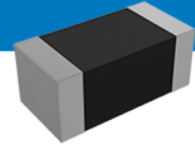


Multilayer Chip Inductor for Choke – MCL – N Series

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 AC resistance, low power loss.

APPLICATIONS

- ◆ NFC output filtering and matching circuit, Power line, etc

PRODUCT IDENTIFICATION

1	2	3	4	5	6
MCL	1608	N	R16	J	T

1	Type
MCL	Chip Power Inductor

2	External Dimensions (L×W) (mm)	
1005 [0402]	1.0×0.5	
1608 [0603]	1.6×0.8	

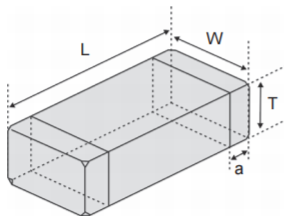
3	Feature Type	
N	NFC	

4	Nominal Inductance	
Example	Nominal Value	
R16	0.16μH	
※R=decimal point		

5	Inductance Tolerance	
J	±5%	
K	±10%	
M	±20%	

6	Packing	
T	Tape & Reel	

SHAPE AND DIMENSIONS



Type	L	W	T	a
MCL1005N [0402]	1.0±0.15 [0.039±0.006]	0.5±0.15 [0.020±0.006]	0.5±0.15 [0.020±0.006]	0.25±0.1 [0.010±0.004]
MCL1608N [0603]	1.60±0.15 [0.063±0.006]	0.8±0.15 [0.031±0.006]	0.8±0.15 [0.031±0.006]	0.3±0.2 [0.012±0.008]
MCL1608N-A01 [0603]	1.60±0.15 [0.063±0.006]	0.8±0.15 [0.031±0.006]	0.55±0.1 [0.021±0.004]	0.3±0.2 [0.012±0.008]

Unit: mm [inch]

SPECIFICATIONS MCL1005N TYPE

Part Number	Inductance	L Test Freq.	DC Resistance	Min. Self-resonant Frequency	Saturation Current Typ.	Heat Rating Current Max.
Units	nH	MHz	Ω	MHz	mA	mA
Symbol	L	Freq.	DCR	S.R.F	Isat	Irms
MCL1005N77N □ T	77	25	0.27	200	550	550
MCL1005N96N □ T	96	25	0.35	200	500	500
MCL1005NR10 □ T	100	25	0.35	200	500	500
MCL1005NR11 □ T	110	25	0.39	200	450	450
MCL1005NR12 □ T	120	25	0.39	200	450	450
MCL1005NR13 □ T	130	25	0.39	200	450	450
MCL1005NR14 □ T	140	25	0.45	200	450	450
MCL1005NR15 □ T	150	25	0.45	200	450	450
MCL1005NR16 □ T	160	25	0.52	200	550	400
MCL1005NR18 □ T	180	25	0.58	200	370	400
MCL1005NR20 □ T	200	25	0.58	200	370	400
MCL1005NR22 □ T	220	25	0.58	180	370	400
MCL1005NR27 □ T	270	25	0.65	180	350	350
MCL1005NR33 □ T	330	25	0.65	120	300	350
MCL1005NR39 □ T	390	25	0.97	120	300	300
MCL1005NR47 □ T	470	25	0.97	120	250	300
MCL1005NR56 □ T	560	25	1.40	120	250	250

MCL1608N TYPE

Part Number	Inductance	L Test Freq.	DC Resistance	Min. Self-resonant Frequency	Saturation Current Typ.	Heat Rating Current Max.
Units	nH	MHz	Ω	MHz	mA	mA
Symbol	L	Freq.	DCR	S.R.F	Isat	Irms
MCL1608N77N □ T	77	25	0.11	200	1100	1100
MCL1608N85N □ T	85	25	0.11	200	1100	1100
MCL1608NR10 □ T	100	25	0.12	200	1000	1000
MCL1608NR12 □ T	120	25	0.14	200	1000	800
MCL1608NR16 □ T	160	25	0.156	200	1100	700
MCL1608NR20 □ T	200	25	0.22	200	700	650
MCL1608NR21 □ T	210	25	0.26	200	700	600
MCL1608NR22 □ T	220	25	0.26	200	700	600
MCL1608NR27 □ T	270	25	0.286	200	650	550
MCL1608NR33 □ T	330	25	0.312	180	650	500
MCL1608NR39 □ T	390	25	0.36	180	600	450
MCL1608NR47 □ T	470	25	0.494	120	600	400
MCL1608NR56 □ T	560	25	0.52	120	550	400
MCL1608NR65 □ T	650	25	0.65	100	450	350
MCL1608NR82 □ T	820	25	0.75	80	400	300

MCL1608N-A01 TYPE

Part Number	Inductance	L Test Freq.	DC Resistance	Min. Self-resonant Frequency	Saturation Current Typ.	Heat Rating Current Max.
Units	nH	MHz	Ω	MHz	mA	mA
Symbol	L	Freq.	DCR	S.R.F	Isat	Irms
MCL1608NR16 □ TA01	160	25	0.156	300	550	700
MCL1608N2R2MTA01	2200	1	0.3	80	130 Isat1	800

※ Isat: DC current at which the inductance drops approximate 10% from its value without current;

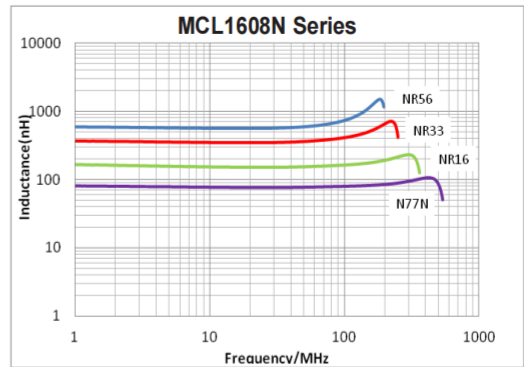
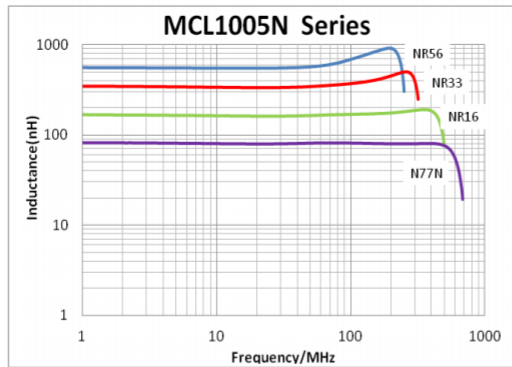
※ Isat1: DC current at which the inductance drops approximate 30% from its value without current;

※ Irms: DC current that causes the temperature rise ($\Delta T=25^{\circ}\text{C}$) from 20°C ambient.

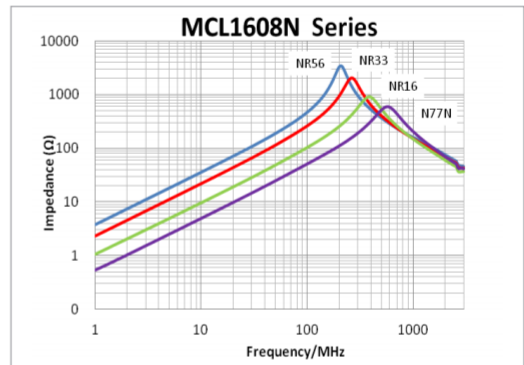
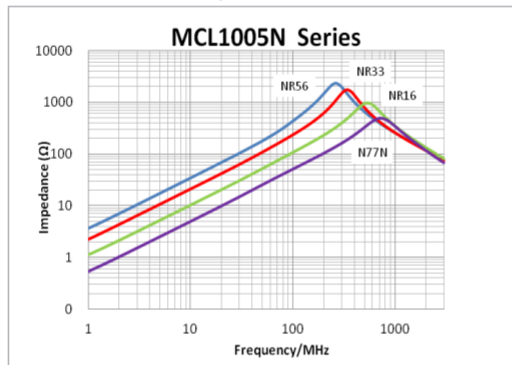
※ □: Please specify the inductance tolerance code (J=±5%,K=±10%,M=±20%).

TYPICAL ELECTRICAL CHARACTERISTICS

Inductance vs. Frequency Characteristics



Impedance vs. Frequency Characteristics



Inductance vs. DC Current Characteristics

