

Specification of Cjiang products

Customer	
Product Name	Thin film power inductor
Customer P/N:	
Cjiang P/N:	FTM Series

[☒ New Released, ☐ Revised]

SPEC No.:

REMARK:		
Customer Approval Feedback		

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Version change history

Rev	Date	Description	APPROVED	CHECKED	DRAWN
1.0	2025/10/17	Document formulation	BOND	MIKO	MIKO
2.0	2026/9/24	Additional Model Introduced	BOND	XUETING	XUETING

Caution :

All products listed in this specification are developed, designed and intended for use in general electronics equipment. The products are not designed or Warranted to meet the requirements of the applications listed below, whose performance and/or quality require especially high reliability, or whose failure, malfunction or trouble might directly cause damage to society, person, or property. Please understand that we are not responsible for any damage or liability caused by use of the products in any of the applications below. Please contact us for more details if you intend to use our products in the following applications.

1. Aircraft equipment.
2. Aerospace equipment.
3. Undersea equipment.
4. nuclear control equipment.
5. military equipment.
6. Power plant equipment.
7. Medical equipment.
8. Transportation equipment (automobiles, trains, ships,etc.).
9. Traffic signal equipment.
10. Disaster prevention / crime prevention equipment.
11. Data-processing equipment.
12. Applications of similar complexity or with reliability requirements comparable to the applications listed in the above.

1.Introduction

- Halogen Free, RoHS compliance
- High rated current
- 125°C maximum total temperature operation
- Low core loss
- Strong EMI resistance

2. Applications

- DC/DC converters.
- Pad, Smartphone.
- Portable gaming devices, Smartwear, Wi-Fi module.
- Notebooks, VR, AR.
- LCD displays, HDDs, DVCs, DSCs, etc.
- Baseband power supply, Amplifier, Power management, Module power supply, Camera power management.

3. Product Identification

FTM 2520 10 S 1R0 M C T A
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① Series Name: Thin film power inductor

② External Dimensions (L×W): 2520=2.5*2.0mm

③ External Dimensions (H): 10=1.0mm

④ Series Code

⑤ Inductance value: 1R0=1.0uH

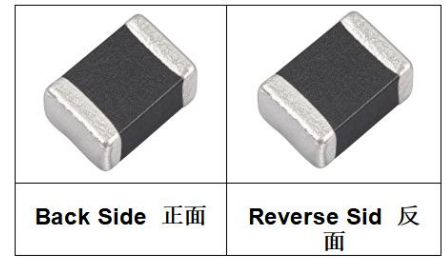
⑥ Tolerance: M=±20%

⑦ Applications: C=Commercial Grade

⑧ Packing: T=Tape Carrier Package

⑨ Electrode Type: A=5-surface Terminal Electrode B=Bottom Terminal

A

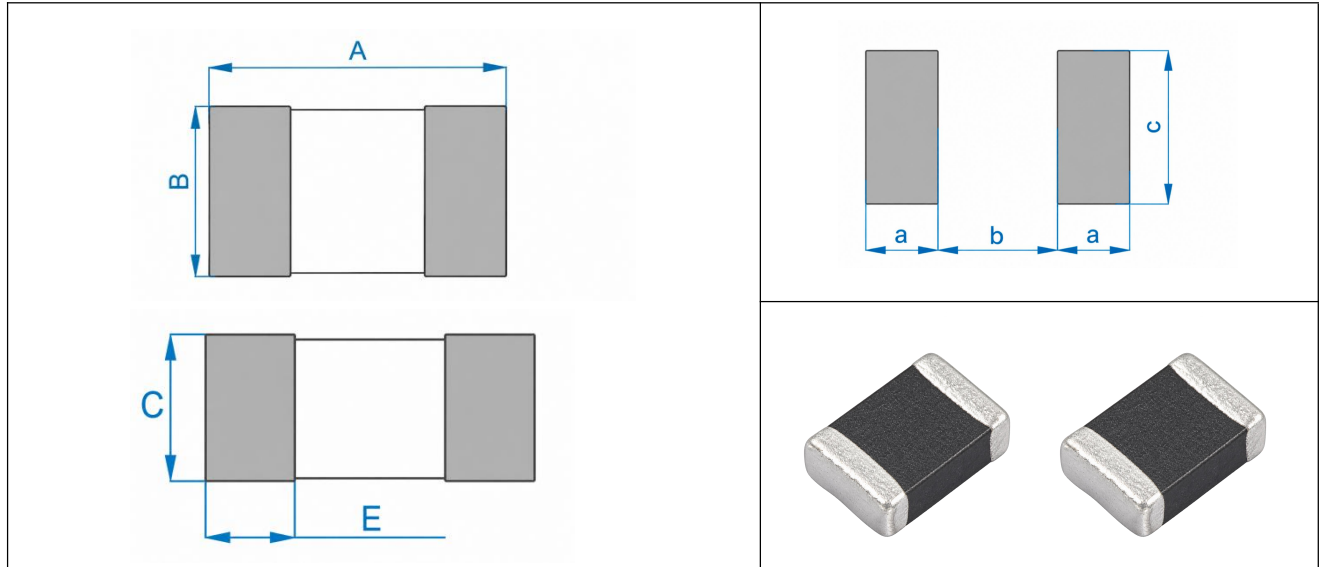


B



4.Dimensions (unit:mm)

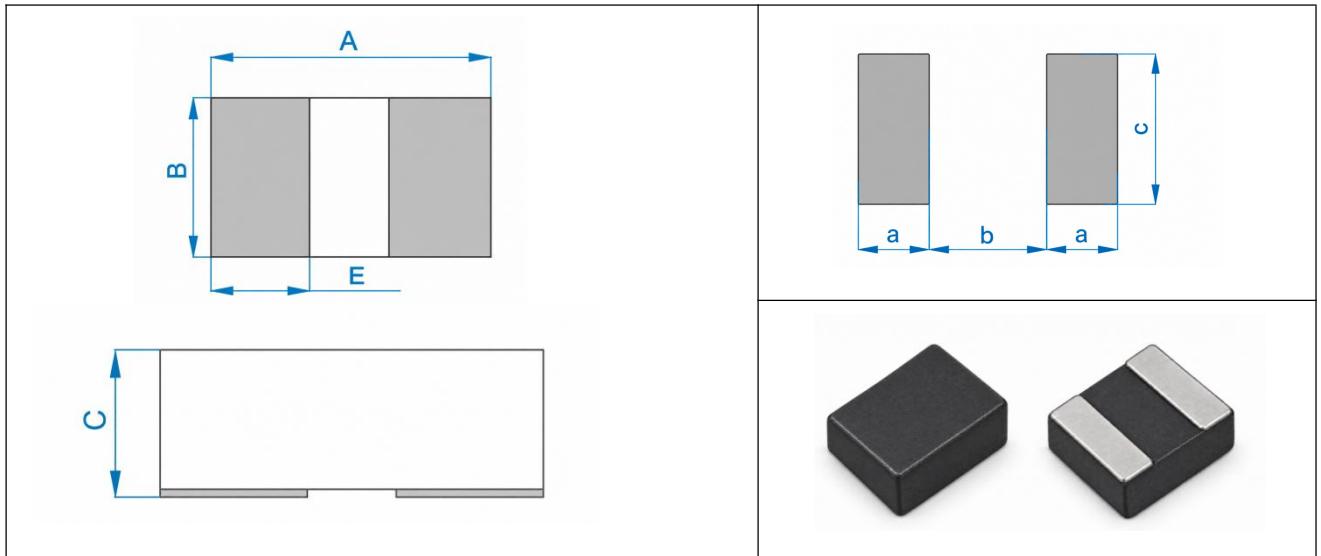
① OutlineDimensions: 5-surface Terminal Electrode Recommended Land Pattern Dimensions



Series	A	B	C	E	a typ	b typ	c typ
FTM201610-A	2.0±0.2	1.6±0.2	1.0MAX	0.5±0.3	0.6	1.2	1.8
FTM252010-A	2.5±0.2	2.0±0.2	1.0MAX	0.6±0.3	0.7	1.5	2.0
FTM252012-A	2.5±0.2	2.0±0.2	1.2MAX	0.6±0.3	0.7	1.5	2.0
FTM322510-A	3.2±0.2	2.5±0.2	1.0MAX	0.8±0.2	0.95	1.6	2.8

② OutlineDimensions: Bottom Terminal

Recommended Land Pattern Dimensions



Series	A	B	C	E	a typ	b typ	c typ
FTM201208-B	2.0±0.2	1.2±0.2	0.8MAX	0.6±0.2	0.8	0.5	1.45
FTM201210-B	2.0±0.2	1.2±0.2	1.0MAX	0.6±0.2	0.8	0.5	1.45
FTM201610-B	2.0±0.2	1.6±0.2	1.0MAX	0.6±0.2	0.8	0.5	1.7
FTM201612-B	2.0±0.2	1.6±0.2	1.2MAX	0.6±0.2	0.8	0.5	1.7
FTM252010-B	2.5±0.2	2.0±0.2	1.0MAX	0.7±0.2	1.0	0.6	2.1
FTM252012-B	2.5±0.2	2.0±0.2	1.2MAX	0.7±0.2	1.0	0.6	2.1

5. Electrical Characteristics

FTM201610-A Series (2.0*1.6*1.0 mm)

Part No.	Inductance	DC Resistance		Saturation Current		Heating Rating Current		Self-Resonant Frequency	Withstand Voltage
	L0 (μH)	DCR (mΩ)		Isat (A)		Irms (A)		S.R.F (MHz)	V _w (V)
	±20%,1MHz / 1V	Typ	MAX.	TYP.	MAX.	TYP.	MAX.	MIN.	MAX.
FTM201610SR24MCTA	0.24	15	18	6.5	6.0	5.4	5.0	98	20
FTM201610SR33MCTA	0.33	18	21	6.1	5.6	5.0	4.6	91	
FTM201610SR47MCTA	0.47	22	25	5.5	5.0	4.7	4.3	84	
FTM201610S1R0MCTA	1.0	48	55	4.4	4.0	3.8	3.4	63	
FTM201610S2R2MCTA	2.2	109	120	2.3	2.1	2.5	2.3	38	

FTM252010-A Series (2.5*2.0*1.0 mm)

Part No.	Inductance	DC Resistance		Saturation Current		Heating Rating Current		Self-Resonant Frequency	Withstand Voltage
	L0 (μH)	DCR (mΩ)		Isat (A)		Irms (A)		S.R.F (MHz)	V _w (V)
	±20%,1MHz / 1V	Typ	MAX.	TYP.	MAX.	TYP.	MAX.	MIN.	MAX.
FTM252010SR24MCTA	0.24	12	15	7.9	7.3	6.6	6.1	91	20
FTM252010SR33MCTA	0.33	15	18	7.2	6.6	6.0	5.5	85	
FTM252010SR47MCTA	0.47	18	22	6.5	6.0	5.4	5.0	77	
FTM252010S1R0MCTA	1.0	37	44	4.9	4.5	4.3	4.0	61	
FTM252010S2R2MCTA	2.2	96	110	2.8	2.6	2.6	2.4	42	
FTM252010S3R3MCTA	3.3	130	156	2.4	2.1	2.1	1.9	29	
FTM252010S4R7MCTA	4.7	175	210	2.0	1.8	1.8	1.6	22	

FTM252012-A Series (2.5*2.0*1.2 mm)

Part No.	Inductance	DC Resistance		Saturation Current		Heating Rating Current		Self-Resonant Frequency	Withstand Voltage
	L0 (μH)	DCR (mΩ)		Isat (A)		Irms (A)		S.R.F (MHz)	V _w (V)
	±20%,1MHz / 1V	Typ	MAX.	TYP.	MAX.	TYP.	MAX.	MIN.	MAX.
FTM252012SR82MCTA	0.82	29	35	4.8	5.2	4.6	4.2	54	20
FTM252012S1R0MCTA	1.0	37	44	4.9	4.5	4.3	4.0	51	
FTM252012S1R5MCTA	1.5	51	62	4.0	3.6	3.3	2.9	44	
FTM252012S2R2MCTA	2.2	96	110	2.8	2.6	2.6	2.4	42	
FTM252012S3R3MCTA	3.3	112	134	2.3	2.1	2.2	1.9	29	
FTM252012S4R7MCTA	4.7	175	210	2.0	1.8	1.8	1.6	22	

FTM322510-A Series (3.2*2.5*1.0 mm)

Part No.	Inductance	DC Resistance		Saturation Current		Heating Rating Current		Self-Resonant Frequency	Withstand Voltage
	L0 (μH)	DCR (mΩ)		Isat (A)		Irms (A)		S.R.F (MHz)	V _w (V)
	±20%,1MHz / 1V	Typ	MAX.	TYP.	MAX.	TYP.	MAX.	MIN.	MAX.
FTM322510S1R0MCTA	1.0	34	40	6.5	6.0	4.7	4.2	44	20

FTM201208-B Series (2.0*1.2*0.8 mm)

Part No.	Inductance	DC Resistance		Saturation Current		Heating Rating Current		Self-Resonant Frequency	Withstand Voltage
	L0 (μH)	DCR (mΩ)		Isat (A)		Irms (A)		S.R.F (MHz)	V _w (V)
	±20%,1MHz / 1V	Typ	MAX.	TYP.	MAX.	TYP.	MAX.	MIN.	MAX.
FTM201208HR24MCTB	0.24	13	16	7.5	6.9	6.4	6.0	95	20
FTM201208HR33MCTB	0.33	20	24	5.8	5.3	5.4	5.0	90	
FTM201208SR47MCTB	0.47	27	32.5	4.6	4.2	4.0	3.7	84	
FTM201208S1R0MCTB	1.0	58	70	3.3	3.0	2.3	2.1	63	

FTM201210-B Series (2.0*1.2*1.0 mm)

Part No.	Inductance	DC Resistance		Saturation Current		Heating Rating Current		Self-Resonant Frequency	Withstand Voltage
	L0 (μH)	DCR (mΩ)		Isat (A)		Irms (A)		S.R.F (MHz)	V _w (V)
	±20%,1MHz / 1V	Typ	MAX.	TYP.	MAX.	TYP.	MAX.	MIN.	MAX.
FTM201210SR47MCTB	0.47	26	30	5.4	5.0	4.5	4.1	84	20
FTM201210S1R0MCTB	1.0	58	70	3.5	3.3	3.0	2.7	63	

FTM201610-B Series (2.0*1.6*1.0 mm)

Part No.	Inductance	DC Resistance		Saturation Current		Heating Rating Current		Self-Resonant Frequency	Withstand Voltage
	L0 (μH)	DCR (mΩ)		Isat (A)		Irms (A)		S.R.F (MHz)	V _w (V)
	±20%,1MHz / 1V	Typ	MAX.	TYP.	MAX.	TYP.	MAX.	MIN.	MAX.
FTM201610SR24MCTB	0.24	15	18	7.7	7.0	6.3	5.8	101	20
FTM201610SR33MCTB	0.33	16	20	7.1	6.5	6.0	5.5	95	
FTM201610SR47MCTB	0.47	21	25	6.3	5.8	5.5	5.0	90	
FTM201610S1R0MCTB	1.0	44	50	4.5	4.2	3.8	3.5	65	
FTM201610S1R5MCTB	1.5	78	94	3.1	2.9	2.8	2.6	63	
FTM201610S2R2MCTB	2.2	114	125	2.4	2.2	2.1	1.9	35	

FTM201612-B Series (2.0*1.6*1.2 mm)

Part No.	Inductance	DC Resistance		Saturation Current		Heating Rating Current		Self-Resonant Frequency	Withstand Voltage
	L0 (μH)	DCR (mΩ)		Isat (A)		Irms (A)		S.R.F (MHz)	V _w (V)
	±20%,1MHz / 1V	Typ	MAX.	TYP.	MAX.	TYP.	MAX.	MIN.	MAX.
FTM201612SR24MCTB	0.24	15	18	7.7	7.0	6.3	5.8	101	20
FTM201612SR33MCTB	0.33	16	20	7.1	6.5	6.0	5.5	95	
FTM201612SR47MCTB	0.47	21	25	6.3	5.8	5.5	5.0	90	
FTM201612S1R0MCTB	1.0	44	50	4.5	4.2	3.8	3.5	65	
FTM201612S1R5MCTB	1.5	78	94	3.1	2.9	2.8	2.6	63	
FTM201612S2R2MCTB	2.2	114	125	2.4	2.2	2.1	1.9	35	

FTM252010-B Series (2.5*2.0*1.0 mm)

Part No.	Inductance	DC Resistance		Saturation Current		Heating Rating Current		Self-Resonant Frequency	Withstand Voltage
	L0 (μH)	DCR (mΩ)		Isat (A)		Irms (A)		S.R.F (MHz)	V _w (V)
	±20%,1MHz / 1V	Typ	MAX.	TYP.	MAX.	TYP.	MAX.	MIN.	MAX.
FTM252010SR24MCTB	0.24	12	14	9.0	8.2	6.6	6.1	91	20
FTM252010SR33MCTB	0.33	15	18	7.5	7.0	6.3	5.8	84	
FTM252010SR47MCTB	0.47	17	20	7.0	6.5	6.5	6.0	77	
FTM252010SR68MCTB	0.68	26	30	5.5	5.0	4.5	4.2	63	
FTM252010S1R0MCTB	1.0	35	40	5.2	4.8	4.5	4.1	58	
FTM252010S1R2MCTB	1.2	46	55	4.4	4.0	3.5	3.2	59	
FTM252010S1R5MCTB	1.5	51	62	4.0	3.6	3.3	2.9	42	
FTM252010S2R2MCTB	2.2	94	105	3.3	3.0	2.6	2.4	36	
FTM252010S4R7MCTB	4.7	200	235	1.8	1.6	1.8	1.6	25	

FTM252012-B Series (2.5*2.0*1.2 mm)

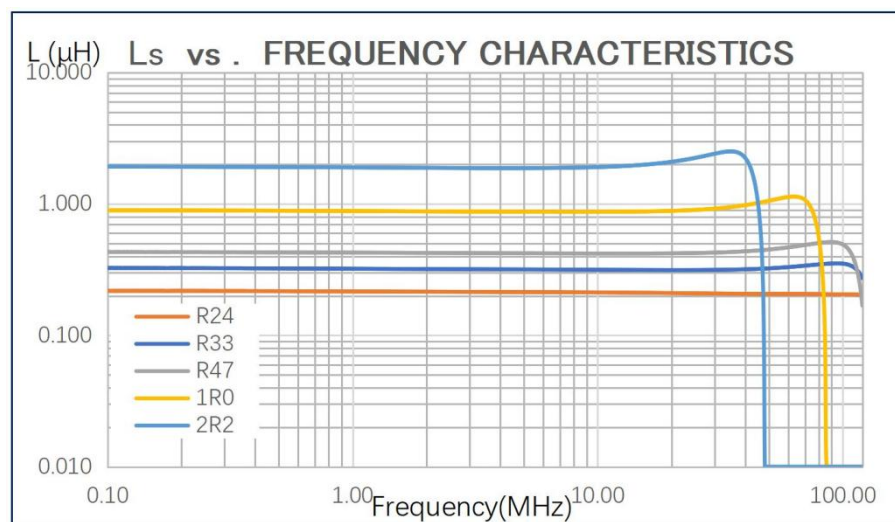
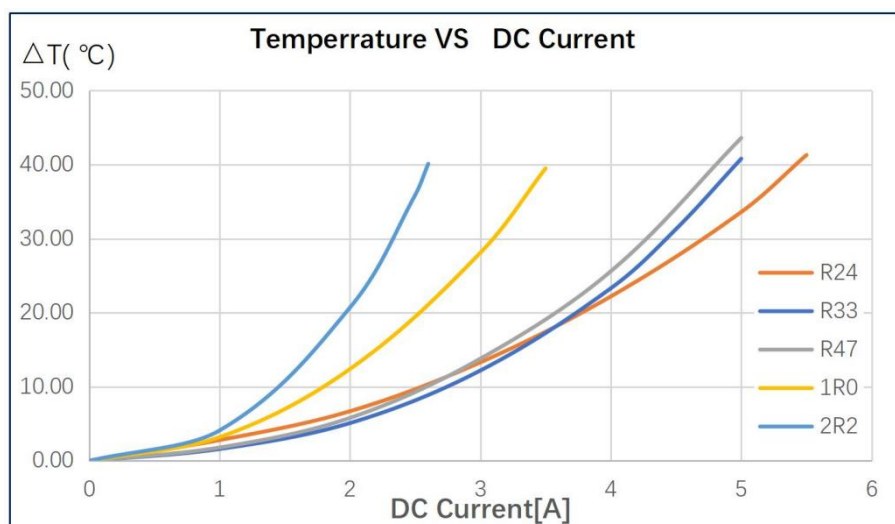
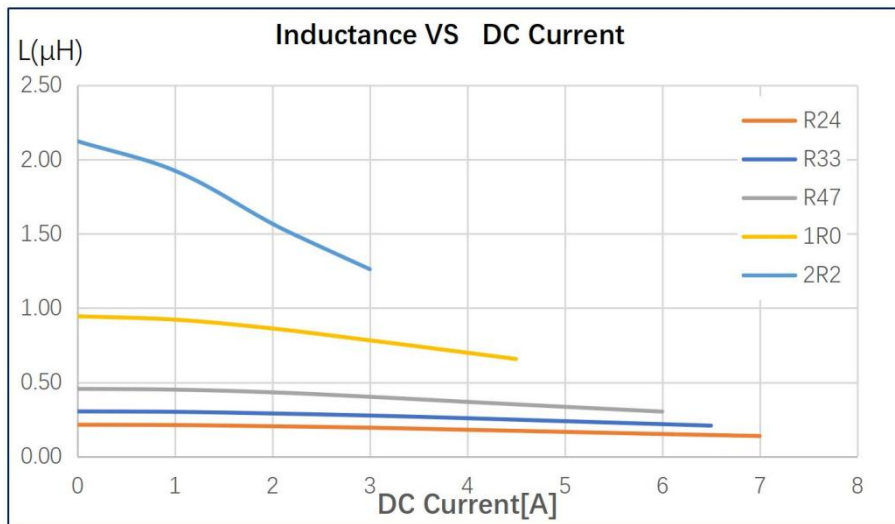
Part No.	Inductance	DC Resistance		Saturation Current		Heating Rating Current		Self-Resonant Frequency	Withstand Voltage
	L0 (μH)	DCR (mΩ)		Isat (A)		Irms (A)		S.R.F (MHz)	V _w (V)
	±20%,1MHz / 1V	Typ	MAX.	TYP.	MAX.	TYP.	MAX.	MIN.	MAX.
FTM252012SR24MCTB	0.24	12	14	9.0	8.2	6.6	6.1	91	20
FTM252012SR33MCTB	0.33	15	18	7.5	7.0	6.3	5.8	84	
FTM252012SR47MCTB	0.47	17	20	7.0	6.5	6.5	6.0	77	
FTM252012SR68MCTB	0.68	26	30	5.5	5.0	4.5	4.2	63	
FTM252012S1R0MCTB	1.0	35	40	5.2	4.8	4.5	4.1	56	
FTM252012S1R5MCTB	1.5	51	62	4.0	3.6	3.3	2.9	45	
FTM252012S2R2MCTB	2.2	94	105	3.3	3.0	2.6	2.4	38	
FTM252012S4R7MCTB	4.7	200	235	1.8	1.6	1.8	1.6	26	

Notes

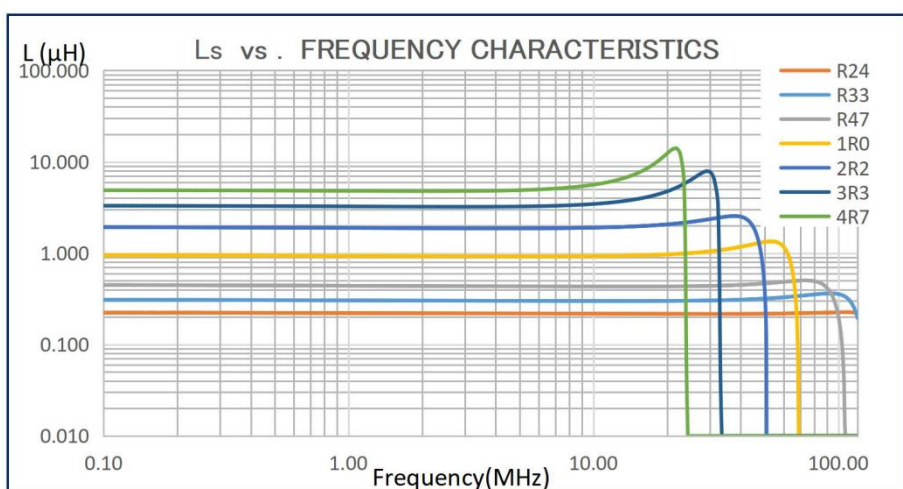
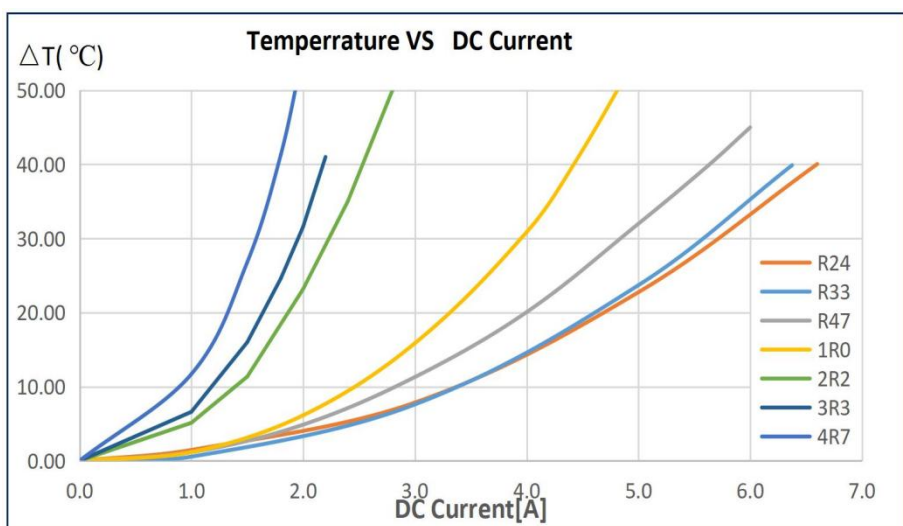
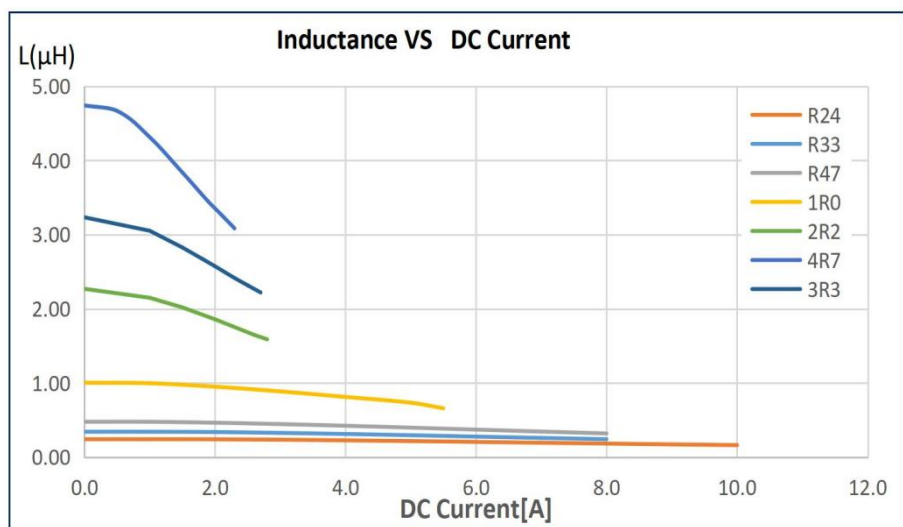
- Note1.: All test data is referenced to 25°C ambient.
 Note2.: Test Condition: 1MHz, 1.0Vrms.
 Note3.: Irms: DC current (A) that will cause an approximate ΔT of 40°C.
 Note4.: Isat: DC current (A) that will cause L0 to drop approximately 30%.
 Note5.: Operating Temperature Range -40°C to +125°C.
 Note6.: Rated Current: The lower of Isat and Irms

6. Typical Performance Curves

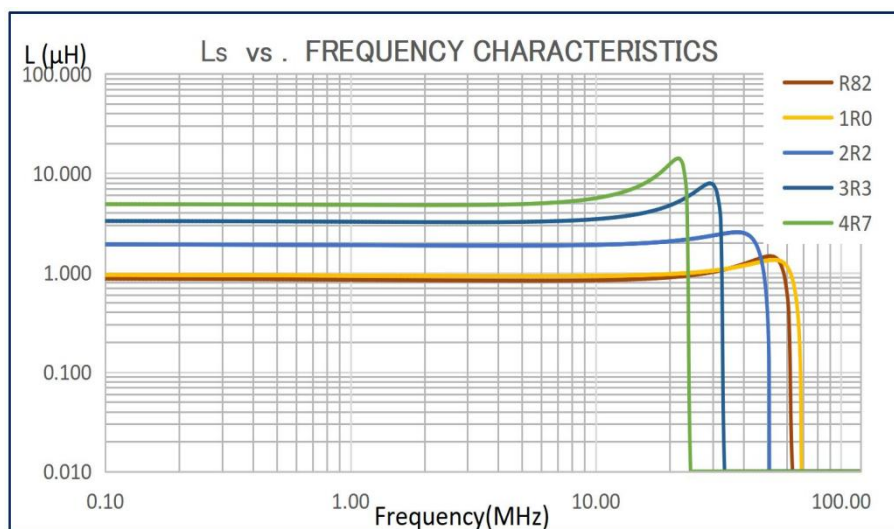
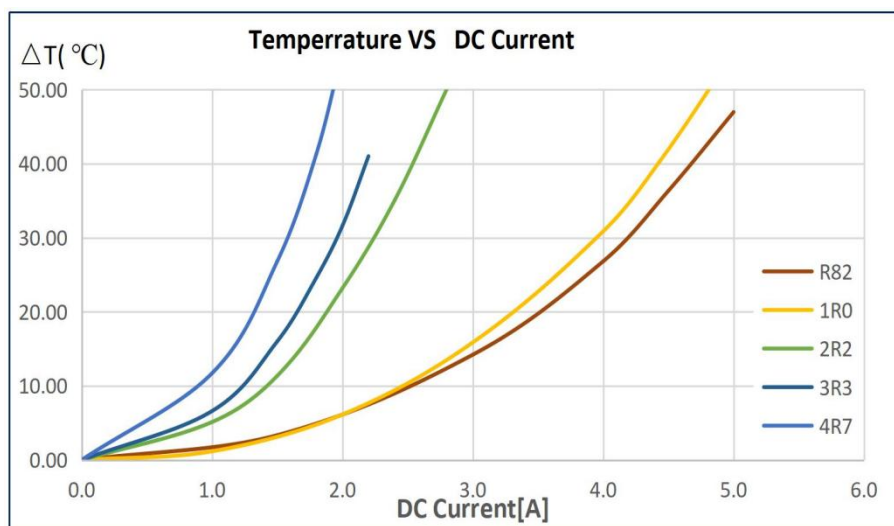
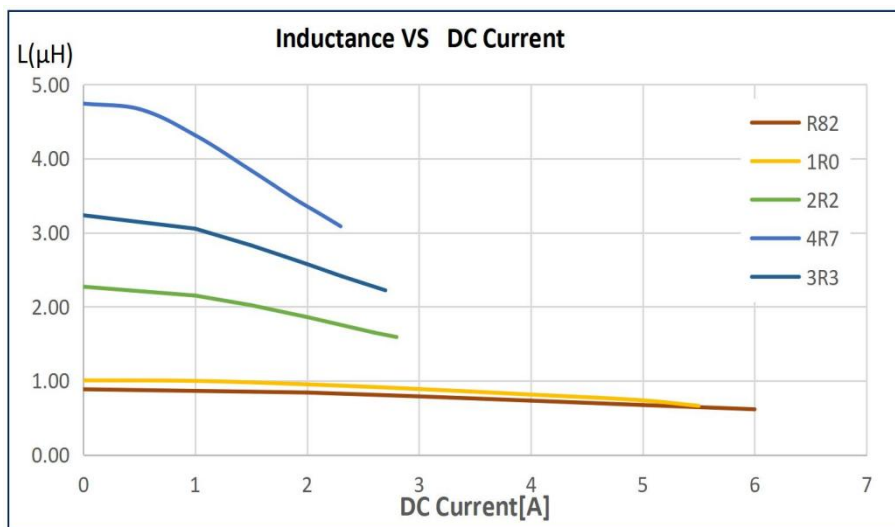
FTM201610-A Series



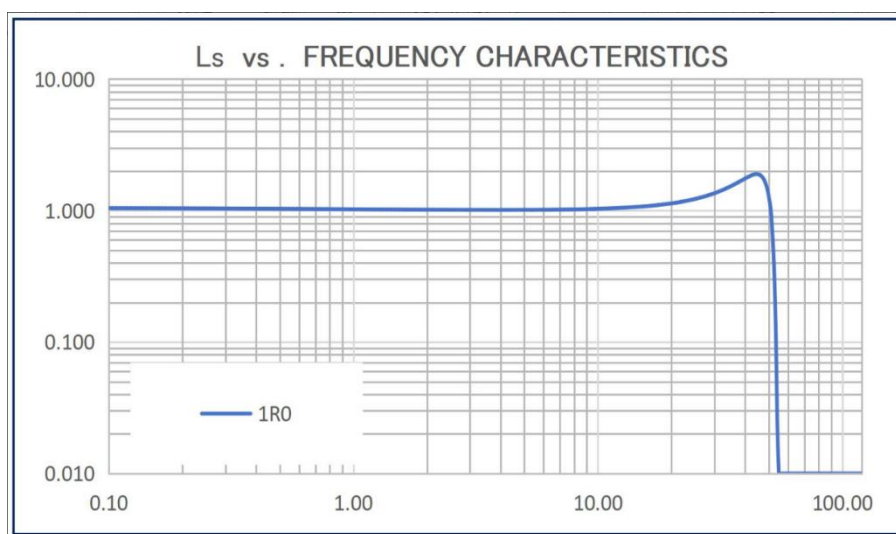
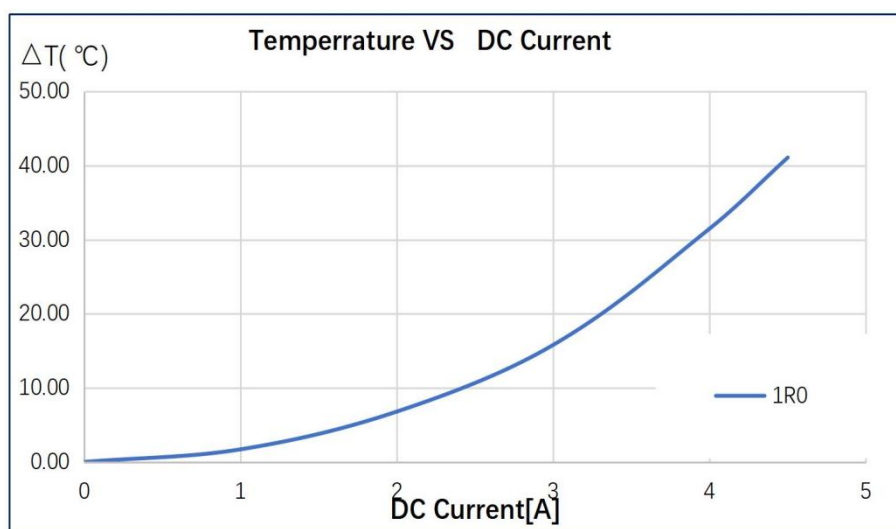
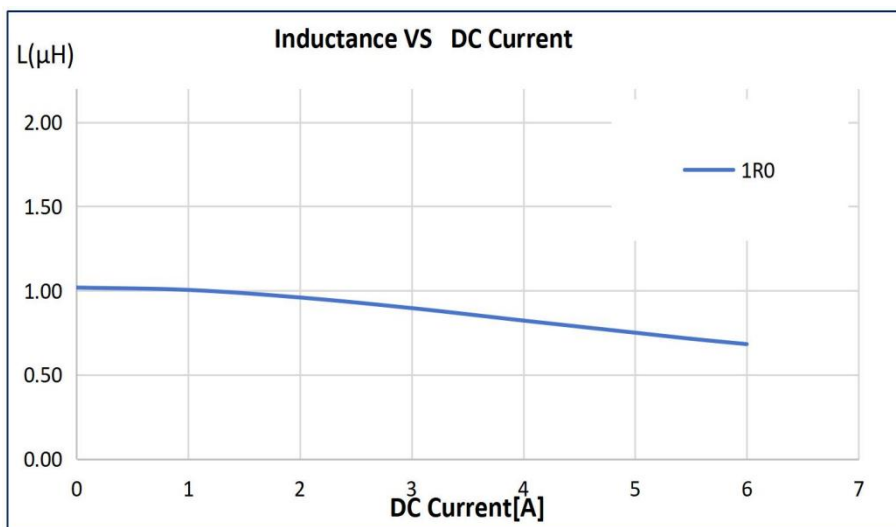
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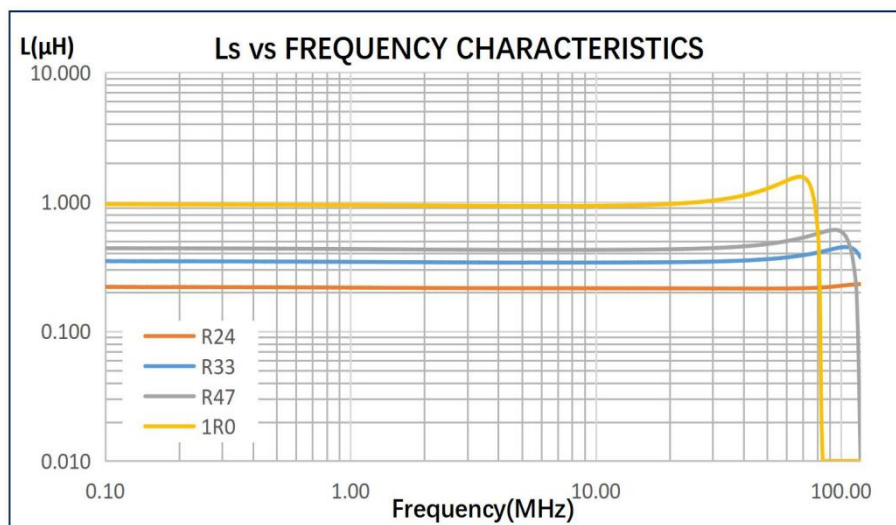
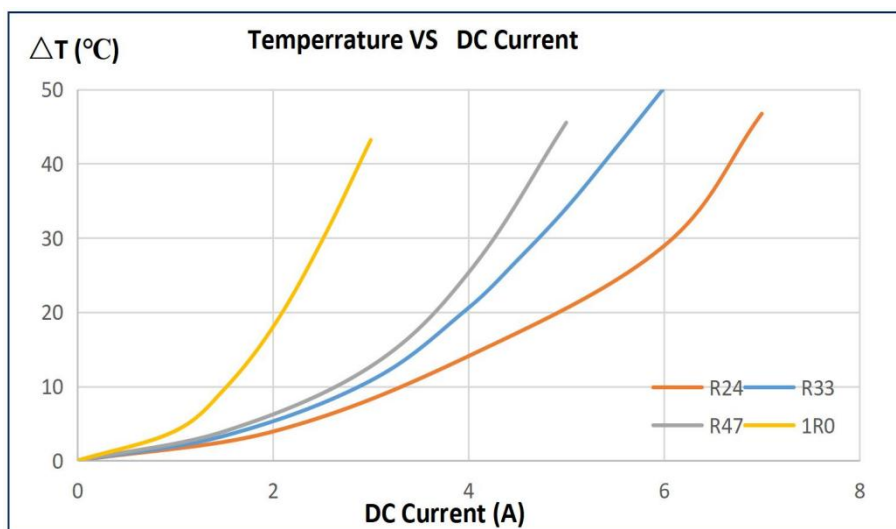
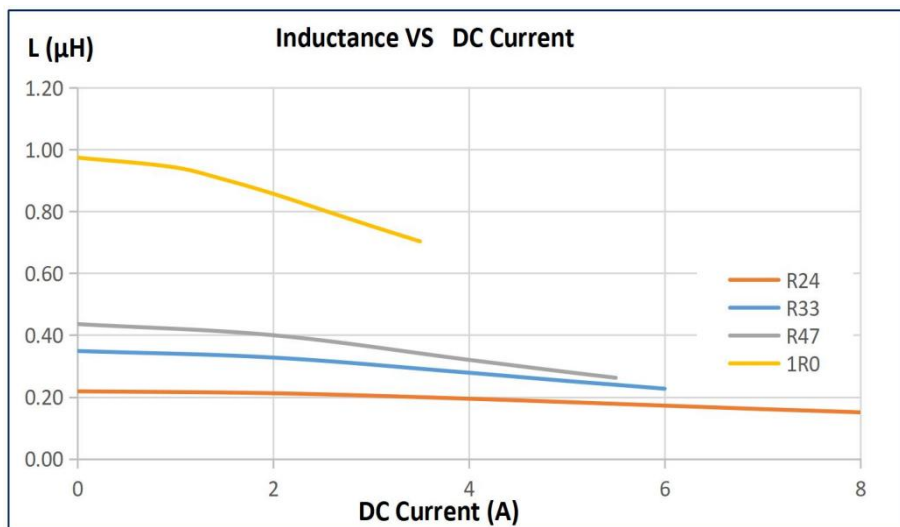
FTM252012-A Series



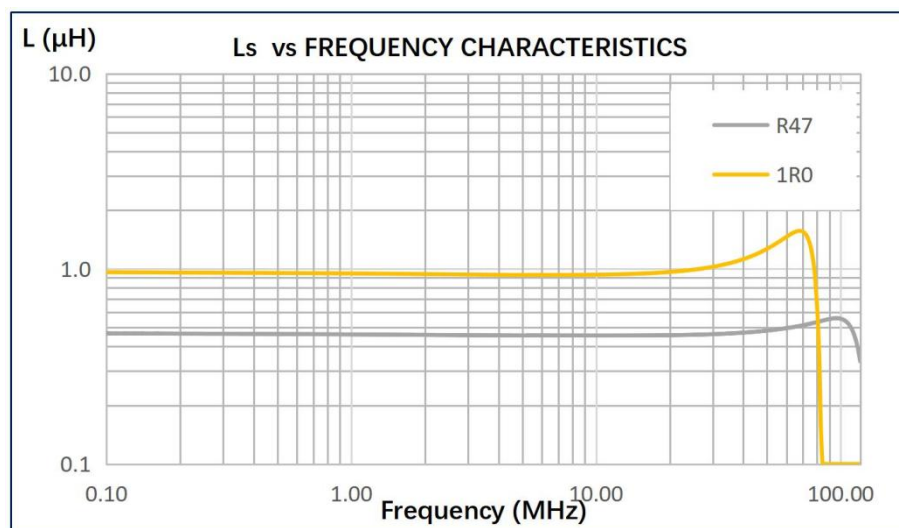
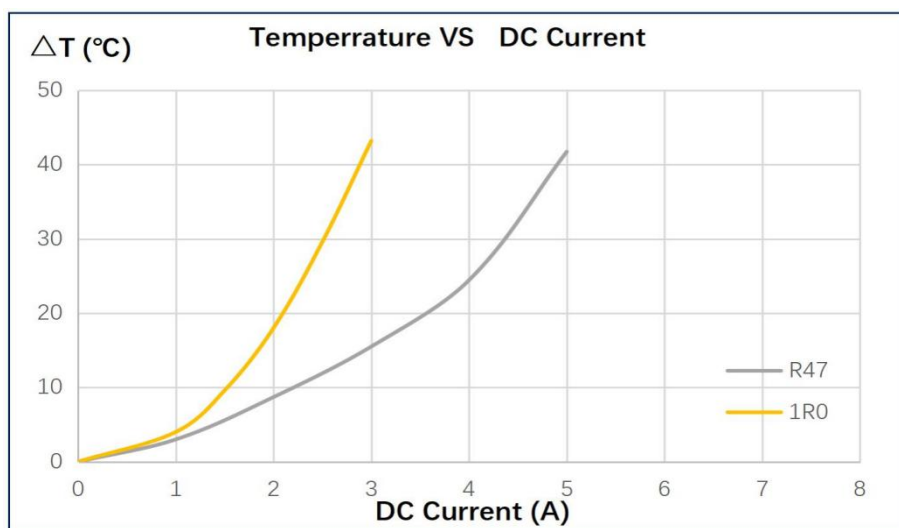
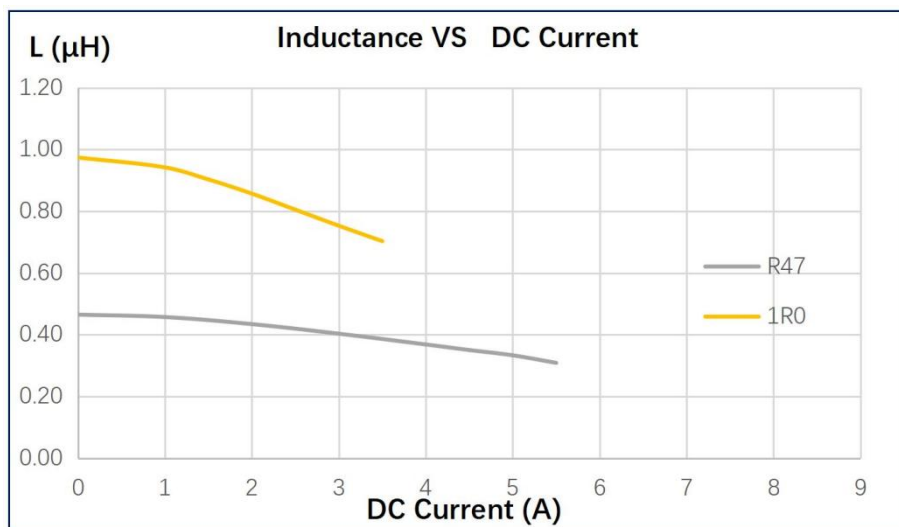
FTM322510-A Series



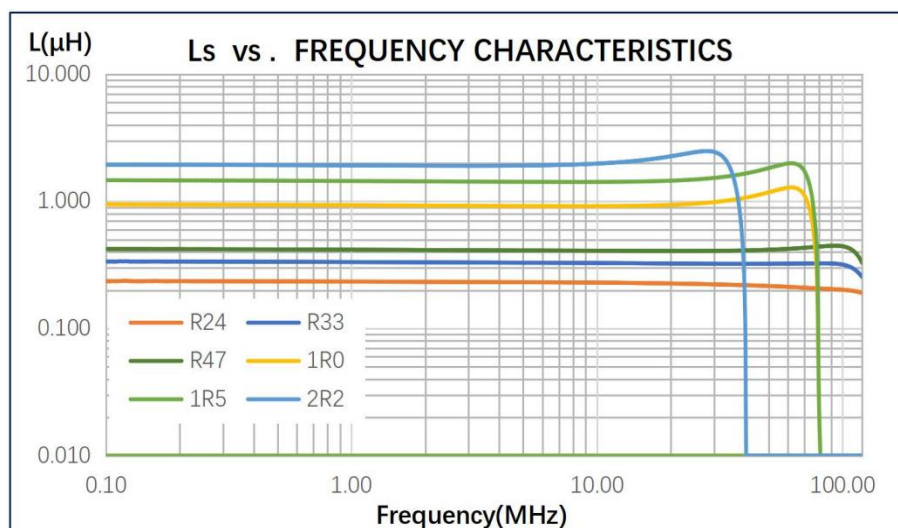
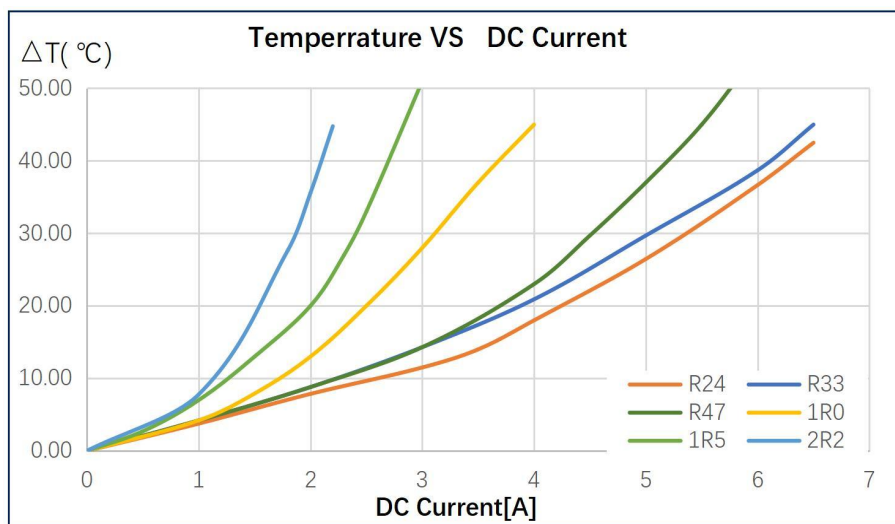
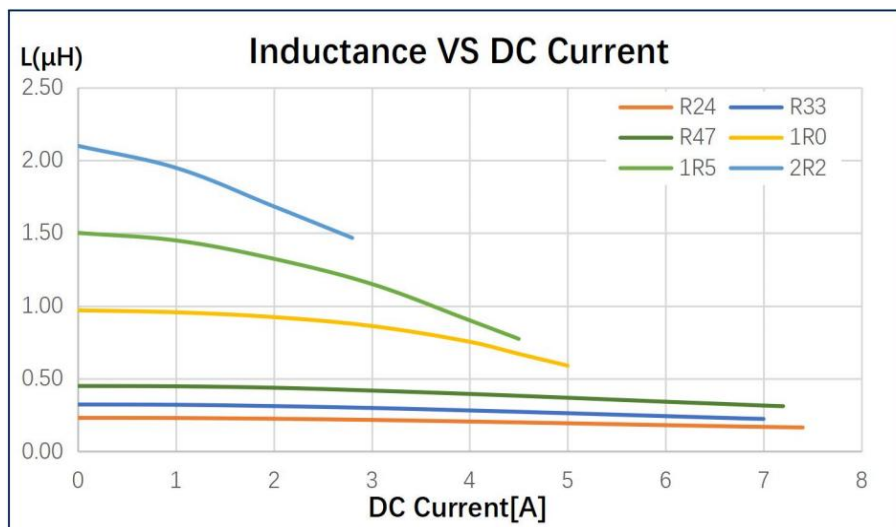
FTM201208-B Series



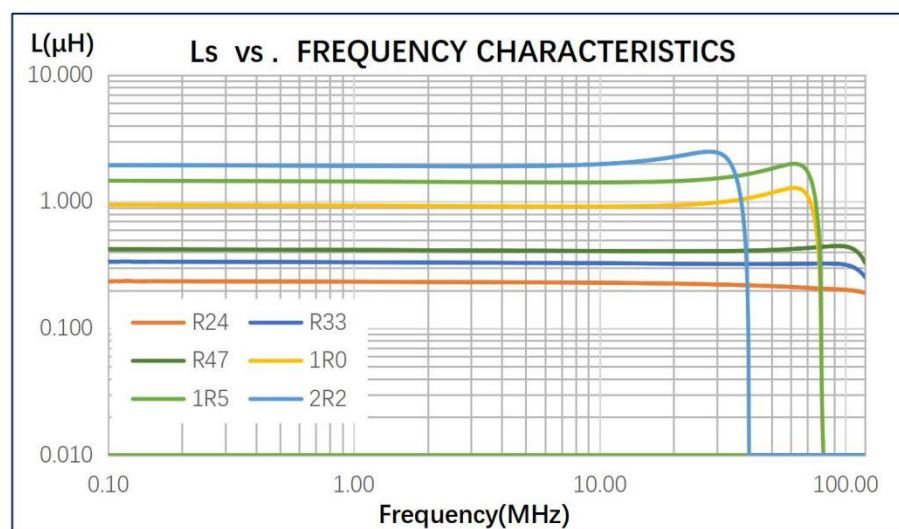
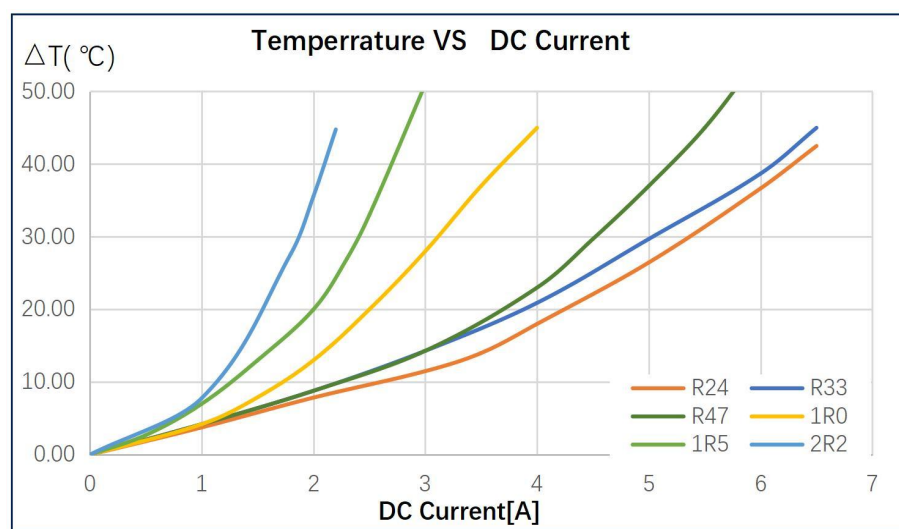
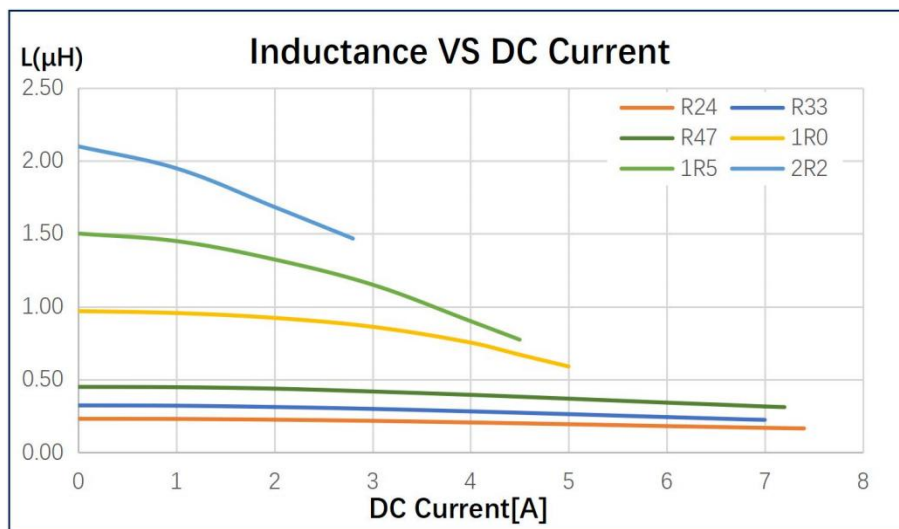
FTM201210-B Series



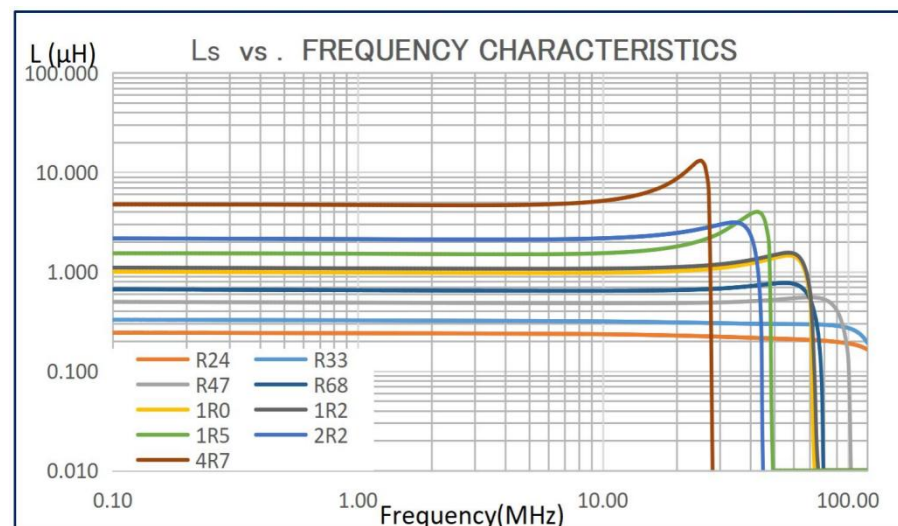
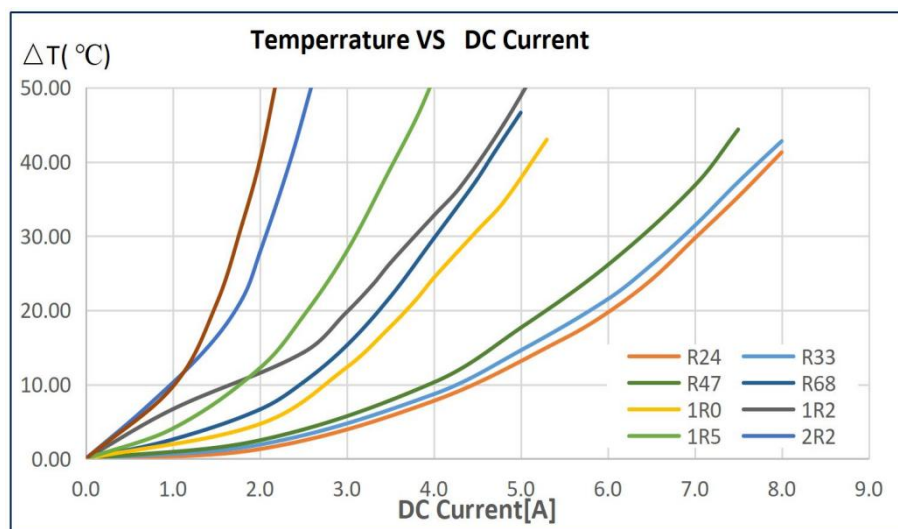
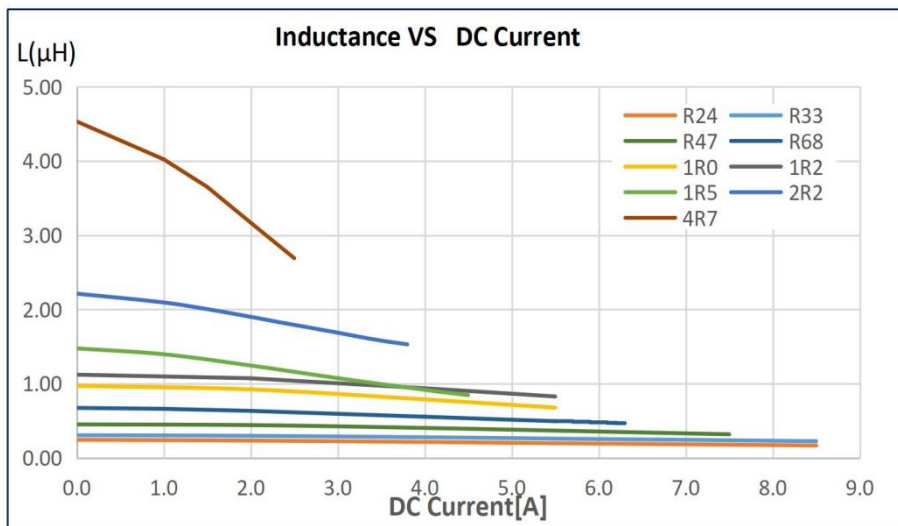
FTM201610-B Series



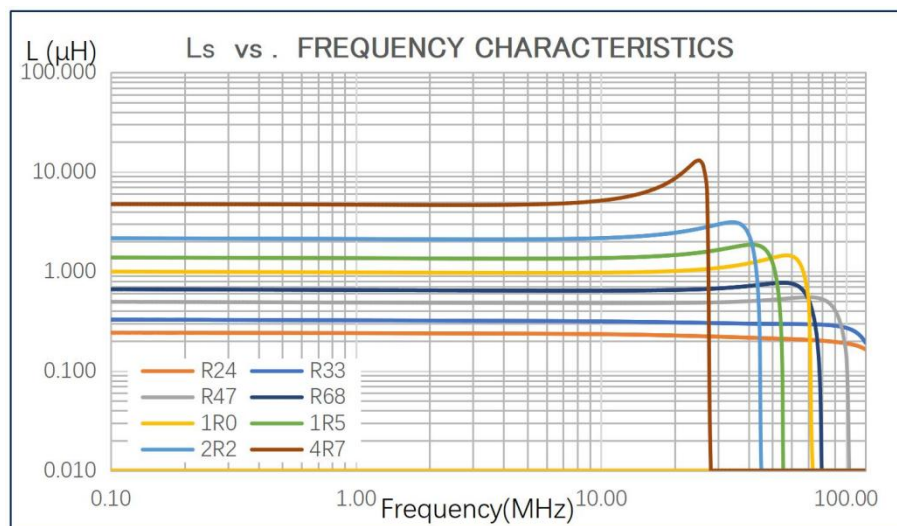
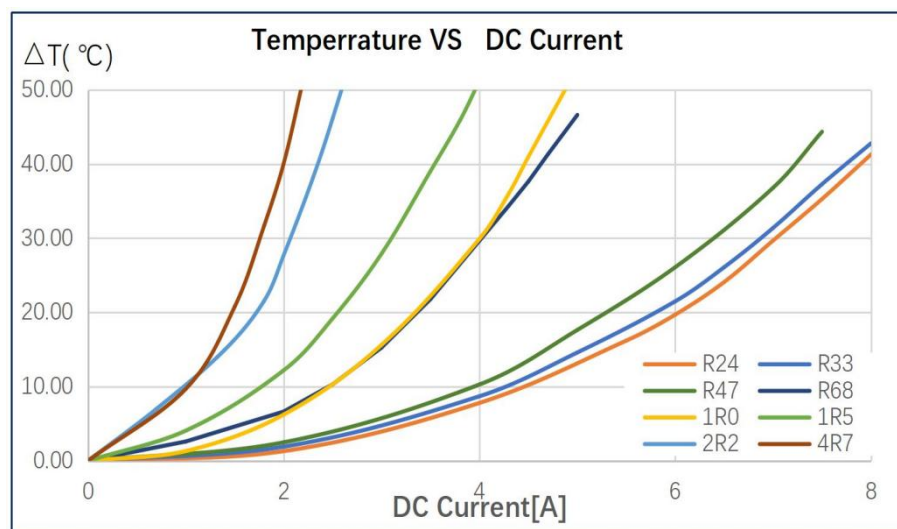
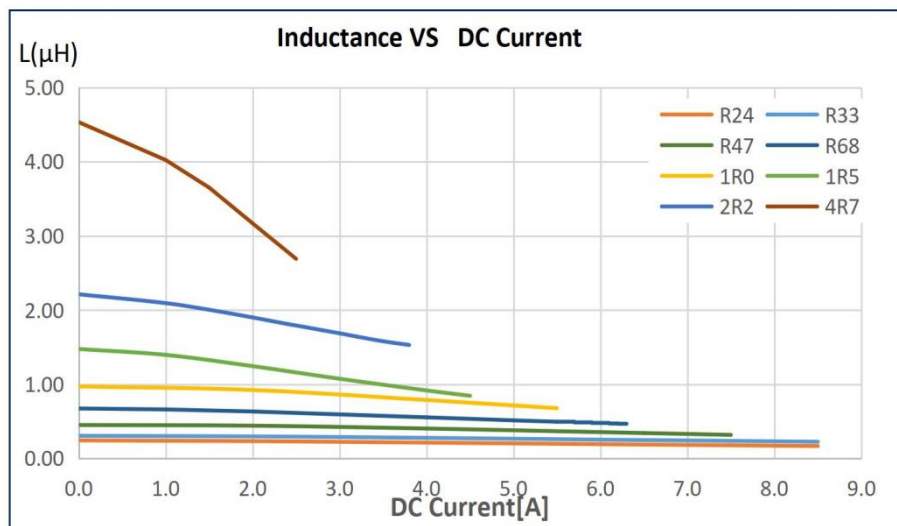
FTM201612-B Series



FTM252010-B Series



FTM252012-B Series



7. Reliability Testing

(1) Mechanical Reliability		
Item	Specification and Requirement	Test Method
Solderability	1. No case deformation or change in appearance 2. New solder coverage More than 95%	1. Preheat: $155^{\circ}\text{C} \pm 5^{\circ}\text{C}$, 60S $\pm$ 2S 2. Tin: lead-free. 3. Temperature: $240^{\circ}\text{C} \pm 5^{\circ}\text{C}$, flux 3.0S $\pm$ 0.5S.
Mechanical shock	1. No case deformation or change in appearance 2. $\Delta L/L_0 \leq \pm 10\%$	1. Acceleration: 100G 2. Pulse time: 6ms 3. 3times in each positive and negative direction of 3 mutual perpendicular directions
Mechanical vibration	1. No case deformation or change in appearance 2. $\Delta L/L_0 \leq \pm 10\%$	1. Reflow: 2times 2. Frequency: 10HZ $\sim$ 55HZ $\sim$ 10HZ, 20 Min/Cycles 3. Amplitude: 1.52 mm 4. Directions: X,Y,Z 5. Time: 12 cycle / direction
(2) Endurance Reliability		
Item	Specification and Requirement	Test Method
Thermal Shock	Inductance change: Within $\pm 10\%$ Without distinct damage in appearance	1. First -40°C for 30 minutes, last 125°C for 30 minutes as 1 cycle. Go through 1000 cycles. 2. Max transfer time is 3 minutes. 3. Measured at room temperature after placing for 24 ± 2 hours
Humidity Resistance	Inductance change: Within $\pm 10\%$ Without distinct damage in appearance	1. Reflow 2 times, 2. 85°C , 85%RH, 1000 hours 3. Measured at room temperature after placing for 24 ± 2 hours
Low temperature storage	Inductance change: Within $\pm 10\%$ Without distinct damage in appearance	1. Temperature: $-40 \pm 2^{\circ}\text{C}$ 2. Time: 1000 hours 3. Measured at room temperature after placing for 24 ± 2 hours
High temperature storage	Inductance change: Within $\pm 10\%$ Without distinct damage in appearance	1. Temperature: $+125 \pm 2^{\circ}\text{C}$ 2. Time: 1000 hours 3. Measured at room temperature after placing for 24 ± 2 hours

8.Recommended Soldering Technologies

(1) Re-flowing Profile

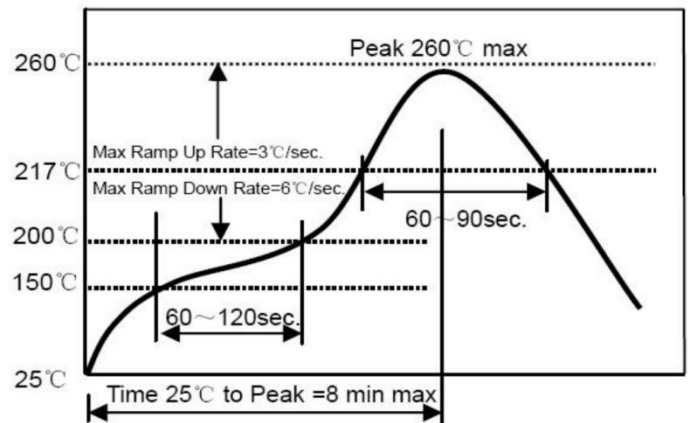
Preheat condition: 150 ~200℃/60~ 120sec.

Allowed time above 217℃: 60~90sec. Max temp:
260℃.

Max time at max temp: 10 sec.

Solder paste: Sn/3.0Ag/0.5Cu.

Allowed Reflow time: 2x max.



(2) Iron Soldering Profile

Iron soldering power: Max. 30W.

Pre-heating: 150℃/60sec.

Soldering Tip temperature: 350℃ Max.

Soldering time: 3sec. Max.

Solder paste: Sn/3.0Ag/0.5Cu Max.1 times for
iron soldering.

