

Mini Molded Chip Power Inductors – MWTC Series

Operating Temp. : -40°C~+125°C (Including self-heating)



FEATURES

- Metal material for large current and low loss
- Vinyl thermal spray, better surface compactness
- Closed magnetic circuit design reduces leakage flux

APPLICATIONS

- Smart phone, pad
- Notebooks, VR, AR
- Portable gaming devices, Smart wear, Wi-Fi module

PRODUCT IDENTIFICATION

MWTC

①

201608

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XXX

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① Type	
MWTC	Mini Molded Chip Power Inductor

④ Nominal Inductance[μH]	
Example	Nominal Value[μH]
R47	0.47μH
1R0	1.0μH

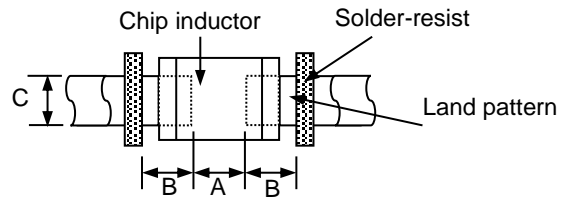
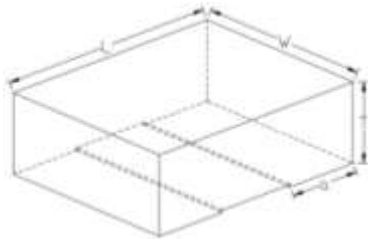
② External Dimensions(LxWxH) [mm]	
1412065	1.4x1.2x0.65
141208	1.4x1.2x0.8
201208	2.0x1.2x0.8
201210	2.0x1.2x1.0
201608	2.0x1.6x0.8
201610	2.0x1.6x1.0
252010	2.5x2.0x1.0

⑤ Inductance Tolerance	
M	±20%
N	±30%

③ Feature Type	
S	Standard

⑥ Packing	
T	Tape & Reel

SHAPE AND DIMENSIONS



Unit: mm

Series	L	W	T	a	A	B	C
MWTC1412065	1.4 ±0.2	1.2±0.2	0.65MAX	0.4±0.15	0.5~0.7	0.55~0.75	1.3~1.5
MWTC141208	1.4 ±0.2	1.2±0.2	0.8MAX	0.4±0.15	0.5~0.7	0.55~0.75	1.3~1.5
MWTC201208	2.0 ±0.2	1.2±0.2	0.8Max.	0.6±0.2	0.8~1.2	0.8~1.2	1.2~2.0
MWTC201210	2.0 ±0.2	1.2±0.2	1.0Max.	0.6±0.2	0.8~1.2	0.8~1.2	1.2~2.0
MWTC201608	2.0 ±0.2	1.6±0.2	0.8Max.	0.6±0.2	0.8~1.2	0.8~1.2	1.2~2.0
MWTC201610	2.0 ±0.2	1.6±0.2	1.0Max.	0.6±0.2	0.8~1.2	0.8~1.2	1.2~2.0
MWTC252008	2.5 ±0.2	2.0±0.2	0.8Max.	0.8±0.2	1.2~1.6	0.8~1.2	1.8~2.4
MWTC252010	2.5 ±0.2	2.0±0.2	1.0Max.	0.8±0.2	1.2~1.6	0.8~1.2	1.8~2.4

SPECIFICATIONS

MWTC1412065 Series

Part Number	Inductance	DC Resistance		Self-resonant Frequency	Saturation Current		Heat Rating Current	
	@1MHz,1V	Max.	Typ.	Min.	Max.	Typ.	Max.	Typ.
Units	μH	Ω		MHz	A		A	
Symbol	L	DCR		S.R.F	Isat		Irms	
MWTC1412065SR33□T	0.33	0.032	0.028	120	5.0	5.3	3.5	3.7
MWTC1412065SR47□T	0.47	0.041	0.036	115	3.0	3.3	2.9	3.2

MWTC141208 Series

Part Number	Inductance	DC Resistance		Self-resonant Frequency	Saturation Current		Heat Rating Current	
	@1MHz,1V	Max.	Typ.	Min.	Max.	Typ.	Max.	Typ.
Units	μH	Ω		MHz	A		A	
Symbol	L	DCR		S.R.F	Isat		Irms	
MWTC141208SR24□T	0.24	0.022	0.019	135	6.0	6.6	4.9	5.3
MWTC141208SR33□T	0.33	0.032	0.028	130	5.0	5.5	3.8	4.2
MWTC141208SR47□T	0.47	0.037	0.033	110	3.6	4.2	3.2	3.6

SPECIFICATIONS

MWTC201208 Series

Part Number	Inductance	DC Resistance		Self-resonant Frequency	Saturation Current		Heat Rating Current	
	@1MHz,1V	Max.	Typ.	Min.	Max.	Typ.	Max.	Typ.
Units	μH	Ω		MHz	A		A	
Symbol	L	DCR		S.R.F	Isat		Irms	
MWTC201208SR11□T	0.11	0.013	0.01	185	10	11	5.6	6.5
MWTC201208SR24□T	0.24	0.019	0.016	130	6.1	6.6	5.4	6.0
MWTC201208SR33□T	0.33	0.028	0.023	125	5.6	6.2	4.0	4.3
MWTC201208SR47□T	0.47	0.042	0.037	96	5.5	6.2	3.7	3.9
MWTC201208SR47□TD01	0.47	0.025	0.022	96	4.5	4.8	4.0	4.4
MWTC201208S1R0□T	1.0	0.102	0.092	74	2.8	3.1	2.0	2.3
MWTC201208S1R0□TD01	1.0	0.050	0.046	60	3.3	3.5	3.2	3.5
MWTC201208S2R2□T	2.2	0.238	0.216	45	2.2	2.5	1.1	1.3
MWTC201208S2R2□TD01	2.2	0.13	0.12	42	1.9	2.1	1.8	2.0

MWTC201210 Series

Part Number	Inductance	DC Resistance		Self-resonant Frequency	Saturation Current		Heat Rating Current	
	@1MHz,1V	Max.	Typ.	Min.	Max.	Typ.	Max.	Typ.
Units	μH	Ω		MHz	A		A	
Symbol	L	DCR		S.R.F	Isat		Irms	
MWTC201210SR24□T	0.24	0.022	0.019	136	6.2	6.7	4.5	5.0
MWTC201210SR47□T	0.47	0.024	0.021	96	5.1	5.7	4.8	5.2
MWTC201210S1R0□T	1.0	0.051	0.046	56	3.6	4.0	3.1	3.5
MWTC201210S2R2□T	2.2	0.112	0.1	36	2.1	2.4	1.9	2.2

MWTC201608 Series

Part Number	Inductance	DC Resistance		Self-resonant Frequency	Saturation Current		Heat Rating Current	
	@1MHz,1V	Max.	Typ.	Min.	Max.	Typ.	Max.	Typ.
Units	μH	Ω		MHz	A		A	
Symbol	L	DCR		S.R.F	Isat		Irms	
MWTC201608SR24□T	0.24	0.022	0.018	120	5.7	6.3	4.4	4.9
MWTC201608SR47□T	0.47	0.024	0.021	104	5.0	5.5	3.6	4.1
MWTC201608S1R0□T	1.0	0.066	0.059	62	3.3	3.7	2.7	3.0
MWTC201608S1R0□TD01	1.0	0.052	0.045	57	3.9	4.3	3.6	4.0
MWTC201608S2R2□T	2.2	0.148	0.134	40	2.3	2.6	1.8	2.0
MWTC201608S2R2□TD01	2.2	0.09	0.08	33	2.3	2.5	2.3	2.5

SPECIFICATIONS

MWTC201610 Series

Part Number	Inductance	DC Resistance		Self-resonant Frequency	Saturation Current		Heat Rating Current	
		Max.	Typ.		Max.	Typ.	Max.	Typ.
Units	@1MHz,1 μH	Ω		MHz	A		A	
Symbol	L	DCR		S.R.F	Isat		Irms	
MWTC201610SR24□T	0.24	0.017	0.014	142	7.0	7.8	5.0	5.6
MWTC201610SR24□TD02	0.24	0.015	0.011	120	7.0	7.8	5.0	5.6
MWTC201610SR33□T	0.33	0.021	0.018	110	6.8	7.6	4.8	5.3
MWTC201610SR47□T	0.47	0.029	0.026	98	6.0	6.5	4.0	4.4
MWTC201610SR47□TD01	0.47	0.021	0.018	72	5.6	6.2	4.8	5.5
MWTC201610SR68□T	0.68	0.035	0.030	68	4.8	5.4	3.5	3.9
MWTC201610S1R0□T	1.0	0.046	0.042	46	4.6	4.9	3.4	4.0
MWTC201610S1R0□TD01	1.0	0.037	0.034	60	4.2	4.5	4.2	4.5
MWTC201610S2R2□T	2.2	0.135	0.123	40	3.8	4.2	2.1	2.3
MWTC201610S2R2□TD01	2.2	0.074	0.066	30	2.6	2.9	2.0	2.3
MWTC201610S4R7□T	4.7	0.235	0.213	26	1.6	1.9	1.3	1.5

MWTC252008 Series

Part Number	Inductance	DC Resistance		Self-resonant Frequency	Saturation Current		Heat Rating Current	
		Max.	Typ.		Max.	Typ.	Max.	Typ.
Units	@1MHz,1 μH	Ω		MHz	A		A	
Symbol	L	DCR		S.R.F	Isat		Irms	
MWTC252008S1R0□T	1.0	0.053	0.046	55	3.5	3.8	3.2	3.5
MWTC252008S100□T	10	0.57	0.507	14	1.2	1.4	0.95	1.05

MWTC252010 Series

Part Number	Inductance	DC Resistance		Self-resonant Frequency	Saturation Current		Heat Rating Current	
		Max.	Typ.		Max.	Typ.	Max.	Typ.
Units	@1MHz,1 μH	Ω		MHz	A		A	
Symbol	L	DCR		S.R.F	Isat		Irms	
MWTC252010SR47□T	0.47	0.020	0.016	81	6.0	6.6	4.7	5.0
MWTC252010SR47□TD02	0.47	0.020	0.016	81	6.5	7.0	4.7	5.0
MWTC252010S1R0□T	1.0	0.043	0.038	53	4.5	5.0	3.4	3.7
MWTC252010S1R0□TD02	1.0	0.030	0.027	53	5.0	5.4	4.5	4.7
MWTC252010S1R5□T	1.5	0.042	0.037	35	3.7	4.0	3.6	4.1
MWTC252010S2R2□T	2.2	0.065	0.057	27	3.2	3.5	2.3	2.6
MWTC252010S4R7□T	4.7	0.136	0.124	19	1.9	2.2	1.6	1.7

※ □: Please specify the inductance tolerance code (M=±20%, N=±30%).

※ 1: All test data is referenced to 20°C ambient;

※ 2: Rated current: Isat or Irms, whichever is smaller;

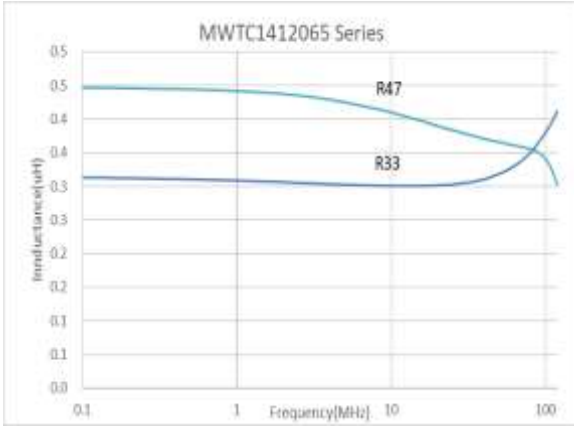
※ 3: Isat: DC current at which the inductance drops approximate 30% from its value without current;

※ 4: Irms: DC current that causes the temperature rise ($\Delta T = 40^\circ\text{C}$) from 20°C ambient.

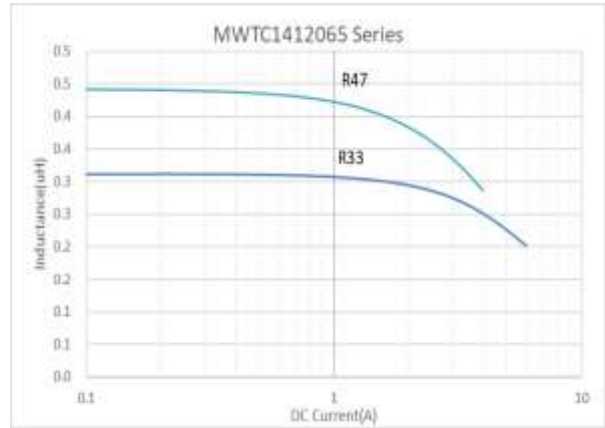
TYPICAL ELECTRICAL CHARACTERISTICS

MWTC1412065 Series

Inductance vs. Frequency Characteristics

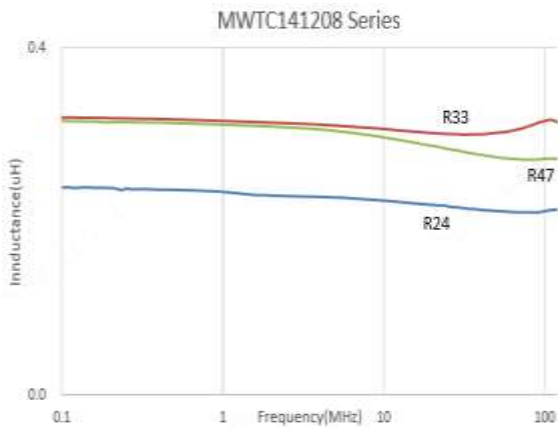


Inductance vs. DC Current Characteristics

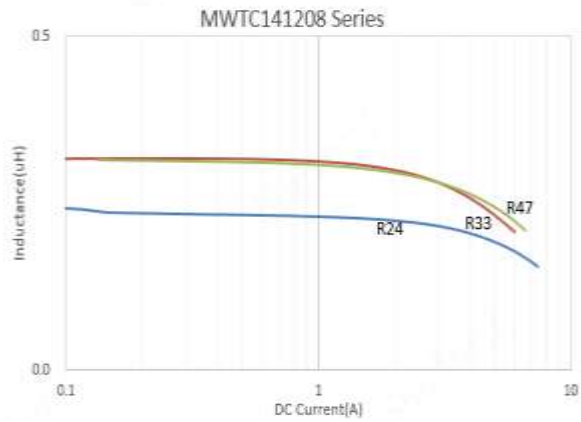


MWTC141208 Series

Inductance vs. Frequency Characteristics

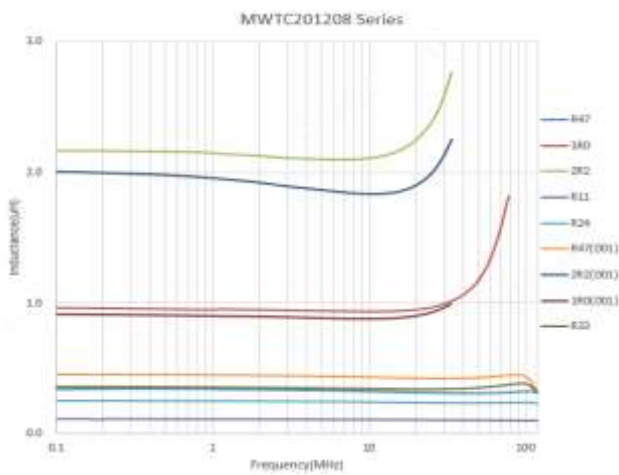


Inductance vs. DC Current Characteristics

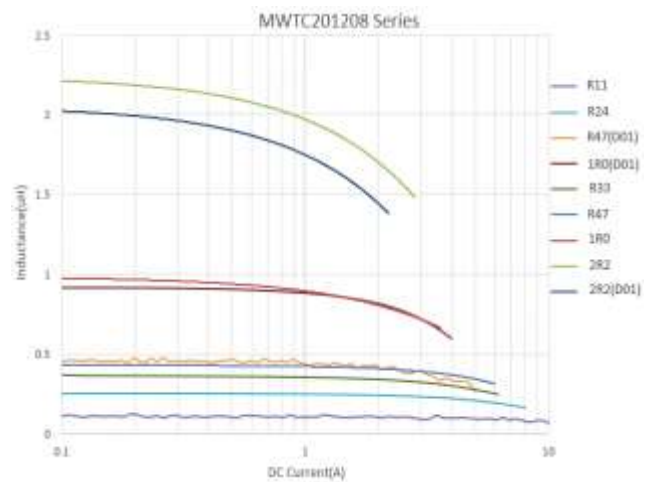


MWTC201208 Series

Inductance vs. Frequency Characteristics



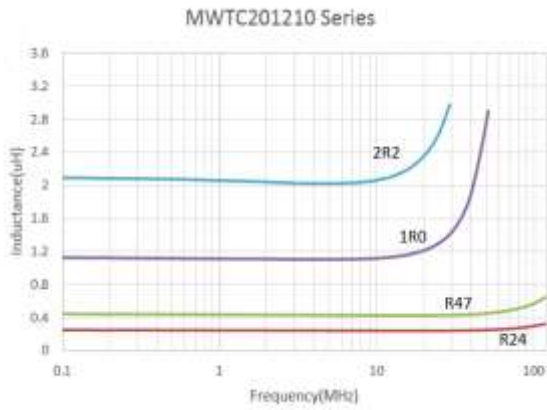
Inductance vs. DC Current Characteristics



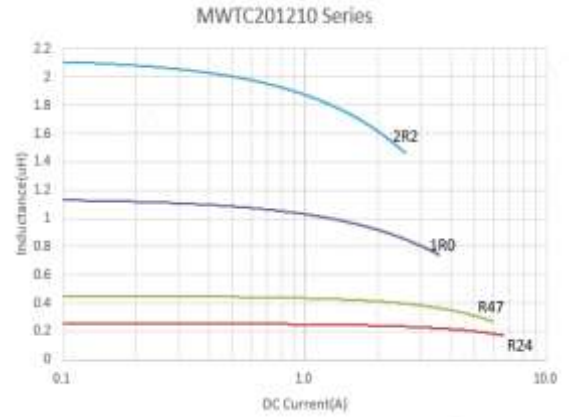
TYPICAL ELECTRICAL CHARACTERISTICS

MWTC201210 Series

Inductance vs. Frequency Characteristics

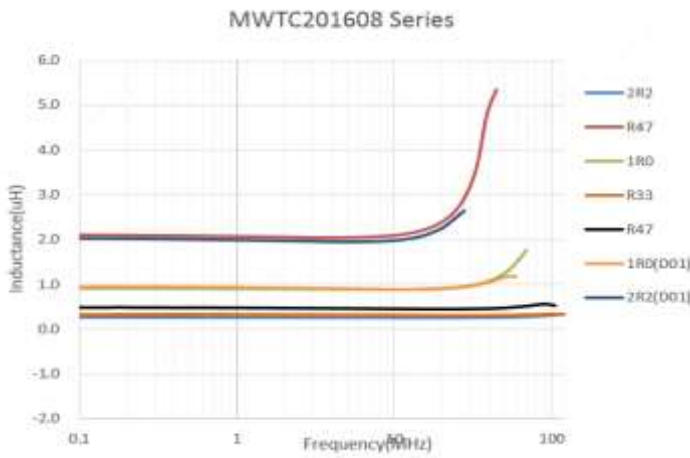


Inductance vs. DC Current Characteristics

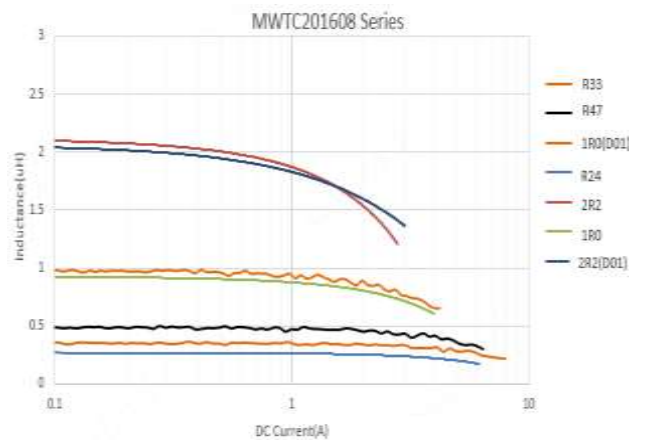


MWTC201608 Series

Inductance vs. Frequency Characteristics

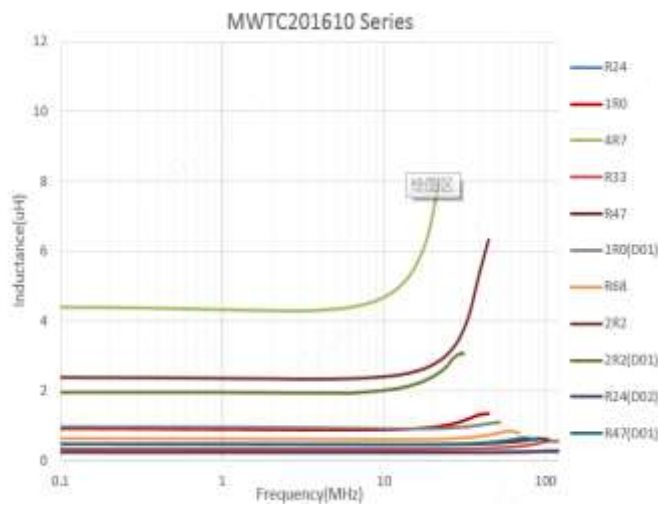


Inductance vs. DC Current Characteristics

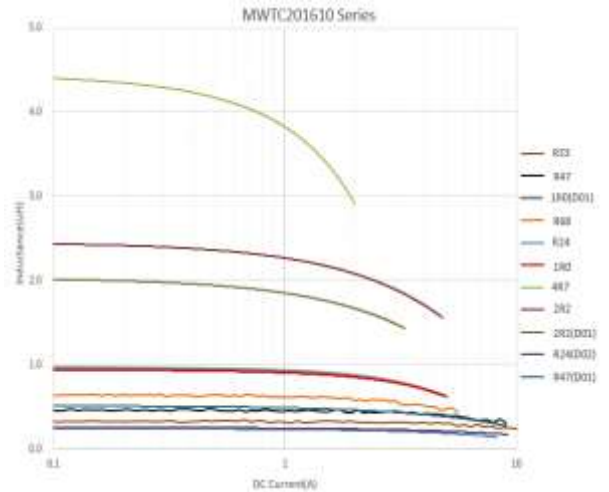


MWTC201610 Series

Inductance vs. Frequency Characteristics



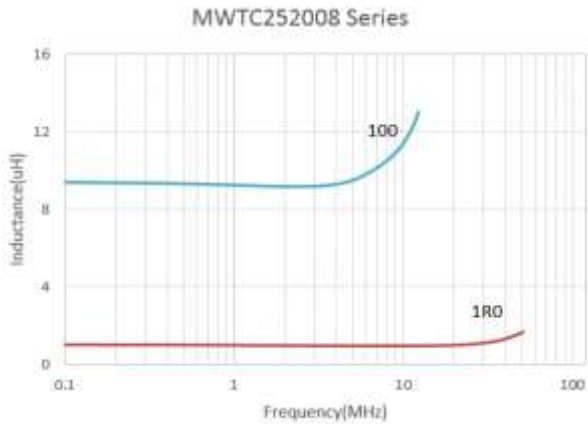
Inductance vs. DC Current Characteristics



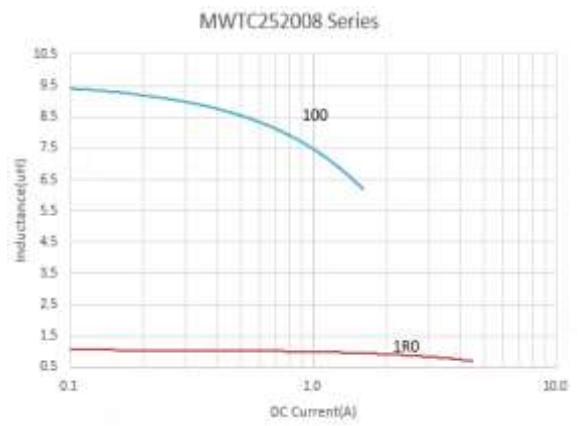
TYPICAL ELECTRICAL CHARACTERISTICS

MWTC252008 Series

Inductance vs. Frequency Characteristics

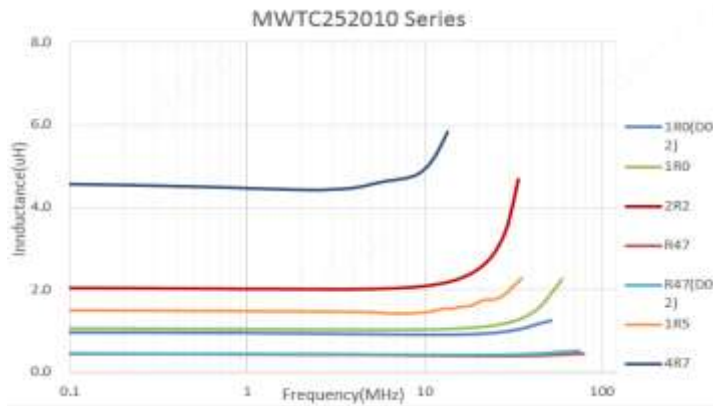


Inductance vs. DC Current Characteristics



MWTC252010 Series

Inductance vs. Frequency Characteristics



Inductance vs. DC Current Characteristics

