

Common Mode Choke Cores

For signal lines, DC and AC power lines and Output filters

FINEMET® is the product of Materials Mag^{ic}
The best solution for energy saving, electromagnetic noise reduction and size reduction.



● **Features**

- 1) Satisfy both high saturation magnetic flux density and high permeability
- 2) Low core loss
- 3) Low magnetostriction
- 4) Excellent temperature characteristics and small aging effects
- 5) Excellent high frequency characteristics
- 6) Flexibility to control magnetic properties " B-H curve shape " during annealing (Fig.1)

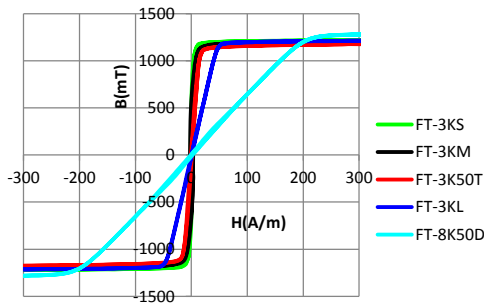
● **Line-up of FINEMET® Materials**

FT-3K50T and **FT-8K50D** are brand new materials, controlled by applying a magnetic field during annealing.

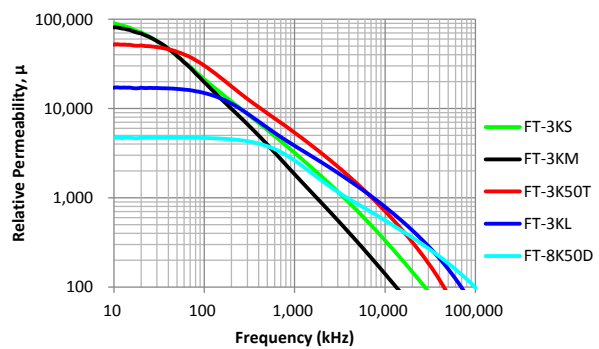
- FT-3K50T having high relative permeability μ_r over than 100 kHz range compared to standard material, FT-3KM. (Fig.2)
- FT-8K50D having excellent saturation characteristics compared to FT-3KL. (Fig.3)

Material code	Bs (T)	Br/Bs (%)	Hc (A/m)	μ_r (10kHz) ($\times 10^3$)	μ_r (100kHz) ($\times 10^3$)	λ_s ($\times 10^{-6}$)	Tc (deg.C)
FT-3KS	1.23	40	1.5	100	20	< 1	~ 570
FT-3KM		50	2.5	70	15		
FT-3K50T		10	1.2	50	31		
FT-3KL		5	0.6	27	17		
FT-8K50D	1.32	0.7	1.4	5	5	< 8	~ 550

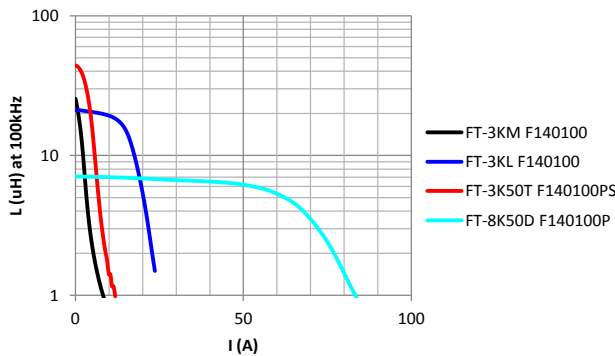
DC B-H (Fig.1)



Permeability vs. Frequency (Fig.2)



Inductance vs. DC bias current (Fig.3)
(1 turn)

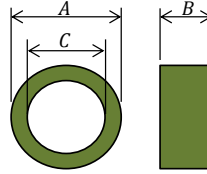


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● **FT-3K50T F Series**

FT-3K50T F series made of FT-3 50T type material, having high permeability and high saturation current, are suitable for common mode current for DC and AC power lines.



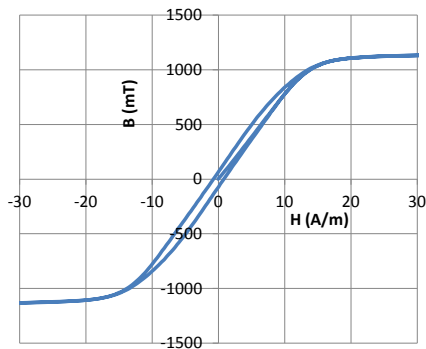
Product code	P/N	Finished dimension (mm)			Ae	Lm	Weight (g)	AL value (μH/N ²)	
		A Max.	B Max.	C Min.	(mm ²)	(mm)		10kHz	100kHz +/-30%
					TYP.	TYP.	TYP.		
F1AH1157	FT-3K50T F1613YS	17.8	8.0	10.7	45.2	7.9	4	7.7~14.3	6.4
F1AH1181	FT-3K50T F2117DS	23.3	15.3	13.9	18.9	59.6	11	14.7~27.3	12.0
F1AH1182	FT-3K50T F2515DS	28.5	17.5	12.3	44.3	63.3	25	30.7~65.9	27.2
F1AH1183	FT-3K50T F3020CS	33.1	13.0	17.4	37.6	79.3	28	21.6~40.2	17.9
F1AH1107	FT-3K50T F3320ES	36.3	18.2	16.8	71.2	83.3	49	37.6~80.6	33.3
F1AH1108	FT-3K50T F3724ES	40.5	18.3	20.6	71.2	95.8	60	33.9~62.9	28.1
F1AH1184	FT-3K50T F4032ES	42.3	17.8	29.1	43.8	113.0	40	16.1~29.8	14.2
F1AH1185	FT-3K50T F4424GS	47.1	23.4	21.0	138.8	106.8	123	57.1~122.4	50.6
F1AH1109	FT-3K50T F4535GS	49.5	25.7	30.5	73.0	125.7	89	26.5~49.2	22.0
F1AH1186	FT-3K50T F4627HS	50.7	29.2	22.9	173.4	114.7	164	66.5~142.5	58.9
F1AH1187	FT-3K50T F5040GS	52.3	22.8	37.1	73.0	141.0	80	22.6~41.9	20.0
F1AH1110	FT-3K50T F6045GS	64.7	26.0	40.3	104.4	166.0	162	27.6~59.2	24.5
F1AH1111	FT-3K50T F7555GS	79.7	25.7	50.3	142.3	205.0	267	30.5~65.4	27.1
F1AH1112	FT-3K50T F10080GS	104.7	25.7	75.3	138.8	285.1	336	20.9~44.7	18.5
F1AH1113	FT-3K50T F140100PS	145.0	36.0	95.3	427.5	380.1	1,335	49.5~106	43.8

- Plastic material: UL94 V-0 certified resin (130°C:PBT, 155°C:PET of heat resistance) is used for these core cases.

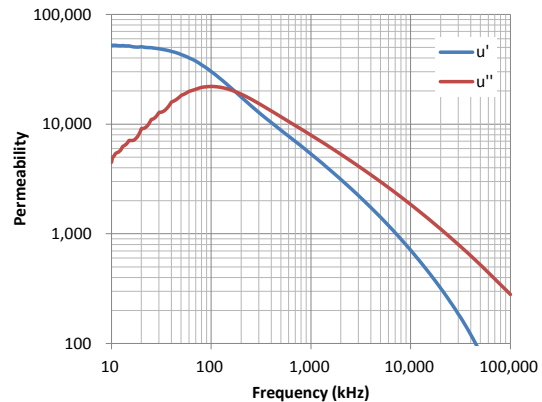
- No Ozone Layer Depleting Chemicals are used in these products or their manufacturing process.

- Ae: effective cross-section area, Lm: mean magnetic path length

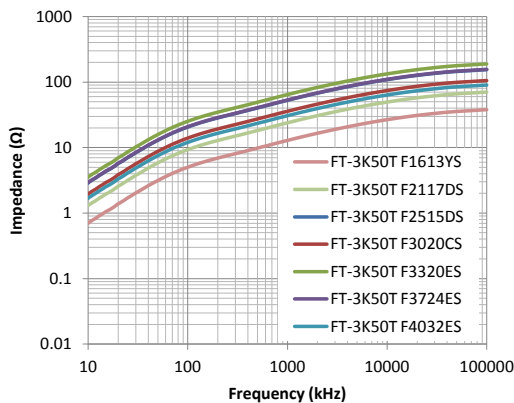
DC B-H



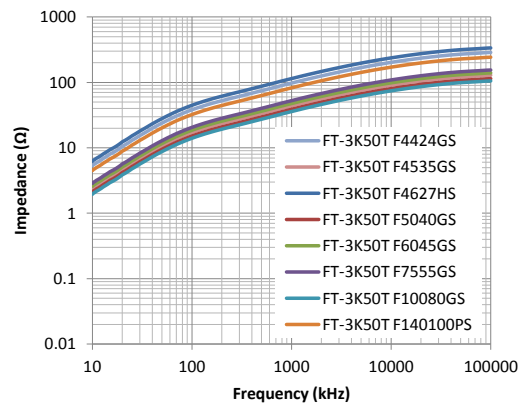
Permeability vs. Frequency



Impedance vs. Frequency



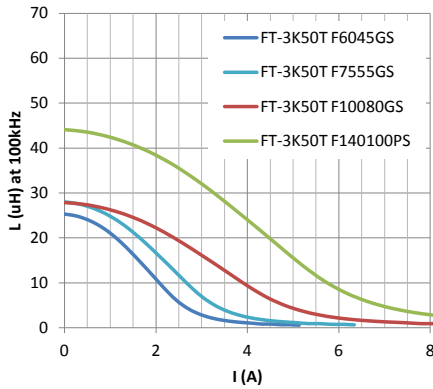
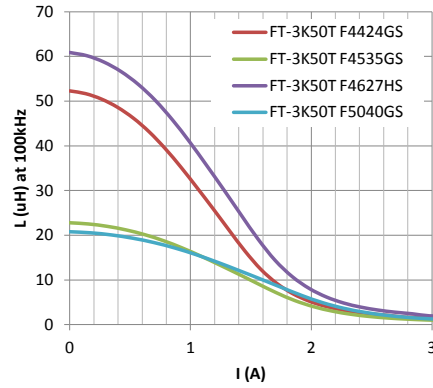
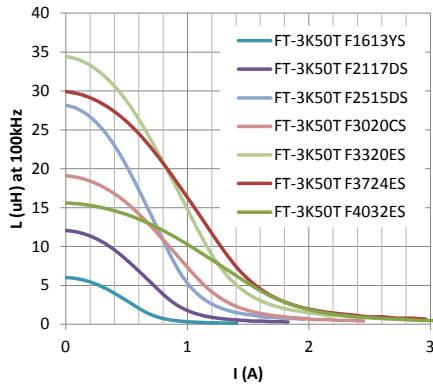
Impedance vs. Frequency



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Inductance vs. DC bias current



(Note)

L vs. DC bias current is typical value, not guaranteed.