

**Common Mode Choke Cores**

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

**FINEMET®** is the product of Materials Mag<sup>ic</sup>  
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)

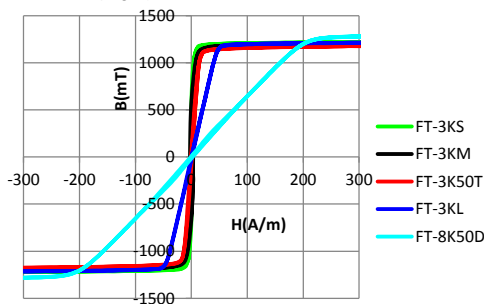
● **Line-up of FINEMET® Materials**

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

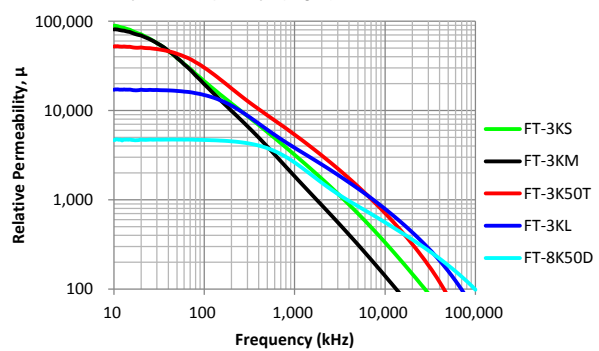
- FT-3K50T having high relative permeability  $\mu_r$  over than 100 kHz range compared to standard material, FT-3KM. (Fig.2)
- FT-8K50D having excellent saturation characteristics compared to FT-3KL. (Fig.3)

Material code	Bs (T)	Br/Bs (%)	Hc (A/m)	$\mu_r$ (10kHz) ( $\times 10^3$ )	$\mu_r$ (100kHz) ( $\times 10^3$ )	$\lambda_s$ ( $\times 10^{-6}$ )	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

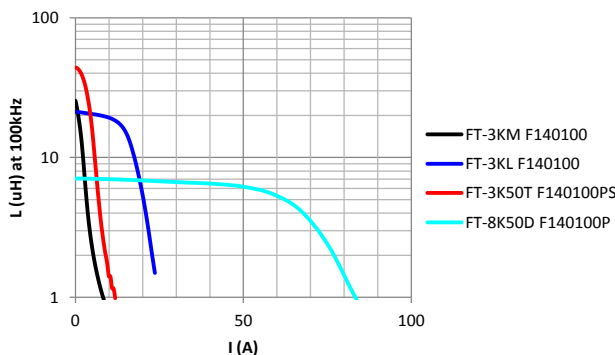
DC B-H (Fig.1)



Permeability vs. Frequency (Fig.2)



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

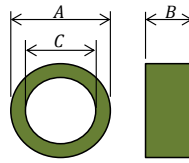


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### ● FT-3KL F Series

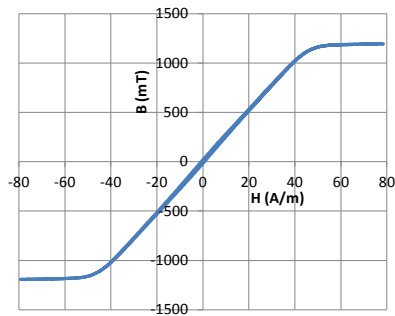
FT-3KL F series made of FT-3 L type material, having high saturation current, are suitable for common mode current from several A to over 10 A for DC and AC power lines.



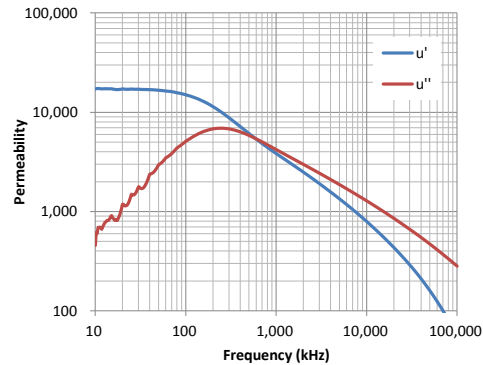
Product code	P/N	Finished dimension (mm)			Ae	Lm	Weight (g)	AL value (μH/N <sup>2</sup> )	
		A Max.	B Max.	C Min.	(mm <sup>2</sup> ) TYP.	(mm) TYP.		10kHz +/-30%	100kHz +/-30%
F1AS3249	FT-3KL F2515D	28.5	17.5	12.3	46.9	62.8	25	20.8	15.3
F1AS3250	FT-3KL F3020C	33.1	13.0	17.4	37.6	79.3	28	14.2	10.5
F1AH0680	FT-3KL F3320E	36.3	18.2	16.8	73.1	83.3	49	25.4	18.8
F1AH0681	FT-3KL F3724E	40.5	18.3	20.6	73.1	95.8	59	22.1	16.3
F1AS3251	FT-3KL F4032E	42.3	17.8	29.1	43.8	113.0	40	12.0	8.9
F1AS3252	FT-3KL F4424G	47.1	23.4	21.0	142.5	106.8	123	38.6	28.5
F1AH0682	FT-3KL F4535G	49.5	25.7	30.5	75.0	125.7	89	17.3	12.8
F1AS2799	FT-3KL F4627H	50.7	29.2	22.9	178.1	114.7	168	44.9	33.2
F1AS3253	FT-3KL F5040G	52.3	22.8	37.1	73.0	141.0	80	14.8	11
F1AH0683	FT-3KL F6045G	64.7	26.0	40.3	112.5	164.9	162	18.7	13.8
F1AH0684	FT-3KL F7555G	79.7	25.7	50.3	150.0	204.2	267	21.0	15.2
F1AH0685	FT-3KL F10080G	104.7	25.7	75.3	138.8	285.1	336	14.1	10.4
F1AH0686	FT-3KL F140100	145.0	36.0	95.3	427.5	380.1	1,335	32.6	24.0
F1AS3254	FT-3KL F200160	205.0	36.0	155.0	427.5	568.6	1,875	21.7	16.1

- 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

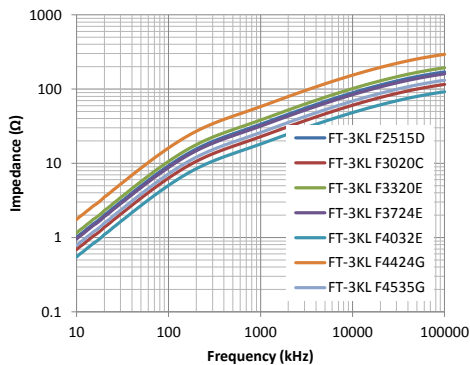
DC B-H



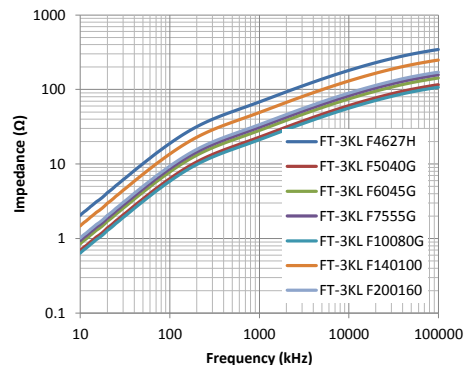
Permeability vs. Frequency



Impedance vs. Frequency



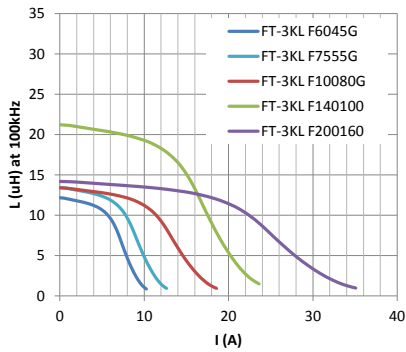
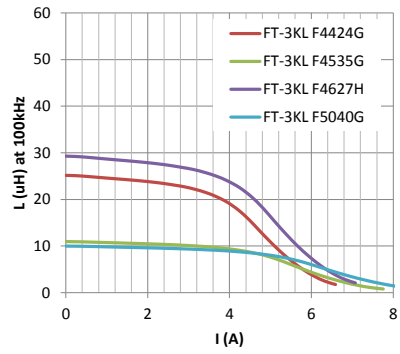
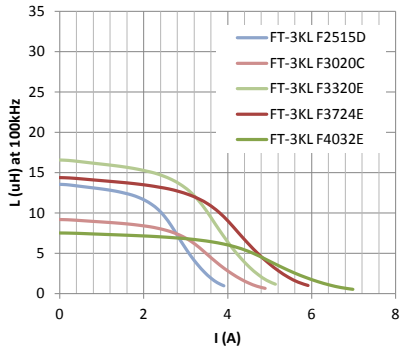
Impedance vs. Frequency



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Inductance vs. DC bias current



(Note)

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