

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

②

S

③

XXX

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T

⑥

① Type	
MWTC	Mini Molded Chip Power Inductor

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

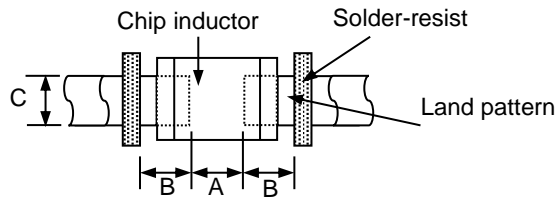
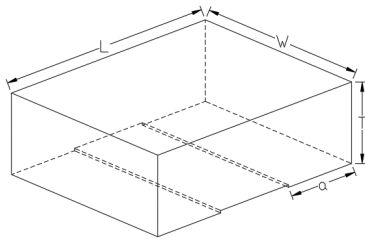
② External Dimensions(LxWxH) [mm]	
201208	2.0x1.2x0.8
201210	2.0x1.2x1.0
201608	2.0x1.6x0.8
201610	2.0x1.6x1.0
252010	2.5x2.0x1.0

⑤ Inductance Tolerance	
M	±20%
N	±30%

③ Feature Type	
S	Standard
U	Ultra Low RDC
H	High Saturation Current

⑥ Packing	
T	Tape & Reel

SHAPE AND DIMENSIONS



Unit: mm

Series	L	W	T	a	A	B	C
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

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	
MWTC201208SR33□T	0.33	0.028	0.023	125	5.6	6.2	4.3	4.0
MWTC201208S1R0□T	1.0	0.102	0.092	74	2.8	3.1	2.0	2.3
MWTC201208S2R2□T	2.2	0.238	0.216	45	2.2	2.5	1.1	1.3

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	0.025	0.022	136	6.2	6.7	4.5	5
MWTC201210SR47□T	0.47	0.031	0.027	120	4.7	5.2	4	4.3

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
MWTC201608SR33□T	0.33	0.026	0.021	115	5.5	6.0	4.2	4.7
MWTC201608SR47□T	0.47	0.032	0.028	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
MWTC201608S2R2□T	2.2	0.148	0.134	40	2.3	2.6	1.8	2.0

SPECIFICATIONS

MWTC201610 Series

Part Number	Inductance	DC Resistance		Self-resonant Frequency	Saturation Current		Heat Rating Current	
	@1MHz	Max.	Typ.	Min.	Max.	Typ.	Max.	Typ.
Units	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
MWTC201610SR33□T	0.33	0.021	0.018	110	6.8	7.6	4.8	5.3
MWTC201610SR47□T	0.47	0.026	0.028	98	5.0	5.4	4.0	4.4
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
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	
	@1MHz	Max.	Typ.	Min.	Max.	Typ.	Max.	Typ.
Units	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

MWTC252010 Series

Part Number	Inductance	DC Resistance		Self-resonant Frequency	Saturation Current		Heat Rating Current	
	@1MHz	Max.	Typ.	Min.	Max.	Typ.	Max.	Typ.
Units	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	0.032	0.027	53	5.0	5.2	4.5	4.7
MWTC252010S2R2□T	2.2	0.095	0.083	35	3.0	3.3	2.1	2.4

※□: 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;

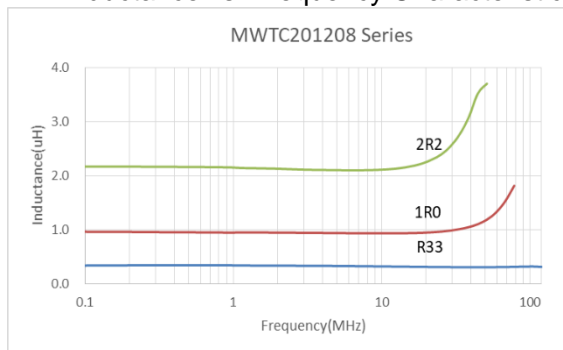
※3: Isat: DC current at which the inductance drops approximate 30% from its value without current;

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

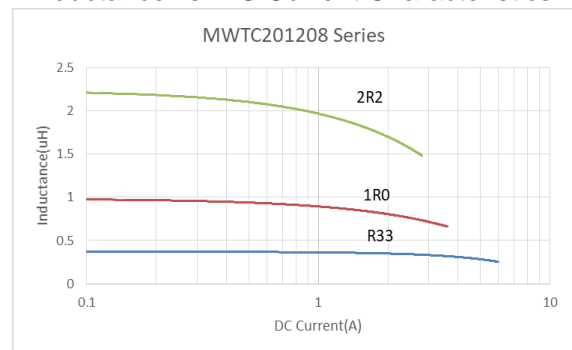
TYPICAL ELECTRICAL CHARACTERISTICS

MWTC201208 Series

Inductance vs. Frequency Characteristics



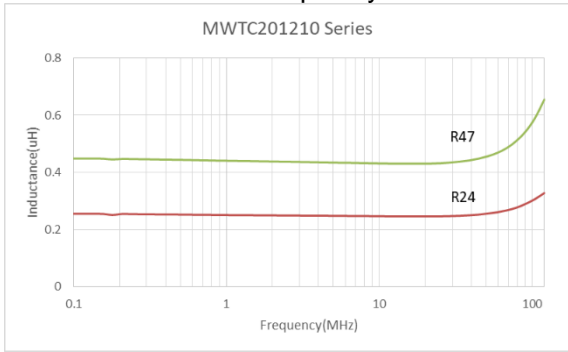
Inductance vs. DC Current Characteristics



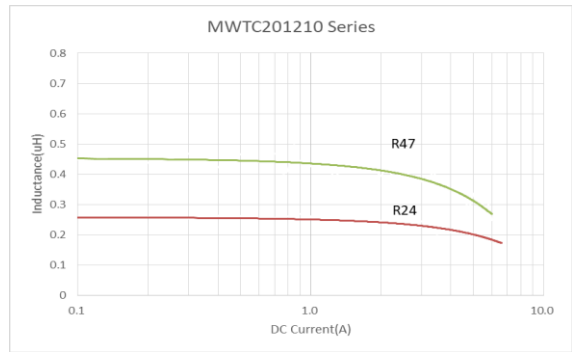
TYPICAL ELECTRICAL CHARACTERISTICS

MWTC201210 Series

Inductance vs. Frequency Characteristics

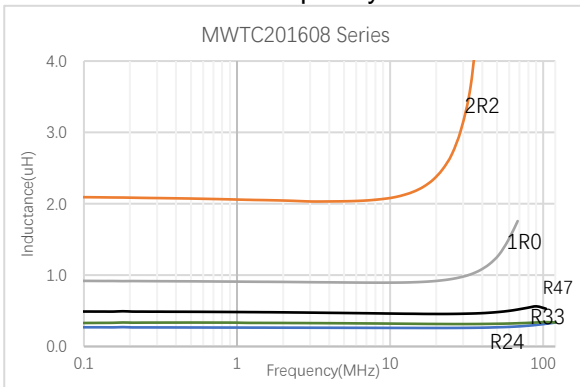


Inductance vs. DC Current Characteristics

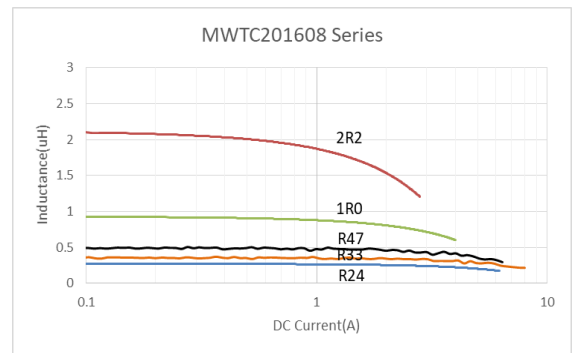


MWTC201608 Series

Inductance vs. Frequency Characteristics

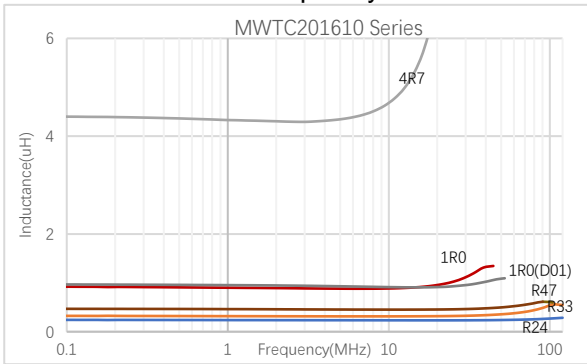


Inductance vs. DC Current Characteristics

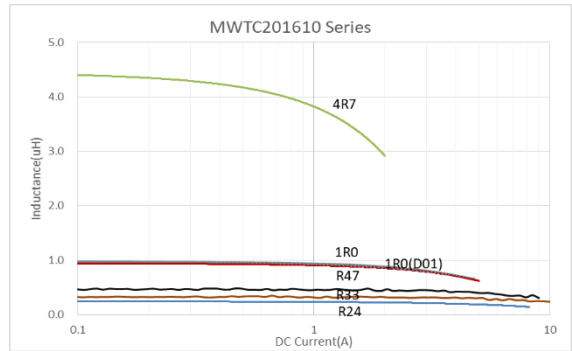


MWTC201610 Series

Inductance vs. Frequency Characteristics

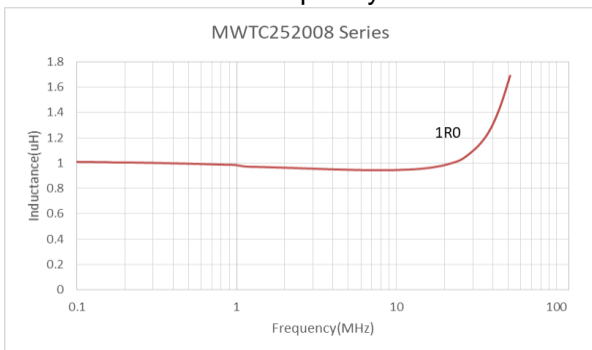


Inductance vs. DC Current Characteristics

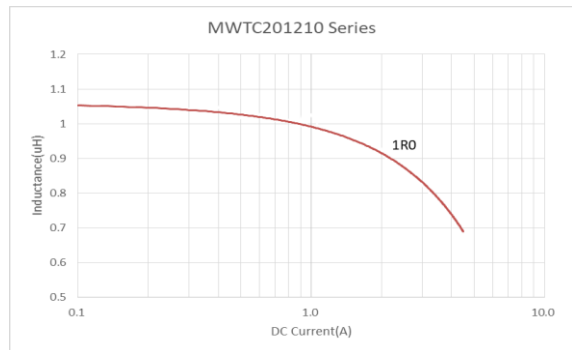


MWTC252008 Series

Inductance vs. Frequency Characteristics



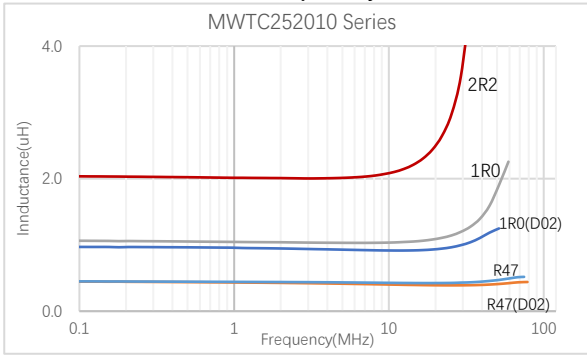
Inductance vs. DC Current Characteristics



TYPICAL ELECTRICAL CHARACTERISTICS

MWTC252010 Series

Inductance vs. Frequency Characteristics



Inductance vs. DC Current Characteristics

