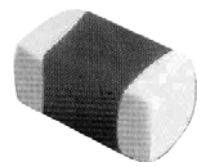


Multilayer Chip Inductor for Choke – MCL Series

Operating Temp. : -40°C~+85°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

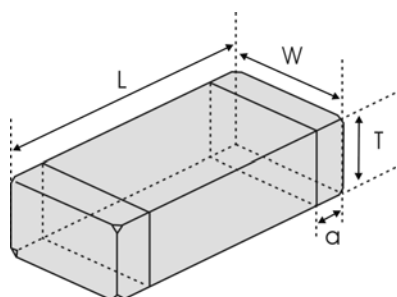
APPLICATIONS

- Choke circuits in DC power line of consumer electronics such as personal computers, mobile phones, digital cameras, digital video cameras, and music players

PRODUCT IDENTIFICATION

<u>MCL</u>	<u>1608</u>	<u>S</u>	<u>1R0</u>	<u>M</u>	<u>T</u>																		
①	②	③	④	⑤	⑥																		
①	②		③		④																		
<table border="1"> <thead> <tr> <th colspan="2">Type</th> </tr> </thead> <tbody> <tr> <td>MCL</td> <td>Chip Inductor for Choke</td> </tr> </tbody> </table>		Type		MCL	Chip Inductor for Choke	<table border="1"> <thead> <tr> <th colspan="2">External Dimensions (L×W) (mm)</th> </tr> </thead> <tbody> <tr> <td>1608 [0603]</td> <td>1.6×0.8</td> </tr> <tr> <td>2012 [0805]</td> <td>2.0×1.25</td> </tr> </tbody> </table>		External Dimensions (L×W) (mm)		1608 [0603]	1.6×0.8	2012 [0805]	2.0×1.25	<table border="1"> <thead> <tr> <th colspan="2">Feature Type</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>Standard</td> </tr> <tr> <td>H</td> <td>Ir-Improved</td> </tr> </tbody> </table>		Feature Type		S	Standard	H	Ir-Improved		
Type																							
MCL	Chip Inductor for Choke																						
External Dimensions (L×W) (mm)																							
1608 [0603]	1.6×0.8																						
2012 [0805]	2.0×1.25																						
Feature Type																							
S	Standard																						
H	Ir-Improved																						
④		⑤		⑥																			
<table border="1"> <thead> <tr> <th colspan="2">Nominal Inductance</th> </tr> </thead> <tbody> <tr> <th>Example</th> <th>Nominal Value</th> </tr> <tr> <td>1R0</td> <td>1.0μH</td> </tr> <tr> <td colspan="2">※R=小数点</td> </tr> </tbody> </table>		Nominal Inductance		Example	Nominal Value	1R0	1.0μH	※R=小数点		<table border="1"> <thead> <tr> <th colspan="2">Inductance Tolerance</th> </tr> </thead> <tbody> <tr> <td>M</td> <td>±20%</td> </tr> <tr> <td>N</td> <td>±30%</td> </tr> </tbody> </table>		Inductance Tolerance		M	±20%	N	±30%	<table border="1"> <thead> <tr> <th colspan="2">Packing</th> </tr> </thead> <tbody> <tr> <td>T</td> <td>Tape & Reel</td> </tr> </tbody> </table>		Packing		T	Tape & Reel
Nominal Inductance																							
Example	Nominal Value																						
1R0	1.0μH																						
※R=小数点																							
Inductance Tolerance																							
M	±20%																						
N	±30%																						
Packing																							
T	Tape & Reel																						

SHAPE AND DIMENSIONS



Unit: mm [inch]

Type	L	W	T	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.	Min. Self-resonant Frequency	DC Resistance	Max. Rated Current	Thickness
Units	μH	MHz	MHz	Ω	mA	mm [inch]
Symbol	L	Freq.	S.R.F	DCR	Ir*	T
MCL1608SR10□T	0.1	1	240	0.14±30%	700	0.8±0.15 [.031±.006]
MCL1608SR22□T	0.22	1	150	0.27±30%	550	
MCL1608SR47□T	0.47	1	105	0.42±30%	400	
MCL1608S1R0□T	1.0	1	75	0.20±30%	190	
MCL1608S2R2□T	2.2	1	50	0.40±30%	140	
MCL1608S4R7□T	4.7	1	35	0.60±30%	100	
MCL1608S100□T	10	1	20	0.90±30%	50	

MCL2012 TYPE

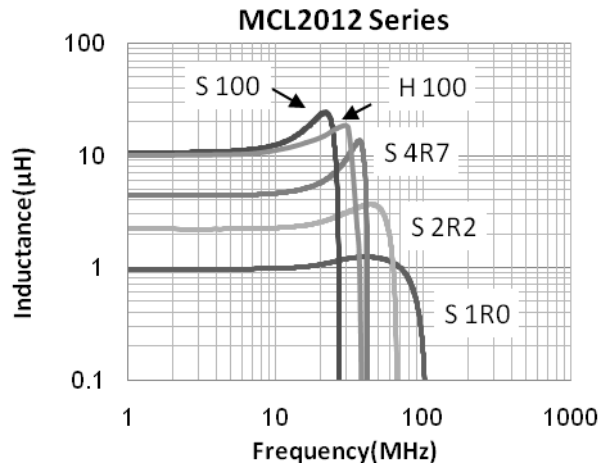
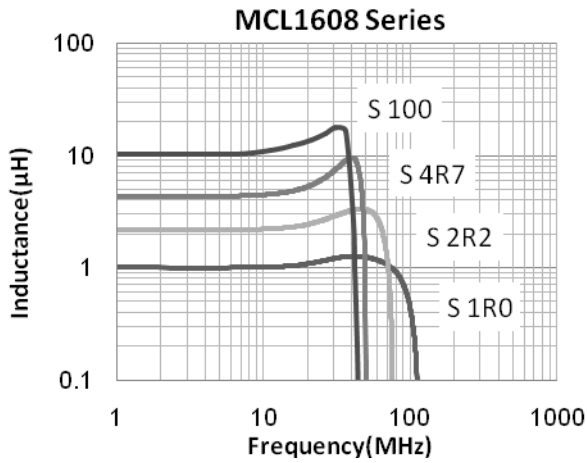
Part Number	Inductance	L Test Freq.	Min. Self-resonant Frequency	DC Resistance	Max. Rated Current	Thickness
Units	μH	MHz	MHz	Ω	mA	mm [inch]
Symbol	L	Freq.	S.R.F	DCR	Ir*	T
MCL2012SR10□T	0.1	1	235	0.07±30%	1000	0.85±0.2 [.033±.008]
MCL2012SR22□T	0.22	1	170	0.13±30%	800	
MCL2012SR47□T	0.47	1	125	0.18±30%	550	
MCL2012S1R0□T	1.0	1	75	0.20±30%	300	
MCL2012S2R2□T	2.2	1	50	0.28±30%	220	
MCL2012S4R7□T	4.7	1	25	0.30±30%	180	
MCL2012S100□T	10	1	15	0.50±30%	60	1.25±0.2 [.049±.008]
MCL2012H100□T	10	1	20	0.50±30%	100	

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

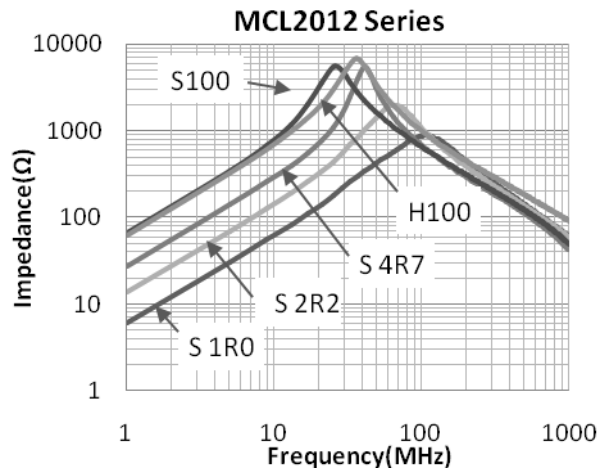
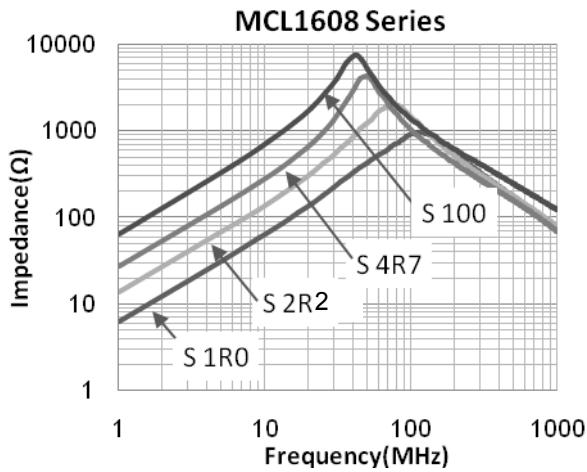
※*: The rated current is the value of DC current at which the inductance value is dropped within 50% with the application of DC bias.

TYPICAL ELECTRICAL CHARACTERISTICS

Inductance vs. Frequency Characteristics



Impedance vs. Frequency Characteristics



Inductance vs. DC Current Characteristics

