

Multilayer Chip Inductor for Choke – MCL Series



Operating Temp ◆ $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$

Features

- ◆ Monolithic structure for high reliability
- ◆ Excellent solderability and high heat resistance
- ◆ No cross coupling due to magnetic shield
- ◆ High DC bias current due to developed material
- ◆ Low DC resistance

Applications

- ◆ Choke circuits in DC power line of consumer electronics such as Personal computers, mobile phones, tablets and smart home appliances

Product Identification

1

MCL

2

1608

3

S

4

1R0

5

M

6

T

1

Type

MCL

Chip Inductor for Choke

2

External Dimensions (L×W) (mm)

1608 [0603]

1.6×0.8

2012 [0805]

2.0×1.25

3

Feature Type

S

Standard

H

Ir-Improved

4

Nominal Inductance

Example

Nominal Value

1R0

1.0μH

※R=decimal point

5

Inductance Tolerance

M

±20%

N

±30%

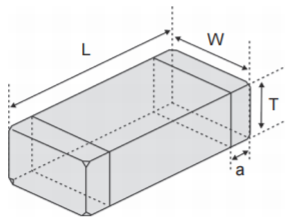
6

Packing

T

Tape & Reel

Shape and Dimensions



Type	L	W	T	Unit mm [inch]
				a
MCL1608 [0603]	1.6±0.15 [.063±.006]	0.8±0.15 [.031±.006]	0.8±0.15 [.031±.006]	0.3±0.2 [.012±.008]
MCL2012 [0805]	2.0 (+0.3, -0.1) [.079 (+.012, -.004)]	1.25±0.2 [.049±.008]	0.85±0.2 [.033±.008]	0.5±0.3 [.020±.012]
			1.25±0.2 [.049±.008]	

Specifications

MCL1608 TYPE

Part Number	Inductance	L Test Freq.	DC Resistance		Min. Self-resonant Frequency	Max. Rated Current	Thickness
Units	μH	MHz	Ω		MHz	A	mm [inch]
Symbol	L	Freq.	DCR		S.R.F	Ir*	T
			Max.	Typ.			
MCL1608SR10 □ T	0.1	1	0.182	0.140	240	0.70	0.8±0.15 [.031±.006]
MCL1608SR22 □ T	0.22	1	0.351	0.270	150	0.55	
MCL1608SR47 □ T	0.47	1	0.546	0.420	105	0.40	
MCL1608S1R0 □ T	1.0	1	0.260	0.200	75	0.19	
MCL1608S2R2 □ T	2.2	1	0.520	0.400	50	0.14	
MCL1608S4R7 □ T	4.7	1	0.780	0.600	35	0.10	
MCL1608S100 □ T	10	1	1.170	0.900	20	0.05	

MCL2012 TYPE

Part Number	Inductance	L Test Freq.	DC Resistance		Min. Self-resonant Frequency	Max. Rated Current	Thickness
Units	μH	MHz	Ω		MHz	A	mm [inch]
Symbol	L	Freq.	DCR		S.R.F	Ir*	T
			Max.	Typ.			
MCL2012SR10 □ T	0.1	1	0.091	0.070	235	1.00	0.85±0.2 [.033±.008]
MCL2012SR22 □ T	0.22	1	0.169	0.130	170	0.80	
MCL2012SR47 □ T	0.47	1	0.234	0.180	125	0.55	
MCL2012S1R0 □ T	1.0	1	0.260	0.200	75	0.30	
MCL2012S2R2 □ T	2.2	1	0.364	0.280	50	0.22	
MCL2012S4R7 □ T	4.7	1	0.390	0.300	25	0.18	
MCL2012S100 □ T	10	1	0.650	0.500	15	0.06	
MCL2012H100 □ T	10	1	0.650	0.500	20	0.10	1.25±0.2 [.049±.008]

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

※ *: The rated current is the value of DC current at which the inductance value is dropped within 50% with the application of DC bias.

Typical Electrical Characteristics

Inductance vs. Frequency Characteristics

