Multilayer Ceramic Chip Inductors
MHI0603D Series, 0603 Size

Features:

- Excellent Q factor and SRF characteristics
- Small size of 1005/1608 is suitable for small portable devices
- Supports operating frequency up to 6GHz with nominal inductance values from 1.0nH to 470nH.

Applications:

- RF resonance and impedance matching circuit
- RF and wireless communication
- Information technology equipment, computers, telecommunications, radar detectors, automotive electronics, cellular phones, pagers, PDAs, keyless remote systems
- L-C filter configurations

Product Identification:

MHI 0603 D 10N J T

(1) (2) (3) (4) (5) (6)

(1) Series Code: Multilayer ceramic chip inductor

(2) Size Code: L x W (inch), the first two digits - L (length), the last two digits - W (width)

(3) Characteristic Code

(4) Inductance Code:10N - 10nH

(5) Tolerance Code: J = ±5%; K = ±10%; S = ±0.3nH

(6) Package Code: T - Tape & Reel

Packaging:

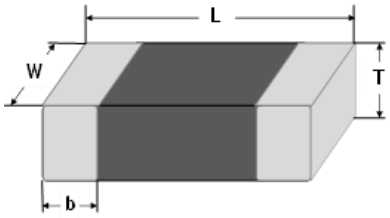
Chip Size	Parts on 7 inch (178mm) Reel
0603	4,000

Operating Temperature Range:

- -55 to +125°C (including self-temperature rise)

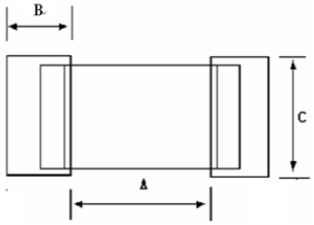
Shape and Dimensions:

Unit (mm)	0603
L	1.6 ± 0.15
W	0.8 ± 0.15
T	0.8 ± 0.15
b	0.3 ± 0.20



Recommended Land Pattern:

Unit (mm)	0603
A	0.70~0.80
B	0.55~0.60
C	0.80~0.90



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AEM COMPONENTS

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Ordering Information:

Part Number	Inductance (nH)	L Test Frequency	Q Min. @ 100MHz	SRF typ. (MHz)	RDC Max. (Ω)	IDC [1] Max. (mA)	Tolerance
MHI0603D10NJT	10	100 MHz, 200 mV	12	3,000	0.26	600	5/10
MHI0603D12NJT	12	100 MHz, 200 mV	12	2,600	0.28	600	5/10
MHI0603D15NJT	15	100 MHz, 200 mV	12	2,500	0.32	600	5/10
MHI0603D18NJT	18	100 MHz, 200 mV	12	2,400	0.35	600	5/10
MHI0603D1N0ST	1.0	100 MHz, 200 mV	8	10,000	0.10	600	±0.3nH
MHI0603D1N5ST	1.5	100 MHz, 200 mV	8	8,000	0.10	600	±0.3nH
MHI0603D1N8ST	1.8	100 MHz, 200 mV	8	8,000	0.10	600	±0.3nH
MHI0603D22NJT	22	100 MHz, 200 mV	12	2,000	0.40	500	5/10
MHI0603D27NJT	27	100 MHz, 200 mV	12	1,900	0.45	500	5/10
MHI0603D2N2ST	2.2	100 MHz, 200 mV	8	7,200	0.10	600	±0.3nH
MHI0603D2N7ST	2.7	100 MHz, 200 mV	10	6,200	0.10	600	±0.3nH
MHI0603D33NJT	33	100 MHz, 200 mV	12	1,600	0.55	400	5/10
MHI0603D39NJT	39	100 MHz, 200 mV	12	1,400	0.60	400	5/10
MHI0603D3N3ST	3.3	100 MHz, 200 mV	10	5,200	0.12	600	±0.3nH/10
MHI0603D3N9ST	3.9	100 MHz, 200 mV	10	5,000	0.14	600	±0.3nH/10
MHI0603D47NJT	47	100 MHz, 200 mV	12	1,300	0.70	400	5/10
MHI0603D4N7ST	4.7	100 MHz, 200 mV	10	4,750	0.16	600	±0.3nH/10
MHI0603D56NJT	56	100 MHz, 200 mV	12	1,100	0.75	400	5/10
MHI0603D5N6ST	5.6	100 MHz, 200 mV	10	4,100	0.18	600	±0.3nH/10
MHI0603D68NJT	68	100 MHz, 200 mV	12	1,050	0.85	400	5/10
MHI0603D6N8ST	6.8	100 MHz, 200 mV	10	3,750	0.22	600	5/10
MHI0603D82NJT	82	100 MHz, 200 mV	12	900	1.00	300	5/10
MHI0603D8N2ST	8.2	100 MHz, 200 mV	10	3,300	0.24	600	5/10
MHI0603DR10JT	100	100 MHz, 200 mV	12	770	1.20	300	5/10
MHI0603DR12JT	120	100 MHz, 200 mV	8	650	1.30	300	5/10
MHI0603DR15JT	150	100 MHz, 200 mV	8	2,400	1.70	250	5/10
MHI0603DR18JT	180	100 MHz, 200 mV	8	2,400	1.90	250	5/10
MHI0603DR22JT	220	100 MHz, 200 mV	8	2,000	2.00	250	5/10

[1] IDC: Applied the current to coils, the inductance shall be less than 10% initial value.

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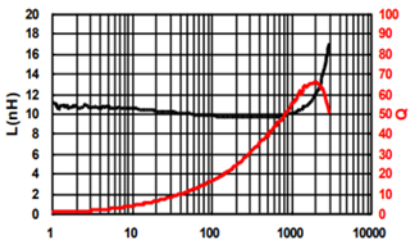
High Frequency Characteristics:

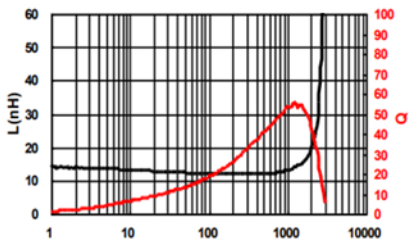
Test Instruments：Agilent E4991A Material/Impedance Analyzer

MHI0603D10NJT



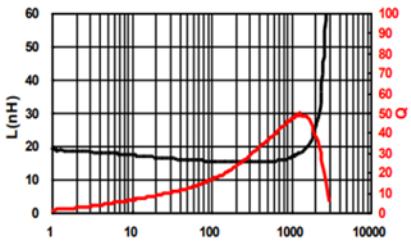
RDC<0.26Ω SRF:3000MHz IDC:600mA

MHI0603D12NJT



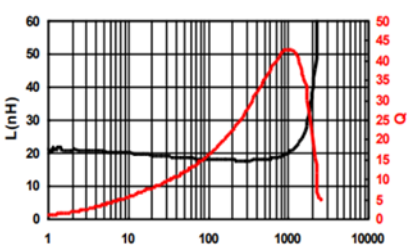
RDC<0.28Ω SRF:2600MHz IDC:600mA

MHI0603D15NJT



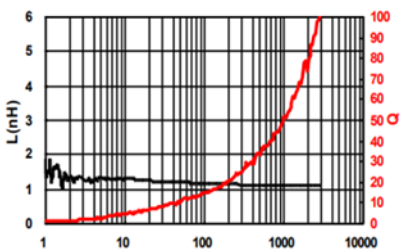
RDC<0.32Ω SRF:2400MHz IDC:600mA

MHI0603D18NJT



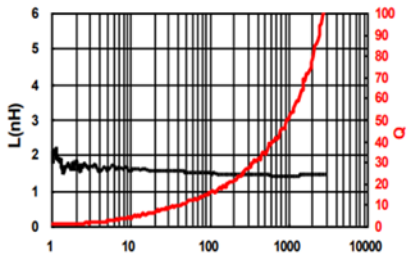
RDC<0.35Ω SRF:2400MHz IDC:600mA

MHI0603D1N0ST



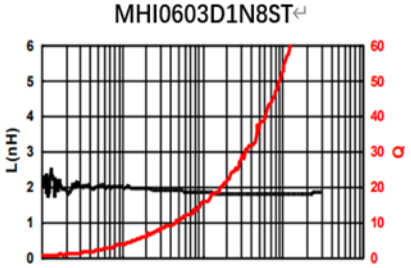
RDC<0.1Ω SRF:10000MHz IDC:600mA

MHI0603D1N5ST



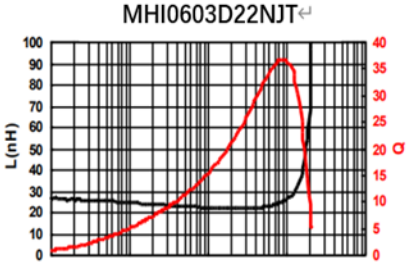
RDC<0.1Ω SRF:8000MHz IDC:600mA

MHI0603D1N8ST



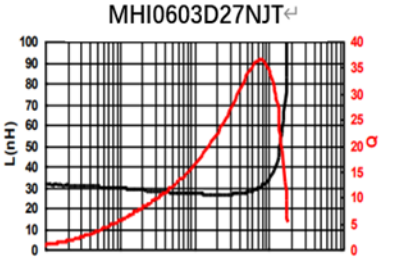
RDC<0.1Ω SRF:8000MHz IDC:600mA

MHI0603D22NJT



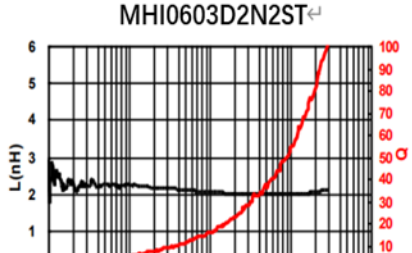
RDC<0.4Ω SRF:2000MHz IDC:500mA

MHI0603D27NJT



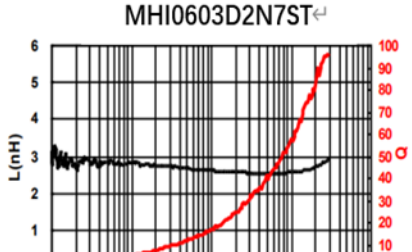
RDC<0.45Ω SRF:1900MHz IDC:500mA

MHI0603D2N2ST



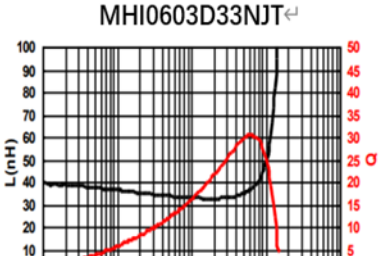
RDC<0.1Ω SRF:7200MHz IDC:600mA

MHI0603D2N7ST



RDC<0.10Ω SRF:6200MHz IDC:600mA

MHI0603D33NJT



RDC<0.55Ω SRF:1600MHz IDC:400mA

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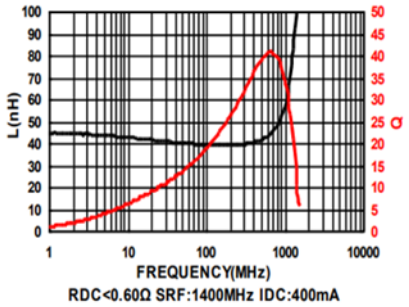
AEM COMPONENTS

Multilayer Ceramic Chip Inductors
MHI0603D Series, 0603 Size

High Frequency Characteristics:

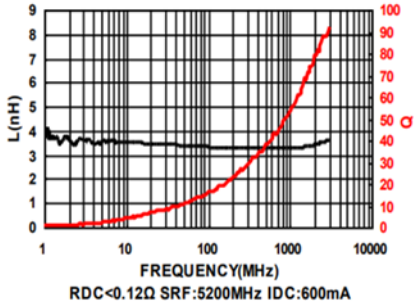
Test Instruments：Agilent E4991A Material/Impedance Analyzer

MHI0603D39NJT



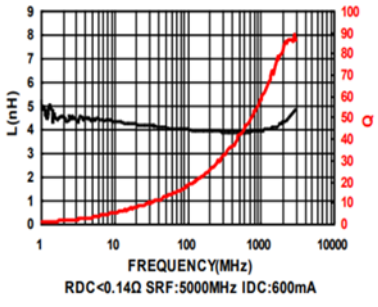
RDC<0.60Ω SRF:1400MHz IDC:400mA

MHI0603D3N3ST



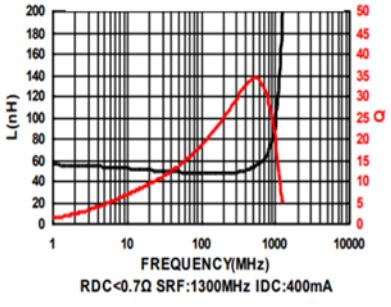
RDC<0.12Ω SRF:5200MHz IDC:600mA

MHI0603D3N9ST



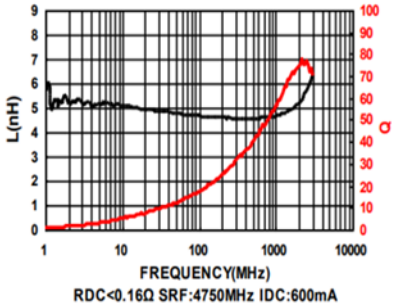
RDC<0.14Ω SRF:5000MHz IDC:600mA

MHI0603D47NJT



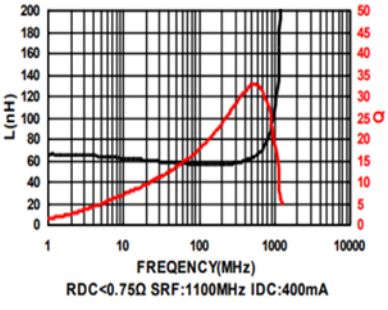
RDC<0.7Ω SRF:1300MHz IDC:400mA

MHI0603D4N7ST



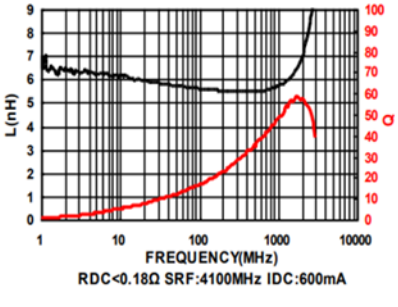
RDC<0.16Ω SRF:4750MHz IDC:600mA

MHI0603D56NJT



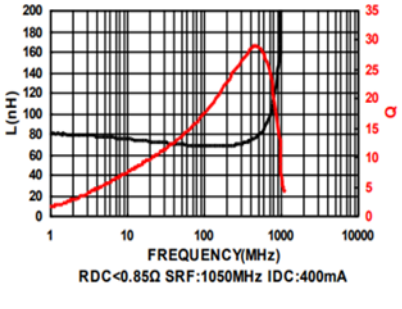
RDC<0.75Ω SRF:1100MHz IDC:400mA

MHI0603D5N6ST



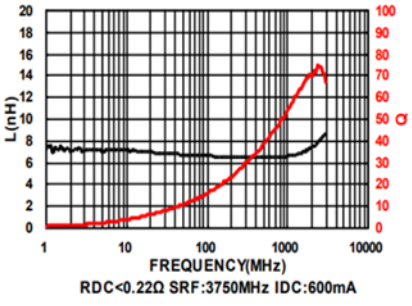
RDC<0.18Ω SRF:4100MHz IDC:600mA

MHI0603D68NJT



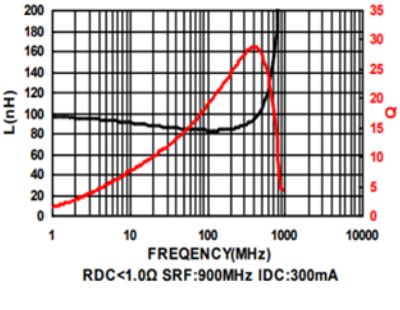
RDC<0.85Ω SRF:1050MHz IDC:400mA

MHI0603D6N8ST



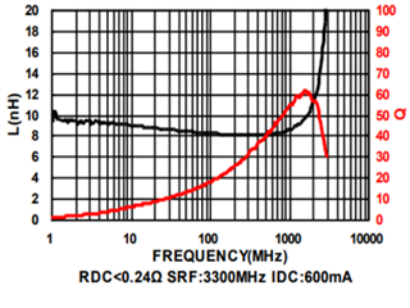
RDC<0.22Ω SRF:3750MHz IDC:600mA

MHI0603D82NJT



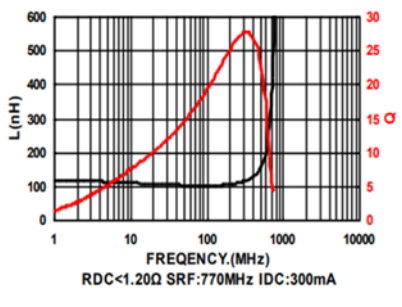
RDC<1.0Ω SRF:900MHz IDC:300mA

MHI0603D8N2ST



RDC<0.24Ω SRF:3300MHz IDC:600mA

MHI0603DR10JT



RDC<1.20Ω SRF:770MHz IDC:300mA

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AEM COMPONENTS

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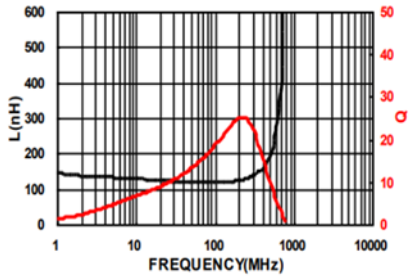
High Frequency Characteristics:

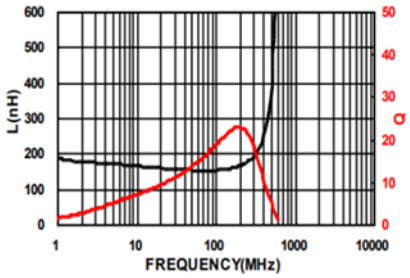
Test Instruments：Agilent E4991A Material/Impedance Analyzer

MHI0603DR12JT



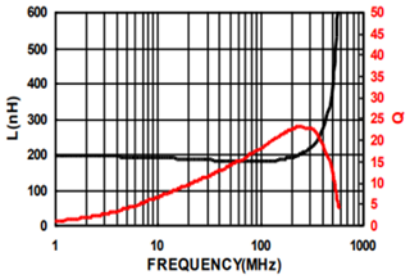
RDC<1.30 Ω SRF:650MHz IDC:300mA

MHI0603DR15JT



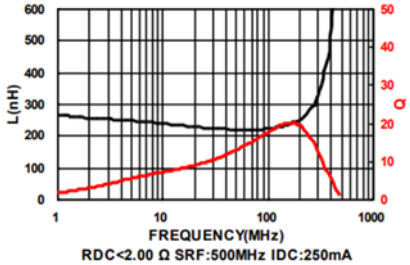
RDC<1.70 Ω SRF:550MHz IDC:250mA

MHI0603DR18JT



RDC<1.90 Ω SRF:520MHz IDC:250mA

MHI0603DR22JT



RDC<2.00 Ω SRF:500MHz IDC:250mA

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Multilayer Ceramic Chip Inductors
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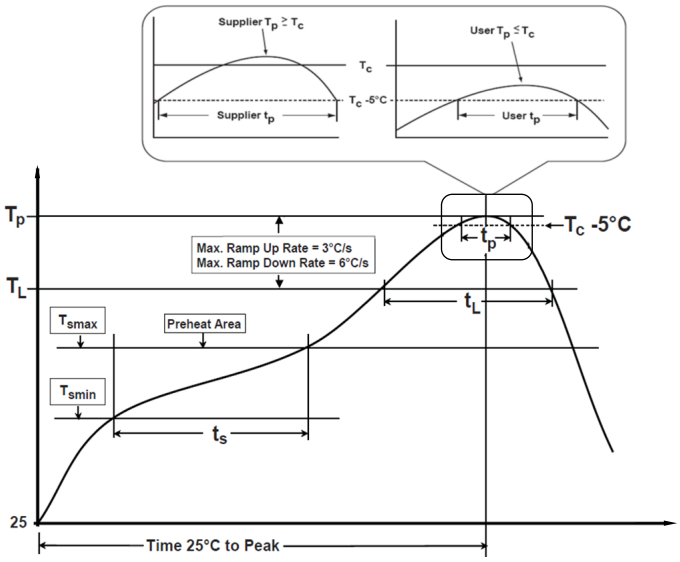
Recommended Temperature Profile:

* Recommended Temperature Profile for Reflow Soldering



Profile Feature	Pb-Free Assembly
Preheat/Soak Temperature Min (T_{smin}) Temperature Max (T_{smax}) Time (t_s) from (T_{smin} to T_{smax})	 150°C 200°C 60~180 seconds
Ramp-uprate (T_L to T_p)	3°C/second max.
Liquidous temperature (T_L) Time (t_L) maintained above T_L	217°C 60~150 seconds
Peak package body temperature (T_p)	260°C
Time (t_p)*within 5°C of the specified classification temperature (T_c)	30 seconds *
Ramp-down rate (T_p to T_L)	6°C/second max.
Time 25°C to peak temperature	8 minutes max.
* Tolerance for peak profile temperature (T_p) is defined as a supplier minimum and a user maximum	

Do not use this product in any Automotive Power train or Safety equipment such as ECU, ABS systems, or Battery Pack, Battery Management System, Battery Charger for Electric Vehicles and Plug-in Hybrid Vehicles. Only AEM products clearly described as "for Automotive Use" on its catalog can be used for automobile applications such as Power train and Safety equipment.

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