

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)

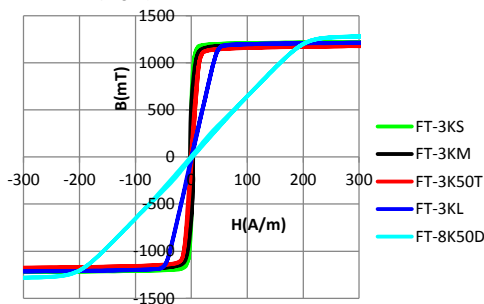
● **Line-up of FINEMET® Materials**

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

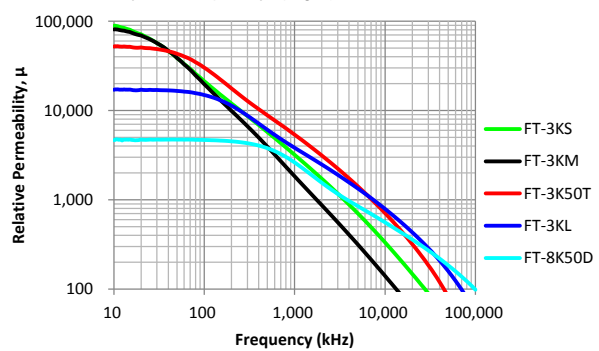
- FT-3K50T having high relative permeability μ_r over than 100 kHz range compared to standard material, FT-3KM. (Fig.2)
- FT-8K50D having excellent saturation characteristics compared to FT-3KL. (Fig.3)

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

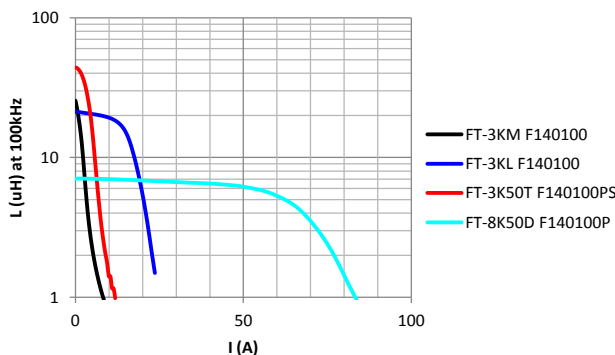
DC B-H (Fig.1)



Permeability vs. Frequency (Fig.2)



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

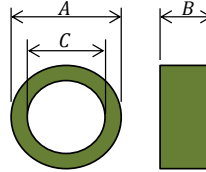


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● **FT-3KM F Series**

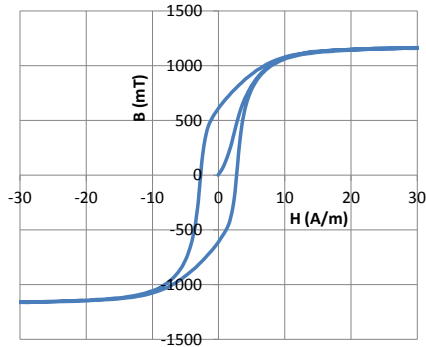
FT-3KM F series made of FT-3 M type material, having high permeability in wide frequency range, for common mode current for DC and AC power lines.



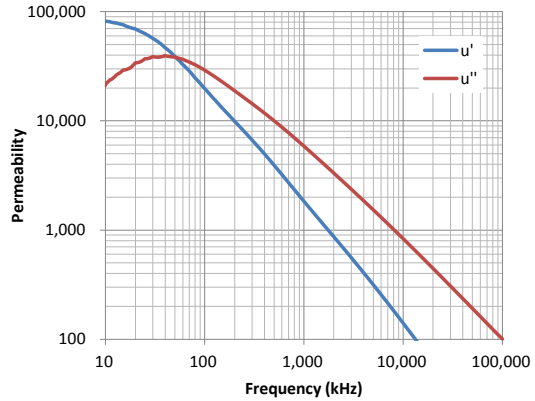
Product code	P/N	Finished dimension (mm)			Ae	Lm	Weight	AL value (μH/N ²)	
		A	B	C	(mm ²)	(mm)	(g)	10kHz	100kHz
		Max.	Max.	Min.	TYP.	TYP.	TYP.		+/-30%
F1AH0047	FT-3KM F2515D	28.5	17.5	12.3	46.9	62.8	25	42~100	16.9
F1AH1139	FT-3KM F3020C	33.1	13.0	17.4	38.2	78.9	28	29.8~55.4	11
F1AH0048	FT-3KM F3320E	36.3	18.2	16.8	73.1	83.3	49	49.7~120	19.9
F1AH0049	FT-3KM F3724E	40.5	18.3	20.6	73.1	95.8	59	43~100	17.3
F1AH1140	FT-3KM F4032E	42.3	17.8	29.1	40.8	111.6	40	22.5~41.8	8.3
F1AH0050	FT-3KM F4424G	47.1	23.4	21.0	142.5	106.8	123	75.4~180	30.2
F1AH0896	FT-3KM F4535G	49.5	25.7	30.5	75.0	125.7	89	34~80	13.5
F1AH0897	FT-3KM F4627H	50.7	29.2	22.9	178.1	114.7	168	89.2~210	35.1
F1AH1141	FT-3KM F5040G	52.3	22.8	37.1	72.8	141.8	80	31.6~58.7	11.6
F1AH0898	FT-3KM F6045G	64.7	26.0	40.3	112.5	164.9	162	39~90	15.4
F1AH0899	FT-3KM F7555G	79.7	25.7	50.3	150.0	204.2	267	42~100	16.6
F1AH0900	FT-3KM F10080G	104.7	25.7	75.3	138.8	285.1	336	30~65	12
F1AH0901	FT-3KM F140100	145.0	36.0	95.3	427.5	380.1	1,335	63~150	24.8
F1AH0024	FT-3KM F200160	205.0	36.0	155.0	427.5	568.6	1,875	42~100	15.1+50% -30%

- 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

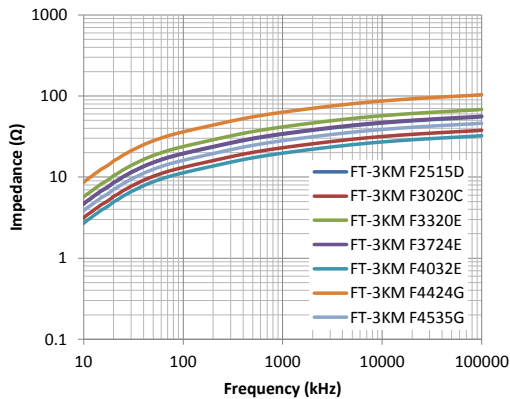
DC B-H



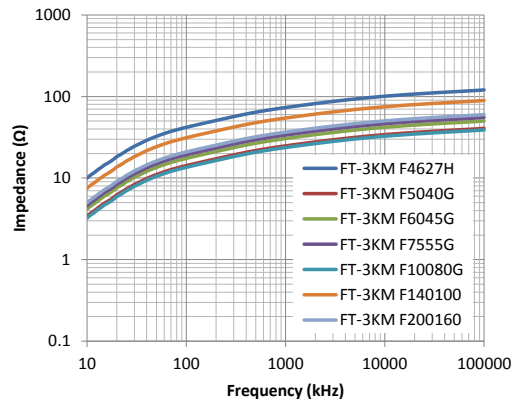
Permeability vs. Frequency



Impedance vs. Frequency



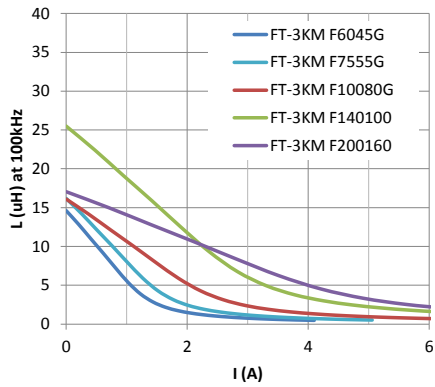
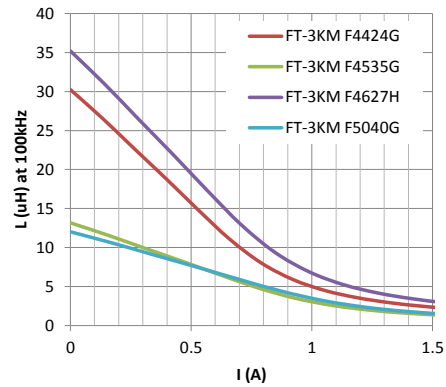
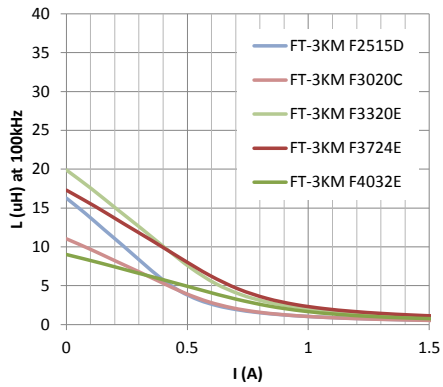
Impedance vs. Frequency



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Inductance vs. DC bias current



(Note)

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