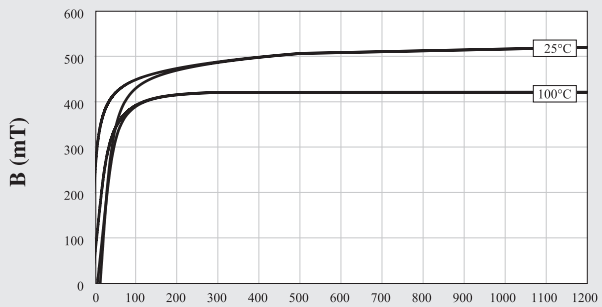
Test Core : T25*15*10

Amplitude Permeability V.S. Flux Density (Bm)



Test Core : T25*15*10

Saturation Flux Density V.S. Magnetic Field



Test Core : T25*15*10