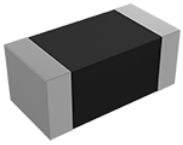
Multilayer Chip Inductor for Choke– MCL-N Series

Operating Temp. : -40℃~+85℃



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

MCL	1608	N	R16	J	T
①	②	③	④	⑤	⑥

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	

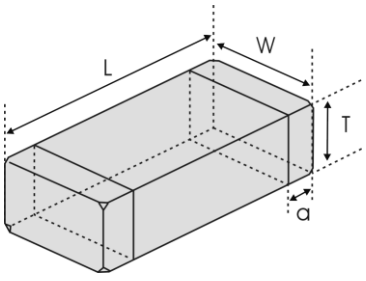
⑤

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

⑥

Packing	
T	Tape & Reel

SHAPE AND DIMENSIONS



Unit: mm [inch]

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]

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SPECIFICATIONS

MCL1005N TYPE

Part Number	Inductance	L Test Freq.	DC Resistance Max.	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 Max.	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

※Isat: DC current at which the inductance drops approximate 10% from its value without current;
※Irms : DC current that causes the temperature rise (△T =25°C) from 20°C ambient.
※□: Please specify the inductance tolerance code (J=±5%,K=±10%,M=±20%).

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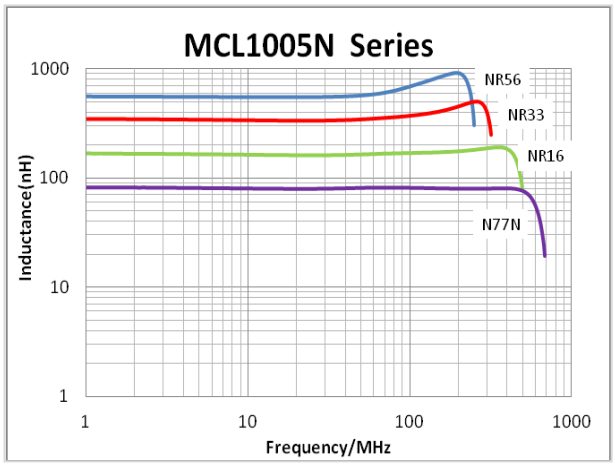
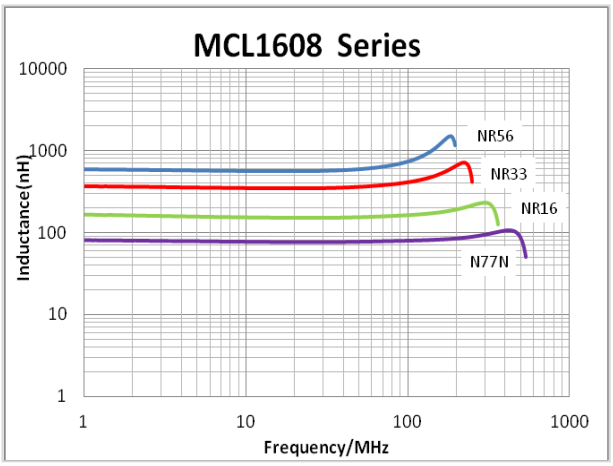
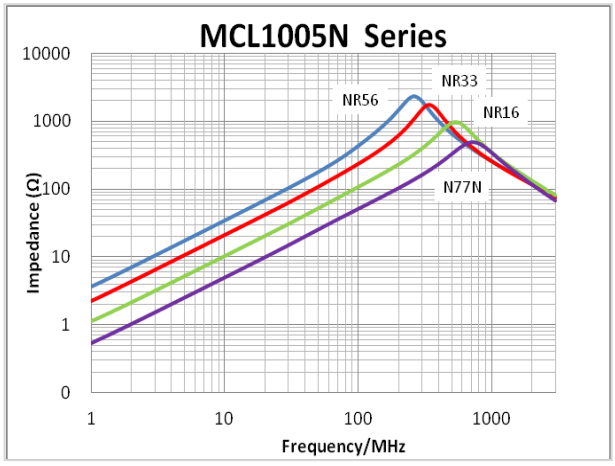
TYPICAL ELECTRICAL CHARACTERISTICS

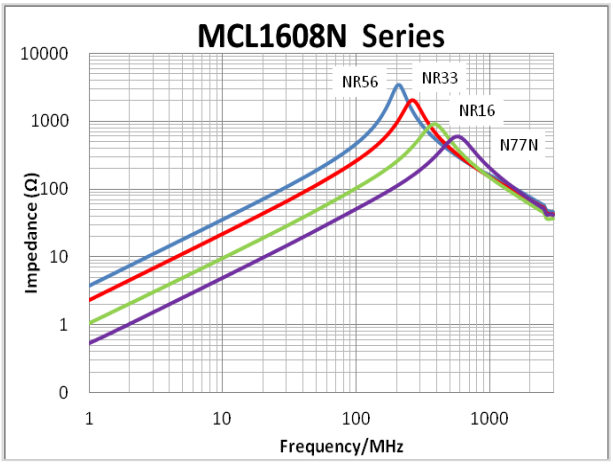
Inductance vs. Frequency Characteristics



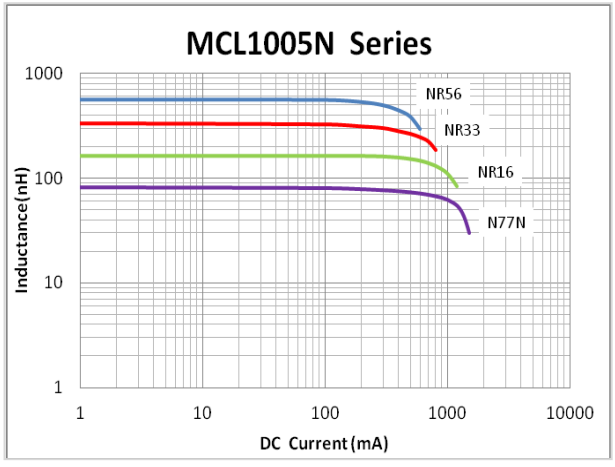


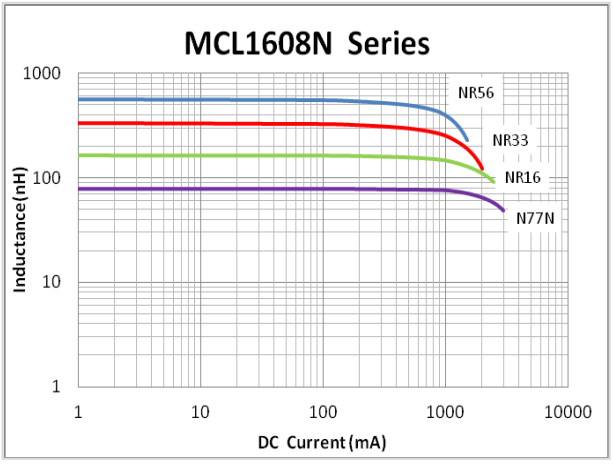
Impedance vs. Frequency Characteristics





Inductance vs. DC Current Characteristics





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