

Cross reference list of ferrite materials

Iskra Feriti	Epcos		Ferroxcube		MMG		TOKIN		TDK		FDK		Magnetics		Nicera	
	n.m.	p.m.	n.m.	p.m.	n.m.	p.m.	n.m.	p.m.	n.m.	p.m.	n.m.	p.m.	n.m.	p.m.	n.m.	p.m.
1E		K12			F28				K7A		H55Z					
2E	U17			4E1		F29			K8		H56Z					
1F		K1	4D2	4F1	F25				K6A		H54Z					
1C	K10		4A11	4A15	F52											
2C	M11			4B1	F14				K5		H52A					
4C		N4			FF1											
10G		M33		3D3		F58			H6F		3H01			A		
16G	N22	N26	3B7	3H1	P10	P11			H6B		3H21			D		
26G		N48		3H3		P12			H6K		3H20			G		
19G		N30	3E4	3C11	F9N	F9			H5A		2H04			T		
22G	T37	T35	3E27	3E25	F10	FT6	5H		HS52	H5B	2H06			J		5Y
23G				3E27												
42G			3E26				7H		H5B2		2H07					NC-7
12G	T44	T38	3E55	3E5	F39	FTA		10H	H5C2	HS10	2H10			W	10H	10TB
32G	T66	T42		3E6				12H	H5D							12H
52G		T46		3E7				15H	H5C3		2H15			H		15H
27G		N45		3B46					PC46		6H42				3H	4Y
25G		N41		3C81	F5A	F5C								F		1L
15G		N27	3B8	3C80		F5			HV22		5H20					
45G	N72	N67		3C85		F44			PC30		6H10			P		
35G		N87	3F3		F45			BH2	PC40		6H20			R	2H	
55G	N53	N82	3C93		F47			BH3	PE33		6H40				BM27	2M
65G	N97		3C94	3C96	F48		BH1		PC95	PC44	6H41				2HM5	
75G	N92	L49	3F4	3F35	F49			B40	PC50		7H10		K		BM29	5M
76G									PC33		7H20					

n.m.= near match; p.m.=perfect match;

This chart is for guidance purposes only. Iskra Feriti does not take responsibility for application failure unless specifically asked for specifications!

Survey of materials and characteristics

Material	High frequency materials							Low loss materials		
	2E	1E	1F	3F	2C	1C	4C	10G	16G	26G
μ_i	13	25	80	125	300	900	2000	750	2200	2200
10kHz, 0.1 mT	$\pm 30\%$	$\pm 30\%$	$\pm 20\%$	$\pm 20\%$	$\pm 20\%$	$\pm 20\%$	$\pm 20\%$	$\pm 20\%$	$\pm 20\%$	$\pm 20\%$
$\tan\delta/\mu_i$ (10^{-6})	< 350	< 150	< 50	< 35		< 10	< 20	< 7	< 1.5	< 1.0
f (MHz)	30	3	3	3		0.01	0.01	0.3	0.01	0.01
$\tan\delta/\mu_i$ (10^{-6})	< 1000	< 600	< 70	< 70	< 20			< 20	< 3.5	< 2.5
f (MHz)	100	40	10	10	1			1	0.1	0.1
η_B ($10^{-3}/T$)								< 2.0	< 0.65	< 0.4
D_F (10^{-6})								< 8	< 3	< 3
α_F ($10^6/K$) 25/55°C		3-4	2-6	0-8	< 20	0-4	0-4	0.5-2.5	0.0-1.0	0.0-0.8
α_F ($10^6/K$) 5/25°C		-0.5-14	1-6					0.5-2.8	0.0-1.0	0.0-0.8
α_F ($10^6/K$) -25/25°C		-1-14	1-6					0.5-3.2	0.2-1.8	0.3-1.3
T_c (°C)	> 300	> 300	> 300	> 350	> 200	> 130	> 100	> 200	> 150	> 150
H_c (A/m)	1500	500	400	250	100	50		100	20	20
B (mT) $H=3kA/m$	130	120	320	370	300	350		350	390	390
ρ (Ωm)	10^4	10^5	10^4	10^4	10^4	10^3	10^3	5	3	3

High permeability materials

Material	19G	22G	22GN	23G*	42G	12G	32G	52G
μ_i	4300	6000	6000	6000	8000	10000	12000	15000
10kHz, 0.1 mT	±20%	±20%	±20%	±20%	±20%	±30%	±30%	±30%
$\tan\delta/\mu_i (10^{-6})$								
f (MHz) 0.01	< 5	< 7.5	< 5	< 7.5	< 7.5	< 7.0	< 7.5	< 10
0.1	< 20	< 40	< 20	< 40	< 40	< 40	< 75	
$\eta_B (10^{-3}/T)$	< 1.4	< 1.0	< 1.0	< 1.0	< 1.0	< 0,25	< 0,50	< 0,50
$\alpha_F (10^6/K) 25/55^\circ\text{C}$	0 - +2	-1 - +1	-1 - +1	-1 - +1	-1 - +1	-1 - +1	-1 - +1	-1 - +1
$\Delta\mu/\mu \Delta T (15-35)^\circ\text{C} [\%]$			< 9					
$\Delta\mu/\mu \Delta f (10-160)\text{kHz} [\%]$			< 11					
$\Delta\mu/\mu \Delta B (0,1-5)\text{mT} [\%]$			< 12,5					
H_c (A/m)	13-20	12-20	12-20	12-20	10-18	9-18	7-14	7-12
T_c (°C)	> 150	> 130	> 130	> 160	> 130	> 130	> 120	> 120
ρ (Ωm)	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0,1

Survey of materials and characteristics

Power materials

Material	15G	25G	27G	35G	45G	55G	65G	75G	76G
μ_i	2000	3000	3600	2200	2300	1800	2200	1300	1300
10kHz, 0.1 mT	±20%	±20%	±20%	±20%	±20%	±20%	±20%	±20%	±20%
H_c (A/m)	30	25	15	25	15	12	12	12	12
T_c (°C)	> 200	> 200	> 220	> 200	> 200	> 230	> 230	> 240	> 260
P/V (mW/cm ³) 100°C			at 60°C						
25 kHz; 200 mT	< 140	< 180	< 60	< 90	< 80		< 60		
100 kHz; 100 mT	< 140		< 80	< 90	< 110	< 90	< 60		
100 kHz; 200 mT	< 650			< 500	< 540	< 500	< 360		
300 kHz; 100 mT				< 560		< 330		< 320	
400 kHz; 50 mT				< 200		< 120		< 100	< 80
500 kHz; 50 mT				< 310		< 180		< 140	< 110
B_s (mT) 100°C									
10kHz; 250 A/m	> 330	> 330	> 370	> 370	> 340	> 370	> 370	> 370	> 380
10kHz; 1200 A/m	> 380	> 380	> 415	> 415	> 380	> 415	> 415	> 415	> 430
ρ (Ωm)	3	2	7	7	7	7	7	7	7
Optimum frequency range [kHz]	10 - 100	10 - 100	10 - 300	25 - 500	10 - 300	25 - 800	10 - 300	400-1500	400-2000