DCY ELECTRONIC COMPANY

Mini Molded Chip Power Inductors – MWTC Series
Operating Temp. : -40℃~+125℃ (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
- Halogen free, RoHS compliant

APPLICATIONS

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

PRODUCT IDENTIFICATION

MWTC	2016065	S	XXX	□	T
①	②	③	④	⑤	⑥

① Type	
MWTC	Mini Molded Chip Power Inductor

② (L×W×H) [mm] External Dimensions(L×W×H) [mm]	
2012065	2.0×1.2×0.65
201208	2.0×1.2×0.8
201210	2.0×1.2×1.0
2016065	2.0×1.6×0.65
201608	2.0×1.6×0.8
201610	2.0×1.6×1.0
252010	2.5×2.0×1.0

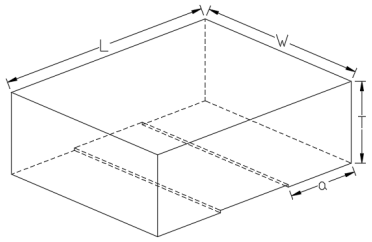
③ Feature Type	
S	Standard
U	Ultra Low RDC
H	High Saturation

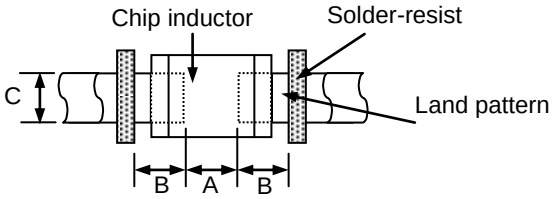
④ Nominal Inductance [μH]	
Example	Nominal Value [μH]
R47	0.47μH
1R0	1.0μH

⑤ Inductance Tolerance	
M	±20%
N	±30%

⑥ Packing	
T	Tape & Reel

SHAPE AND DIMENSIONS





Unit: mm

Series	L	W	T	a	A	B	C
MWTC2012065	2.0 ±0.2	1.2±0.2	0.65 MAX	0.6±0.2	0.8~1.2	0.8~1.2	1.2~2.0
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
MWTC2016065	2.0 ±0.2	1.6±0.2	0.65MAX	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
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

MWTC2012065 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	mΩ		MHz	A		A	
Symbol	L	DCR		S.R.F	Isat		Irms	
MWTC2012065S1R0☐T	1.0	112	100	74	2.5	3.0	1.9	2.1

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	mΩ		MHz	A		A	
Symbol	L	DCR		S.R.F	Isat		Irms	
MWTC201208SR47☐T	0.47	54	47	96	4.2	4.7	2.8	3.1
MWTC201208S1R0☐T	1.0	102	92	74	2.8	3.1	2.0	2.3

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	mΩ		MHz	A		A	
Symbol	L	DCR		S.R.F	Isat		Irms	
MWTC201210SR11☐T	0.11	10	8	264	8.5	9.5	6.4	7.1
MWTC201210SR24☐T	0.24	25	22	136	6.2	6.7	4.5	5
MWTC201210SR47☐T	0.47	31	27	120	4.7	5.2	4	4.3
MWTC201210S2R2☐T	2.2	156	136	38	2.1	2.3	1.6	1.8

SPECIFICATIONS

MWTC2016065 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	mΩ		MHz	A		A	
Symbol	L	DCR		S.R.F	Isat		Irms	
MWTC2016065SR47□T	0.47	50	44	105	5.5	6.1	3.2	3.5
MWTC2016065SR68□T	0.68	53	46	81	3.2	3.4	2.8	3.1
MWTC2016065S1R0□T	1.0	79	70	65	3.2	3.6	2.6	2.9

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	mΩ		MHz	A		A	
Symbol	L	DCR		S.R.F	Isat		Irms	
MWTC201608SR24□T	0.24	22	18	120	5.7	6.3	4.4	4.9
MWTC201608SR47□T	0.47	32	28	104	5.0	5.5	3.6	4.1
MWTC201608S1R0□T	1.0	66	59	62	3.3	3.7	2.6	3.0

MWTC201610 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	mΩ		MHz	A		A	
Symbol	L	DCR		S.R.F	Isat		Irms	
MWTC201610SR33□T	0.33	23	20	120	5.5	6.0	4.0	4.5
MWTC201610SR47□T	0.47	29	26	98	5.0	5.4	4.0	4.4
MWTC201610SR68□T	0.68	35	30	68	4.8	5.4	3.5	3.9
MWTC201610S1R0□T	1.0	46	42	46	4.6	4.9	3.4	4.0
MWTC201610S1R5□T	1.5	74	64	40	3.2	3.5	2.8	3.2
MWTC201610S2R2□T	2.2	135	123	40	3.8	4.2	2.1	2.3
MWTC201610S4R7□T	4.7	235	213	26	1.6	1.9	1.3	1.5

MWTC252010 Series

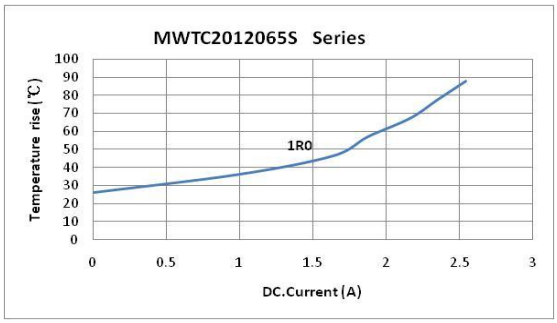
Part Number	Inductance	DC Resistance		Self-resonant Frequency	Saturation Current		Heat Rating Current	
	@1MHz,1V	Max.	Typ.	Min.	Max.	Typ.	Max.	Typ.
Units	μH	mΩ		MHz	A		A	
Symbol	L	DCR		S.R.F	Isat		Irms	
MWTC252010SR47□T	0.47	22	19	88	5.6	6.1	4.3	4.8
MWTC252010SR68□T	0.68	30	25	63	5.2	5.7	4.0	4.5
MWTC252010S1R0□T	1.0	43	38	53	4.5	5.0	3.4	3.7
MWTC252010S2R2□T	2.2	95	83	35	3.0	3.3	2.1	2.4
MWTC252010S4R7□T	4.7	225	204	22	1.8	2.1	1.45	1.6

※□: 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 (△T =40°C) from 20°C ambient.

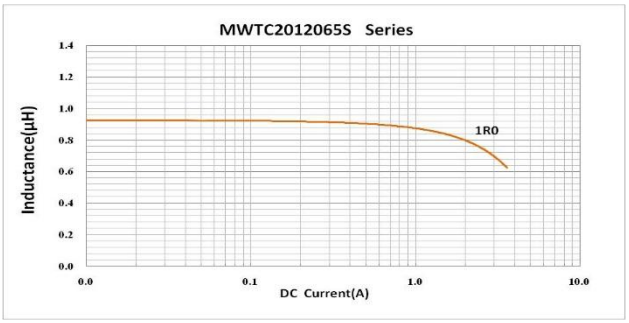
TYPICAL ELECTRICAL CHARACTERISTICS

MWTC2012065 Series

Temperature vs. DC Current Characteristics

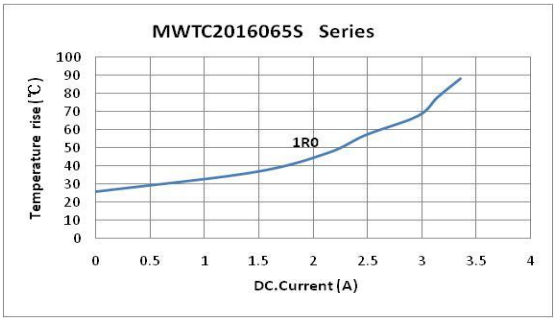


Inductance vs. DC Current Characteristics

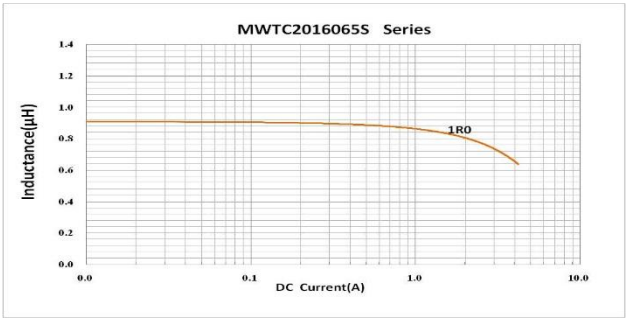


MWTC2016065 Series

Temperature vs. DC Current Characteristics

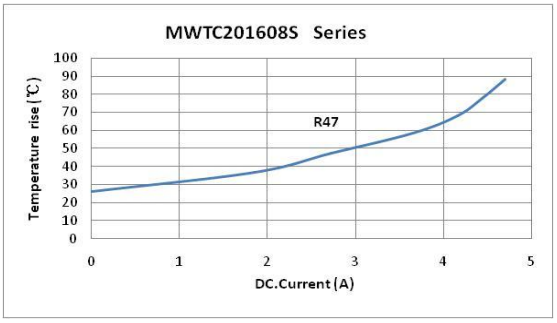


Inductance vs. DC Current Characteristics

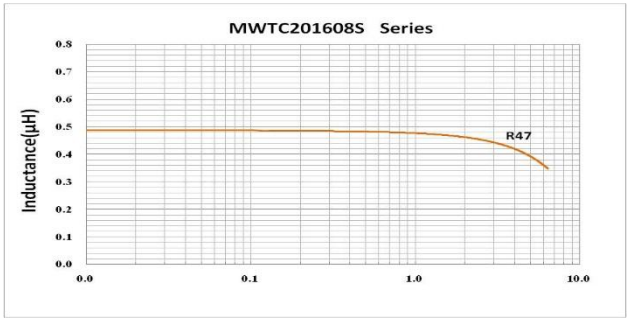


MWTC201608 Series

Temperature vs. DC Current Characteristics



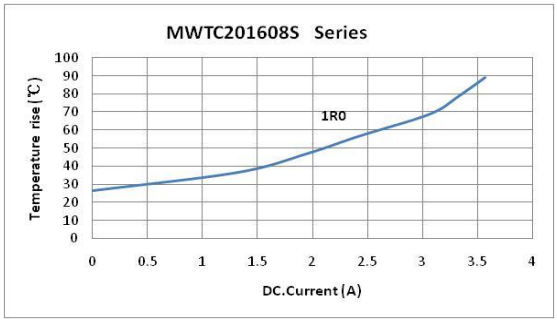
Inductance vs. DC Current Characteristics



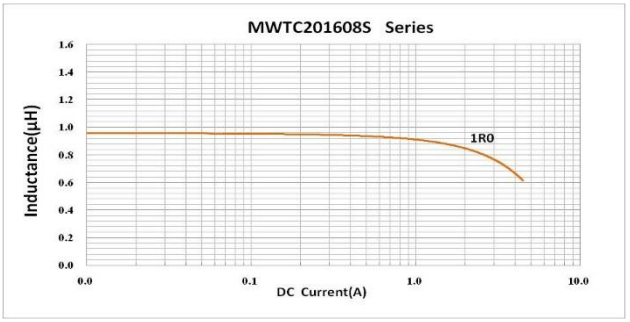
TYPICAL ELECTRICAL CHARACTERISTICS

MWTC201608 Series

Temperature vs. DC Current Characteristics

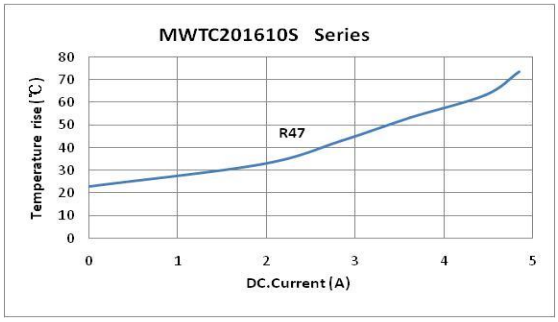


Inductance vs. DC Current Characteristics

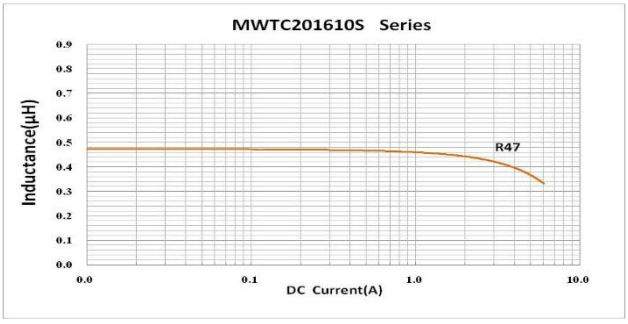


MWTC201610 Series

Temperature vs. DC Current Characteristics

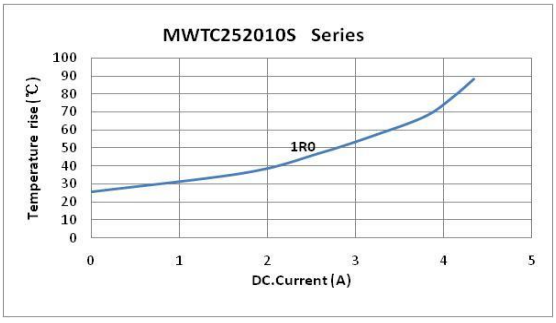


Inductance vs. DC Current Characteristics



MWTC252010 Series

Temperature vs. DC Current Characteristics



Inductance vs. DC Current Characteristics