

Common Mode Choke Cores

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

FINEMET® is the product of Materials Magic. 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)

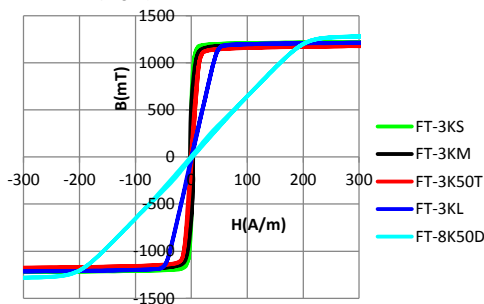
● **Line-up of FINEMET® Materials**

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

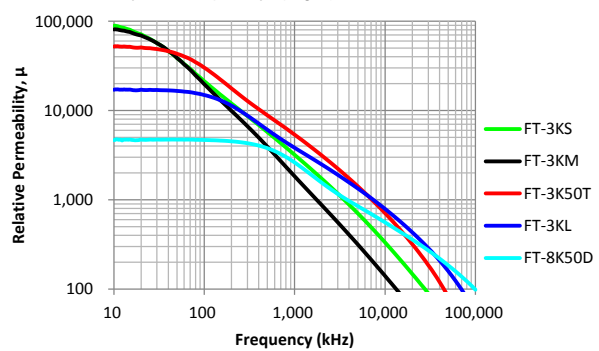
- FT-3K50T having high relative permeability μ_r over than 100 kHz range compared to standard material, FT-3KM. (Fig.2)
- FT-8K50D having excellent saturation characteristics compared to FT-3KL. (Fig.3)

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

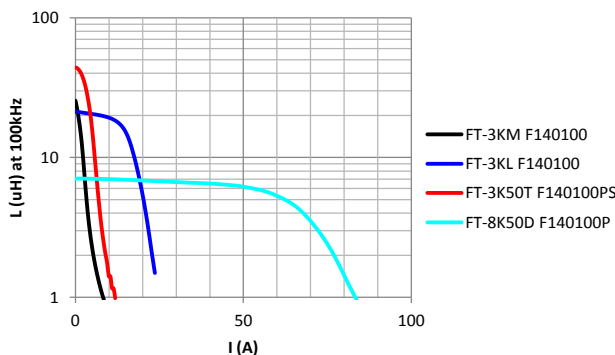
DC B-H (Fig.1)



Permeability vs. Frequency (Fig.2)



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

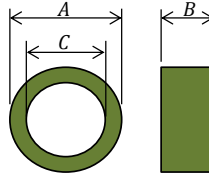


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● FT-8K50D F Series

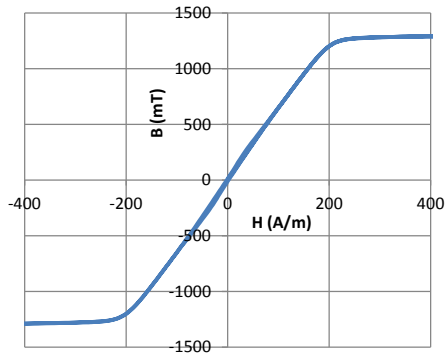
FT-8K50D F series made of FT-8 50D type material, having high saturation current, are suitable for common mode current from several 10 A to over 100 A for DC and AC power lines.



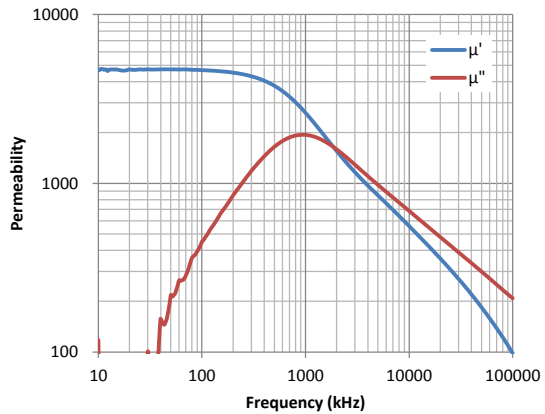
Product code	P/N	Finished dimension (mm)			Ae	Lm	Weight	AL value (μH/N ²)	
		A	B	C	(mm ²)	(mm)	(g)	10kHz	100kHz
		Max.	Max.	Min.	TYP.	TYP.	TYP.	+/-30%	+/-30%
F1AH1121	FT-8K50D F4535G	49.5	25.7	30.5	75.0	125.7	89	3.7	3.7
F1AH1122	FT-8K50D F6045G	64.7	26.0	40.3	107.3	166.0	157	4.1	4.0
F1AH1123	FT-8K50D F7555G	79.7	25.7	50.3	146.3	205.5	272	4.5	4.4
F1AH1124	FT-8K50D F10080G	104.7	25.7	75.3	139.5	286.2	336	3.1	3
F1AH1125	FT-8K50D F140100P	145.0	36.0	95.3	430.9	382.8	1,350	7.1	7
F1AH1164	FT-8K50D F160130H	166.9	30.5	123.9	292.5	455.5	1,029	4.0	4.0
F1AH1126	FT-8K50D F200160P	205.0	36.0	155.0	427.5	568.6	1,930	4.7	4.7

- 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

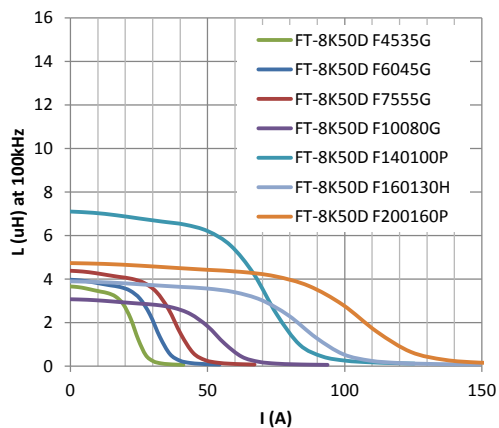
DC B-H



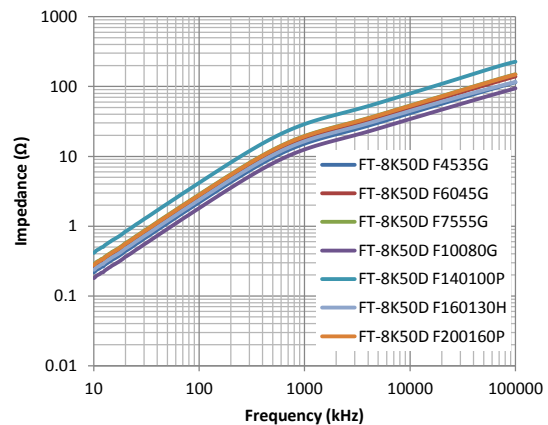
Permeability vs. Frequency



Inductance vs. DC bias current



Impedance vs. Frequency



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