

Mini Molded Chip Power Inductors – MWTC-C 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
- Higher cost performance

APPLICATIONS

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

PRODUCT IDENTIFICATION

MWTC

①

201610

②

C

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⑦

① Type	
MWTC	Mini Molded Chip Power Inductor

② External Dimensions(LxWxH) [mm]	
201610	2.0x1.6x1.0
201612	2.0x1.6x1.2
252010	2.5x2.0x1.0
252012	2.5x2.0x1.2

③ Feature Type	
C	C Type

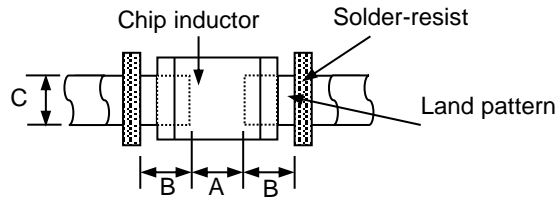
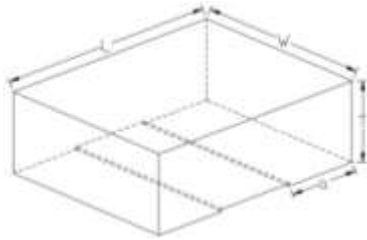
④ Nominal Inductance[μH]	
Example	Nominal Value[μH]
R47	0.47μH
1R0	1.0μH

⑤ Inductance Tolerance	
M	±20%
N	±30%

⑥ Packing	
T	Tape & Reel

⑦ Internal Code	
□□□	Special Process code
* Conventional product is blank	

SHAPE AND DIMENSIONS



Unit: mm

Series	L	W	T	a	A	B	C
MWTC201610C	2.0±0.2	1.6±0.2	1.0Max.	0.5±0.2	0.6~1.0	0.6~1.0	1.2~2.0
MWTC201612C	2.0±0.2	1.6±0.2	1.2Max.	0.5±0.2	0.6~1.0	0.6~1.0	1.2~2.0
MWTC252010C	2.5±0.2	2.0±0.2	1.0Max.	0.6±0.2	1.0~1.4	0.6~1.0	1.8~2.4
MWTC252012C	2.5±0.2	2.0±0.2	1.2Max.	0.6±0.2	1.0~1.4	0.6~1.0	1.8~2.4

SPECIFICATIONS

MWTC201610C Series

Part Number	Inductance @1MHz, 1V	DC Resistance		Self-resonant Frequency Min.	Saturation Current		Heat Rating Current	
		Max.	Typ.		Max.	Typ.	Max.	Typ.
Units	μH	Ω		MHz	A		A	
Symbol	L	DCR		S.R.F	Isat		Irms	
MWTC201610CR24□T	0.24	0.023	0.018	120	6.10	6.70	4.90	5.65
MWTC201610CR33□T	0.33	0.026	0.021	110	5.20	5.70	4.60	5.30
MWTC201610CR47□T	0.47	0.034	0.026	72	5.10	5.60	4.05	4.65
MWTC201610C1R0□T	1.0	0.042	0.037	60	4.00	4.40	3.65	4.25
MWTC201610C1R5□T	1.5	0.085	0.078	38	3.00	3.30	2.55	2.95
MWTC201610C2R2□T	2.2	0.090	0.082	30	2.60	2.80	2.45	2.80
MWTC201610C4R7□T	4.7	0.165	0.154	26	1.50	1.70	1.10	1.40

MWTC201612C Series

Part Number	Inductance @1MHz, 1V	DC Resistance		Self-resonant Frequency Min.	Saturation Current		Heat Rating Current	
		Max.	Typ.		Max.	Typ.	Max.	Typ.
Units	μH	Ω		MHz	A		A	
Symbol	L	DCR		S.R.F	Isat		Irms	
MWTC201612CR24□T	0.24	0.009	0.007	73	8.50	9.40	7.50	8.25
MWTC201612CR33□T	0.33	0.016	0.012	61	8.00	8.80	5.65	6.20
MWTC201612CR47□T	0.47	0.018	0.014	49	7.00	7.70	5.30	5.85
MWTC201612C1R0□T	1.0	0.031	0.025	36	4.50	5.00	4.05	4.45
MWTC201612C2R2□T	2.2	0.065	0.052	25	3.00	3.30	2.80	3.10
MWTC201612C4R7□T	4.7	0.175	0.140	8	1.90	2.10	1.70	1.90

SPECIFICATIONS

MWTC252010C 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	
MWTC252010CR24□T	0.24	0.018	0.013	104	8.00	9.50	5.50	6.25
MWTC252010CR33□T	0.33	0.020	0.015	90	7.00	8.50	5.20	6.00
MWTC252010CR47□T	0.47	0.035	0.027	81	5.00	6.20	3.90	4.50
MWTC252010CR68□T	0.68	0.040	0.032	53	4.50	5.60	3.65	4.20
MWTC252010C1R0□T	1.0	0.053	0.045	35	3.70	4.60	3.00	3.50
MWTC252010C2R2□T	2.2	0.097	0.087	27	2.50	3.00	2.20	2.50
MWTC252010C4R7□T	4.7	0.140	0.128	19	1.80	2.10	1.20	1.40

MWTC252012 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	
MWTC252012CR24□T	0.24	0.010	0.0086	79	12.00	13.00	7.10	7.80
MWTC252012CR33□T	0.33	0.011	0.009	53	7.50	8.25	6.80	7.50
MWTC252012CR47□T	0.47	0.0135	0.011	48	6.70	7.40	6.10	6.70
MWTC252012C1R0□T	1.0	0.022	0.018	35	5.30	5.80	4.80	5.30
MWTC252012C2R2□T	2.2	0.060	0.050	23	3.25	3.60	2.90	3.20
MWTC252012C4R7□T	4.7	0.120	0.100	14	2.20	2.40	2.05	2.25

※□: 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;

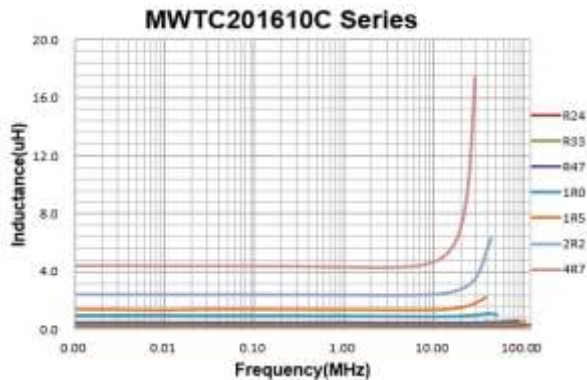
※3: Isat: DC current at which the inductance drops approximate 30% from its value without current;

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

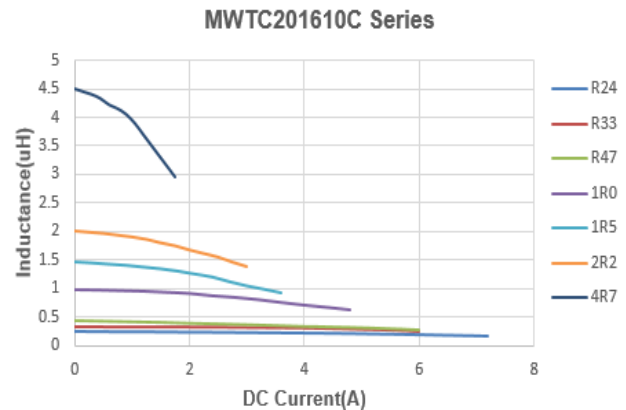
TYPICAL ELECTRICAL CHARACTERISTICS

MWTC201610C Series

Inductance vs. Frequency Characteristics

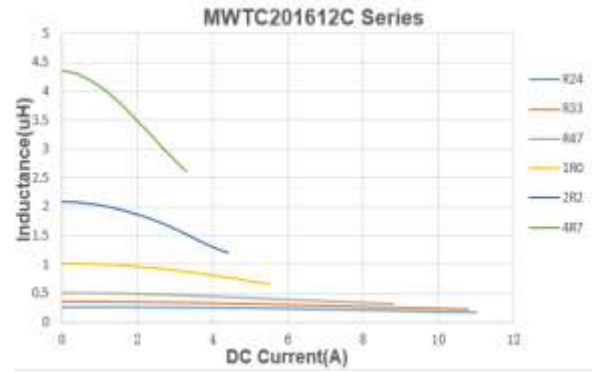
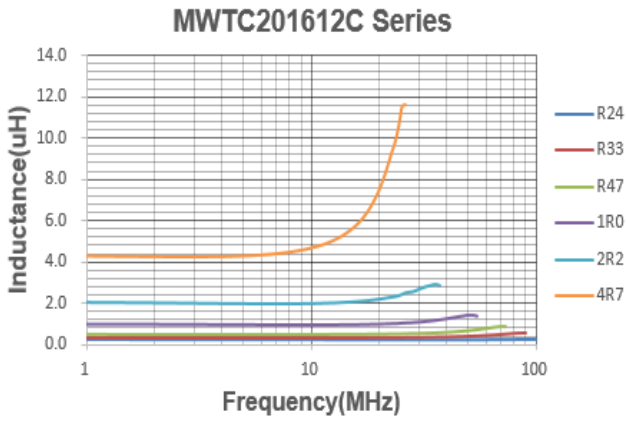


Inductance vs. DC Current Characteristics



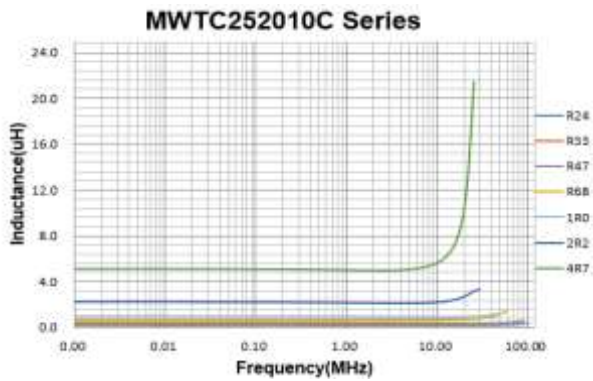
TYPICAL ELECTRICAL CHARACTERISTICS

MWTC201612C Series

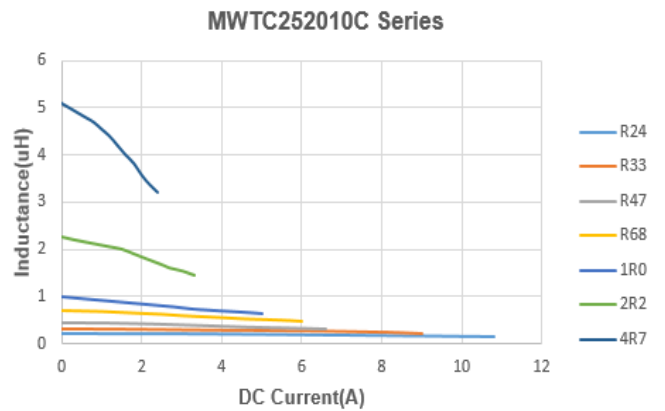


MWTC252010C Series

Inductance vs. Frequency Characteristics

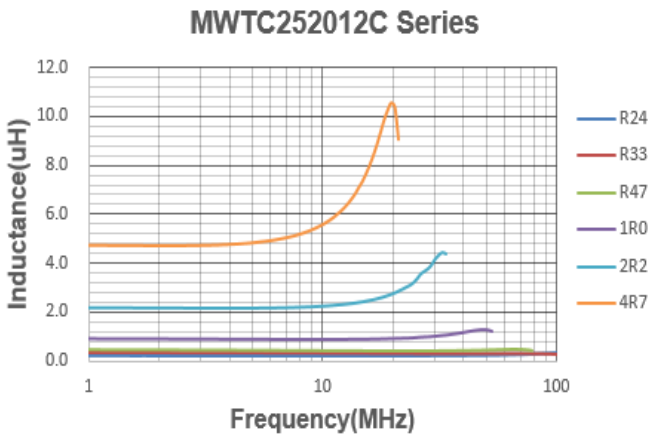


Inductance vs. DC Current Characteristics



MWTC252012C Series

Inductance vs. Frequency Characteristics



Inductance vs. DC Current Characteristics

