

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

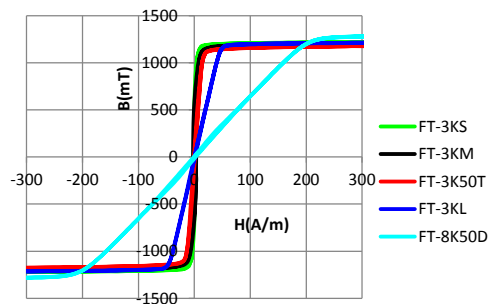
FT-3K50T and **FT-8K50D** are brand new materials, controlled by applying a magnetic field during annealing.

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

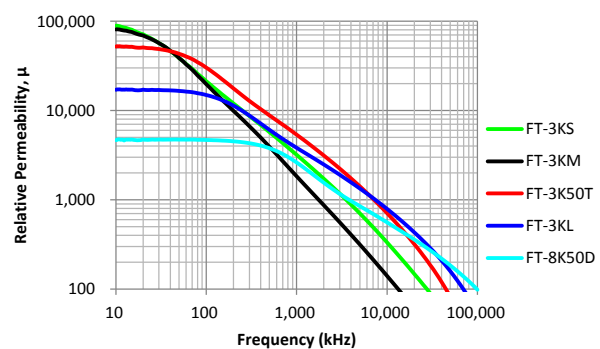
- FT-8K50D having excellent saturation characteristics compared to FT-3KL. (Fig.3)

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

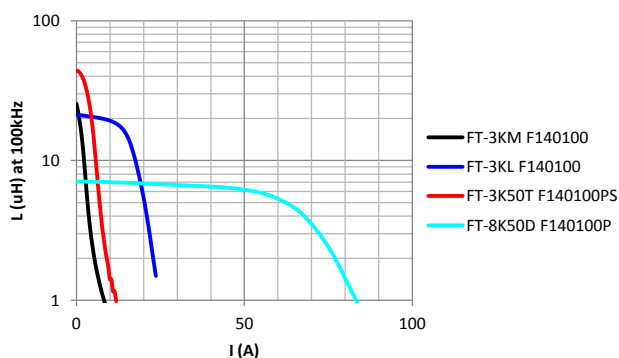
DC B-H (Fig.1)



Permeability vs. Frequency (Fig.2)



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

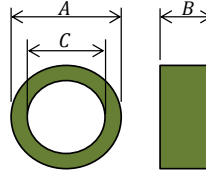


Common Mode Choke Cores

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

● FT-3KM F Series

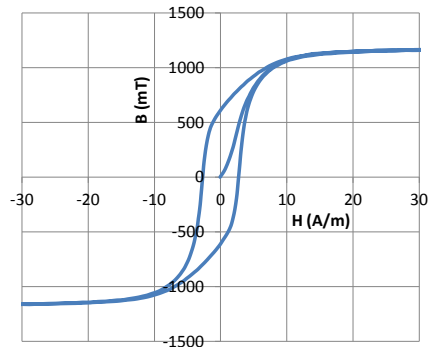
FT-3KM F series made of FT-3 M type material, having high permeability in wide frequency range, for common mode current for DC and AC power lines.



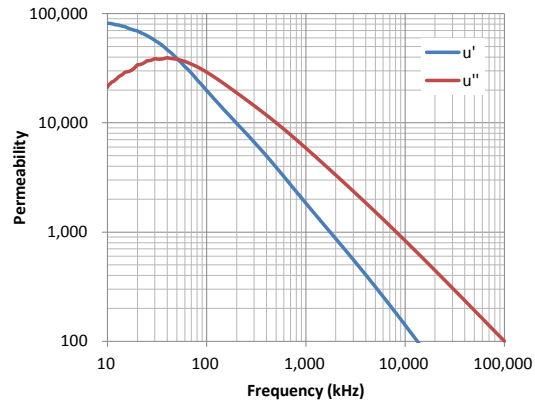
Product code	P/N	Finished dimension (mm)			Ae	Lm	Weight	AL value (μH/N ²)	
		A	B	C	(mm ²)	(mm)	(g)	10kHz	100kHz
		Max.	Max.	Min.	TYP.	TYP.	TYP.		+/-30%
F1AH0047	FT-3KM F2515D	28.5	17.5	12.3	46.9	62.8	25	42~100	16.9
F1AH1139	FT-3KM F3020C	33.1	13.0	17.4	38.2	78.9	28	29.8~55.4	11
F1AH0048	FT-3KM F3320E	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

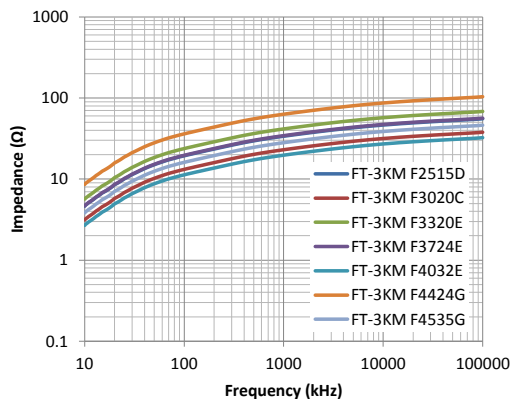
DC B-H



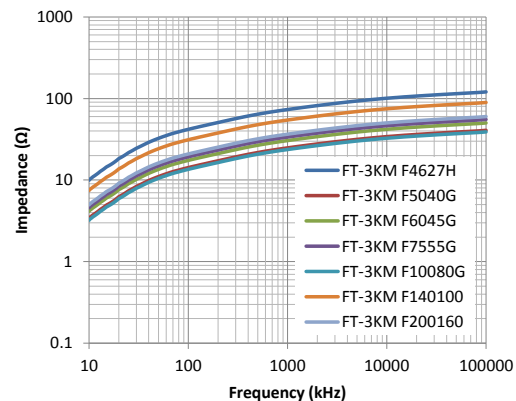
Permeability vs. Frequency



Impedance vs. Frequency



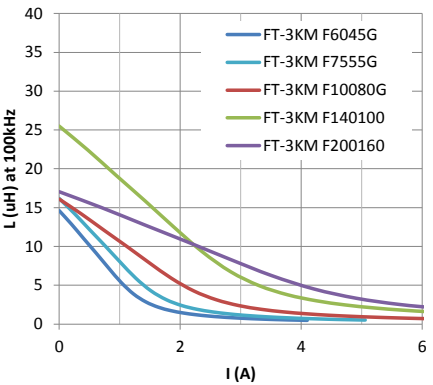
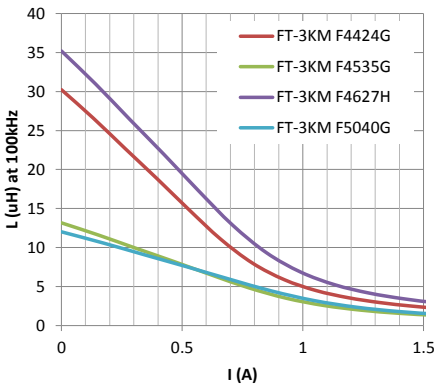
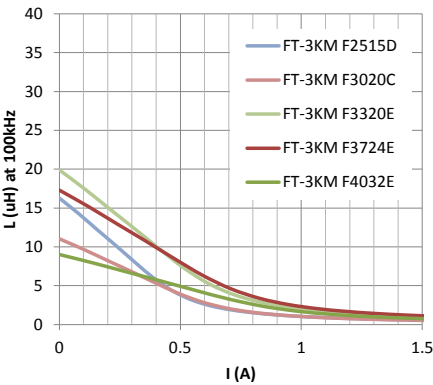
Impedance vs. Frequency



Common Mode Choke Cores

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

Inductance vs. DC bias current



(Note)

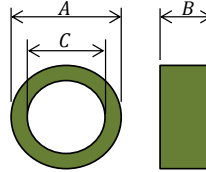
L vs. DC bias current is typical value, not guaranteed.

Common Mode Choke Cores

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

● 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.



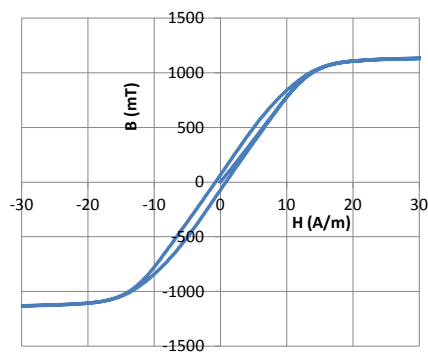
Product code	P/N	Finished dimension (mm)			Ae	Lm	Weight	AL value (μH/N ²)	
		A	B	C	(mm ²)	(mm)	(g)	10kHz	100kHz
		Max.	Max.	Min.	TYP.	TYP.	TYP.	+/-30%	
F1AH1157	FT-3K50T F1613YS	17.8	8.0	10.7	45.2	7.9	4	7.7~14.3	6.4
F1AH1181	FT-3K50T F2117DS	23.3	15.3	13.9	18.9	59.6	11	14.7~27.3	12.0
F1AH1182	FT-3K50T 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.

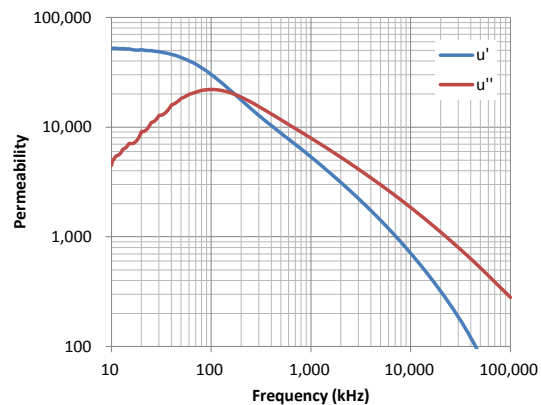
- No Ozone Layer Depleting Chemicals are used in these products or their manufacturing process.

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

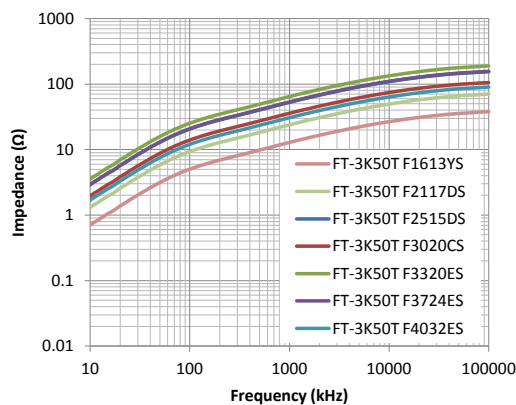
DC B-H



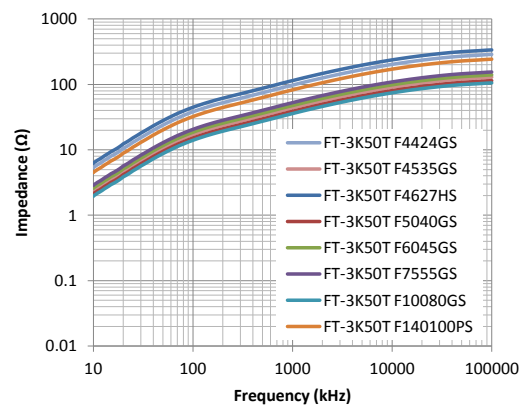
Permeability vs. Frequency



Impedance vs. Frequency



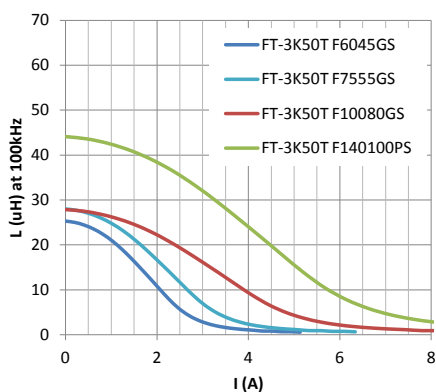
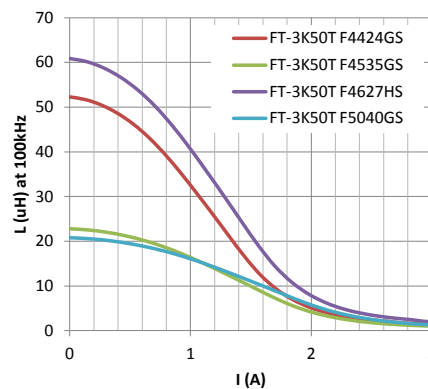
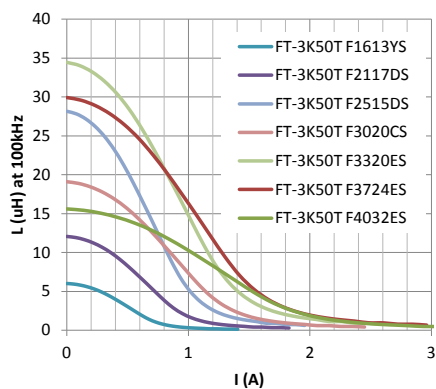
Impedance vs. Frequency



Common Mode Choke Cores

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

Inductance vs. DC bias current



(Note)

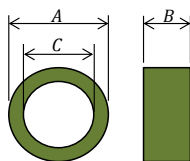
L vs. DC bias current is typical value, not guaranteed.

Common Mode Choke Cores

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

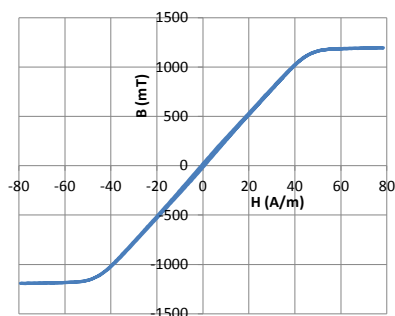
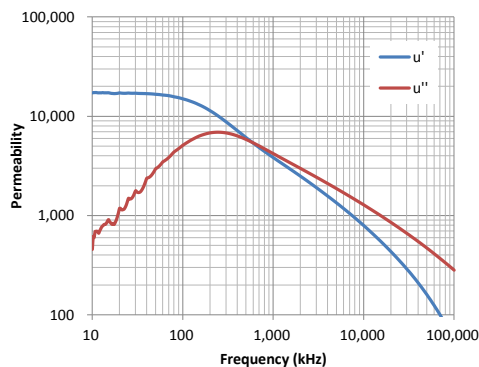
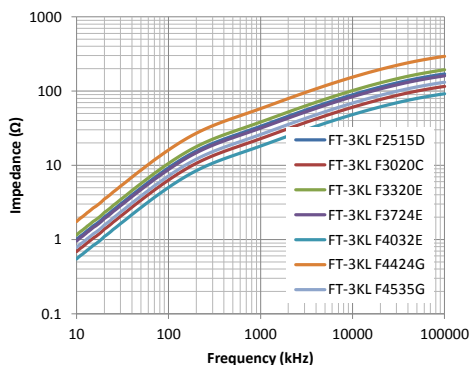
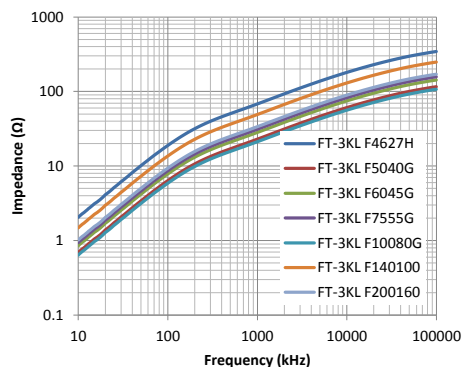
● FT-3KL F Series

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	AL value (μH/N ²)	
		A	B	C	(mm ²)	(mm)	(g)	10kHz	100kHz
		Max.	Max.	Min.	TYP.	TYP.	TYP.	+/-30%	+/-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

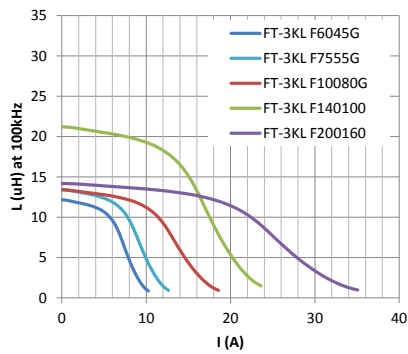
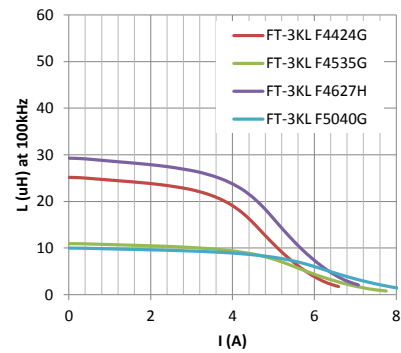
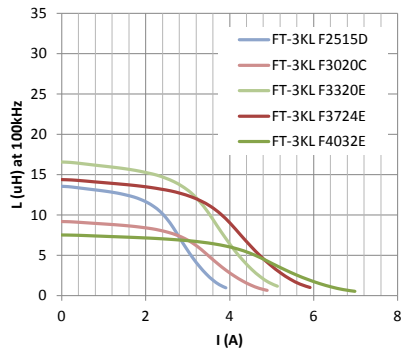
- Plastic material: UL94 V-0 certified resin (130°C:PBT, 155°C:PET of heat resistance) is used for these core cases.
 - No Ozone Layer Depleting Chemicals are used in these products or their manufacturing process.
 - Ae: effective cross-section area, Lm: mean magnetic path length

DC B-H

Permeability vs. Frequency

Impedance vs. Frequency

Impedance vs. Frequency


Common Mode Choke Cores

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

Inductance vs. DC bias current



(Note)

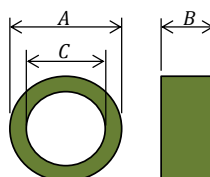
L vs. DC bias current is typical value, not guaranteed.

Common Mode Choke Cores

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

● 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.



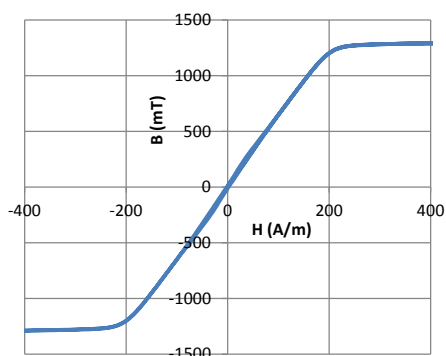
Product code	P/N	Finished dimension (mm)			Ae	Lm	Weight	AL value (μH/N ²)	
		A	B	C	(mm ²)	(mm)	(g)	10kHz	100kHz
		Max.	Max.	Min.	TYP.	TYP.	TYP.	+/-30%	+/-30%
F1AH1121	FT-8K50D F4535G	49.5	25.7	30.5	75.0	125.7	89	3.7	3.7
F1AH1122	FT-8K50D F6045G	64.7	26.0	40.3	107.3	166.0	157	4.1	4.0
F1AH1123	FT-8K50D 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.

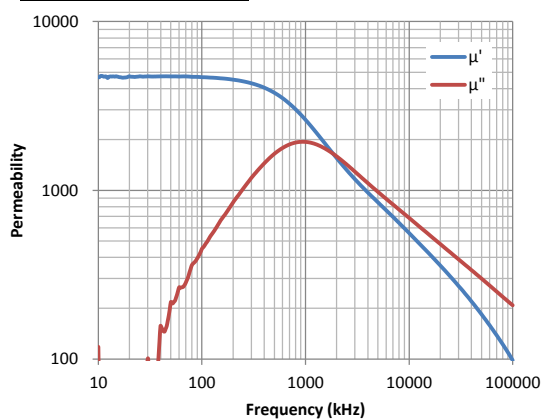
- No Ozone Layer Depleting Chemicals are used in these products or their manufacturing process.

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

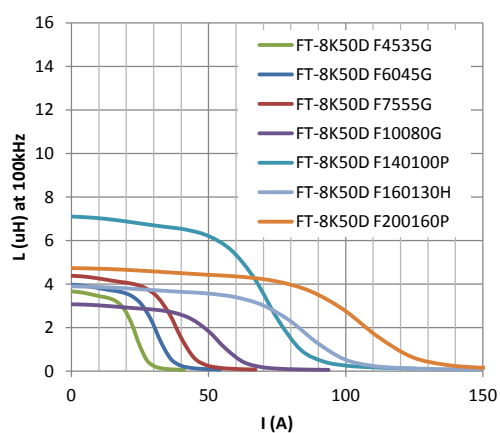
DC B-H



Permeability vs. Frequency

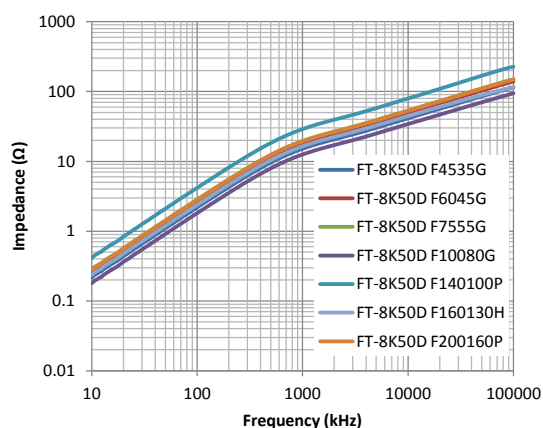


Inductance vs. DC bias current



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

Impedance vs. Frequency



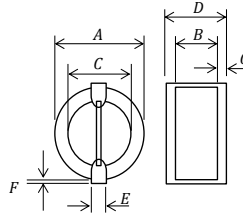
Common Mode Choke Cores for Single-phase

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

● FT-3KM K Series
FT-3K50T K Series

FT-3KM K series cores made of FT-3 M type material are for common mode chokes for single lines, DC and single-phase AC power lines.

FT-3K50T K series cores made of FT-3 50T type material are upgrade version of FT-3KM, which has higher inductance and impedance in the range of over than 100kHz frequency.


FT-3KM K Series

Product code	P/N	Finished dimension (mm)							Ae (mm ²)	Lm (mm)	Weight (g)	AL value (μH/N ²)	
		A	B	C	D	E	F	G				10kHz	100kHz
		Max.	Max.	Min.	Max.	REF.	REF.	REF.				MIN.	+/-30%
F1AH0538	FT-3KM K1208A	13.7	7.8	5.5	11.4	2.6	-	1.8	7.7	30.3	2.9	18.2	5.8
F1AH0694	FT-3KM K1208C	14.2	13.2	6.3	16.2	3.0	-	1.5	13.3	31.7	4.5	24	8.8
F1AH0654	FT-3KM K1812A	20.9	8.8	9.8	13.8	3.5	-	2.5	11.3	47.1	5.8	14.7	5.3
F1AH0693	FT-3KM K1912C	21.8	14.0	9.5	19.0	3.5	-	2.5	24.4	48.9	13.0	28.2	10.6
F1AH0694	FT-3KM K2313D	25.9	15.8	11.0	21.4	4.0	-	2.8	43.9	57.3	23.0	41.6	15.3
F1AH0695	FT-3KM K2214B	24.9	11.3	11.5	16.9	4.0	-	2.8	22.2	56.5	13.0	22.2	8.1
F1AH0696	FT-3KM K2515D	27.9	16.3	12.5	21.9	3.5	-	2.8	46.3	62.8	26.0	41.6	15.3
F1AH0697	FT-3KM K2818E	31.1	18.7	15.3	24.7	3.5	1.5	3.0	55.5	72.3	37.0	43.4	15.9
F1AH0699	FT-3KM K3819D	41.1	16.2	16.3	24.2	4.0	2.0	4.0	87.9	89.5	68.0	55.5	20.4
F1AH0700	FT-3KM K3824G	41.3	23.7	20.9	31.7	4.0	2.0	4.0	105	97.4	87.0	61	24.4
F1AH0701	FT-3KM K5328E	57.1	19.7	24.1	29.7	5.5	2.0	5.0	127.5	114.7	155.0	62.5	25.0

FT-3K50T K Series

Product code	P/N	Finished dimension (mm)							Ae (mm ²)	Lm (mm)	Weight (g)	AL value (μH/N ²)	
		A	B	C	D	E	F	G				10kHz	100kHz
		Max.	Max.	Min.	Max.	REF.	REF.	REF.				+/-30%	+/-30%
F1AH1128	FT-3K50T K1208AS	13.7	7.8	5.5	11.4	2.6	-	1.8	7.7	30.3	2.9	16.6	10.3
F1AH1129	FT-3K50T K1208CS	14.2	13.2	6.3	16.2	3.0	-	1.5	13.3	31.7	4.5	26.9	16.7
F1AH1130	FT-3K50T K1812AS	20.9	8.8	9.8	13.8	3.5	-	2.5	11.3	47.1	5.8	13.22	8.2
F1AH1131	FT-3K50T K1912CS	21.8	14.0	9.5	19.0	3.5	-	2.5	24.4	48.9	13.0	32.6	20.2
F1AH1132	FT-3K50T K2313DS	25.9	15.8	11.0	21.4	4.0	-	2.8	43.9	57.3	23.0	50.8	31.5
F1AH1133	FT-3K50T K2214BS	24.9	11.3	11.5	16.9	4.0	-	2.8	22.2	56.5	13.0	25.8	16.0
F1AH1134	FT-3K50T K2515DS	27.9	16.3	12.5	21.9	3.5	-	2.8	46.3	62.8	26.0	46.9	29.1
F1AH1135	FT-3K50T K2818ES	31.1	18.7	15.3	24.7	3.5	1.5	3.0	55.5	72.3	37.0	49.0	30.4
F1AH1136	FT-3K50T K3819DS	41.1	16.2	16.3	24.2	4.0	2.0	4.0	87.9	89.5	68.0	62.5	38.7
F1AH1137	FT-3K50T K3824GS	41.3	23.7	20.9	31.7	4.0	2.0	4.0	105	97.4	87.0	67.4	41.8
F1AH1138	FT-3K50T K5328ES	57.1	19.7	24.1	29.7	5.5	2.0	5.0	127.5	114.7	155.0	71.1	44.1

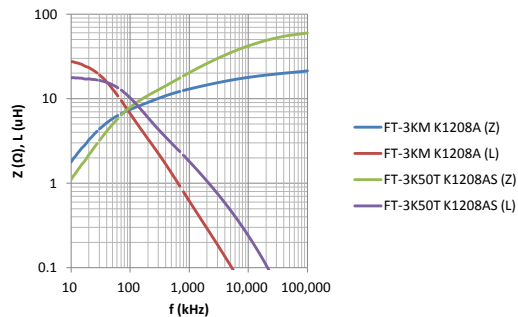
- Plastic material: UL94 V-0 certified resin (130°C:PBT, 155°C:PET of heat resistance) is used for these core cases.

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

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

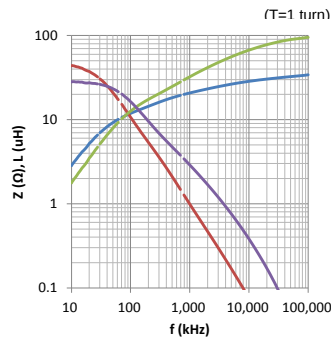
Inductance, Impedance vs. Frequency

(T=1 turn)

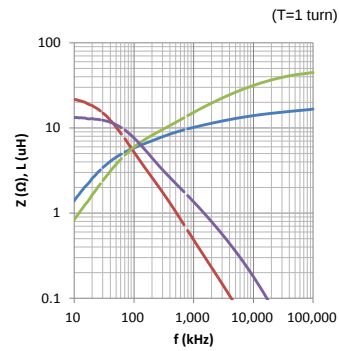


Common Mode Choke Cores for Single-phase

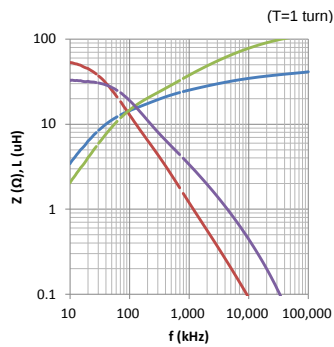
For signal lines, DC and AC power lines and Output filters



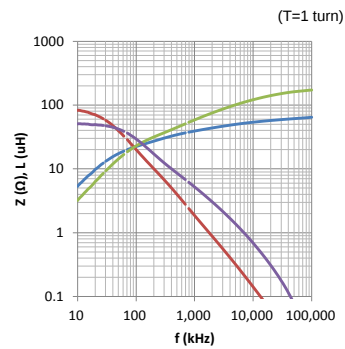
— FT-3KM K1208C (Z)
— FT-3KM K1208C (L)
— FT-3K50T K1208CS (Z)
— FT-3K50T K1208CS (L)



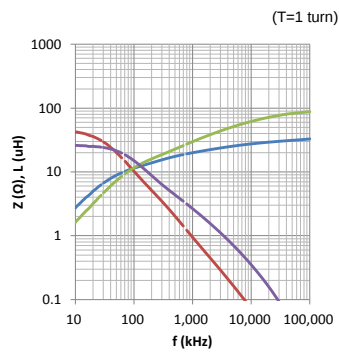
— FT-3KM K1812A (Z)
— FT-3KM K1812A (L)
— FT-3K50T K1812AS (Z)
— FT-3K50T K1812AS (L)



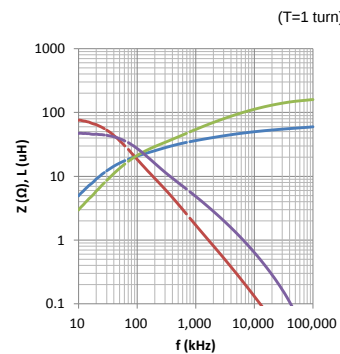
— FT-3KM K1912C (Z)
— FT-3KM K1912C (L)
— FT-3K50T K1912CS (Z)
— FT-3K50T K1912CS (L)



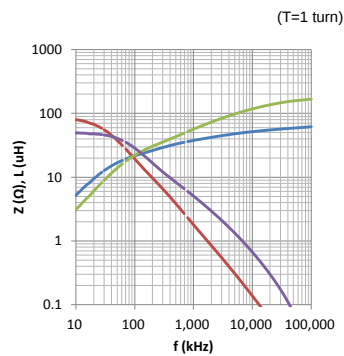
— FT-3KM K2313D (Z)
— FT-3KM K2313D (L)
— FT-3K50T K2313DS (Z)
— FT-3K50T K2313DS (L)



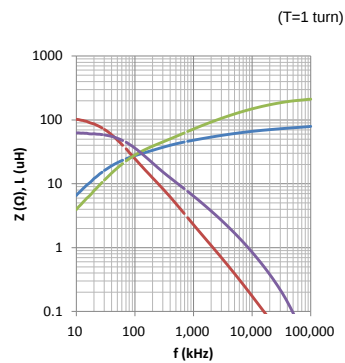
— FT-3KM K2214B (Z)
— FT-3KM K2214B (L)
— FT-3K50T K2214BS (Z)
— FT-3K50T K2214BS (L)



— FT-3KM K2515D (Z)
— FT-3KM K2515D (L)
— FT-3K50T K2515DS (Z)
— FT-3K50T K2515DS (L)



— FT-3KM K2818E (Z)
— FT-3KM K2818E (L)
— FT-3K50T K2818ES (Z)
— FT-3K50T K2818ES (L)



— FT-3KM K3819D (Z)
— FT-3KM K3819D (L)
— FT-3K50T K3819DS (Z)
— FT-3K50T K3819DS (L)

Common Mode Choke Cores for Single-phase

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

