AEM Innovation to Power Your Vision

RoHS COMPLIANT HALOGEN FREE

AEM COMPONENTS

Multilayer Ceramic Chip Inductors
MHI0402D Series, 0402 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 configuration

Product Identification:

MHI 0402 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:

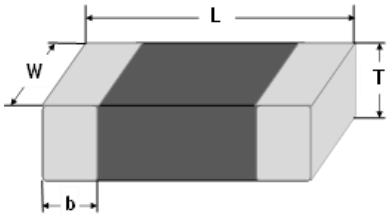
Chip Size	Parts on 7 inch (178mm) Reel
0402	10,000

Operating Temperature Range:

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

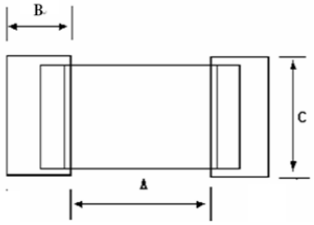
Shape and Dimensions:

Unit (mm)	0402
L	1.00 ± 0.10
W	0.50 ± 0.10
T	0.50 ± 0.10
b	0.25 ± 0.10



Recommended Land Pattern:

Unit (mm)	0402
A	0.35~0.40
B	0.40~0.50
C	0.50~0.55



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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 (±%)
MHI0402D10NJT	10	100MHz, 200mV	8	3,900	0.26	300	5/10
MHI0402D12NJT	12	100MHz, 200mV	8	3,000	0.40	300	5/10
MHI0402D15NJT	15	100MHz, 200mV	8	2,800	0.50	300	5/10
MHI0402D18NJT	18	100MHz, 200mV	8	2,500	0.55	300	5/10
MHI0402D1N0ST	1.0	100MHz, 200mV	8	10,000	0.07	400	±0.3nH
MHI0402D1N2ST	1.2	100MHz, 200mV	8	10,000	0.09	400	±0.3nH
MHI0402D1N5ST	1.5	100MHz, 200mV	8	9,000	0.10	400	±0.3nH
MHI0402D1N8ST	1.8	100MHz, 200mV	8	8,700	0.10	400	±0.3nH
MHI0402D22NJT	22	100MHz, 200mV	8	2,200	0.70	300	5/10
MHI0402D27NJT	27	100MHz, 200mV	8	2,000	0.80	300	5/10
MHI0402D2N2ST	2.2	100MHz, 200mV	8	8,100	0.12	400	±0.3nH
MHI0402D2N7ST	2.7	100MHz, 200mV	8	7,700	0.15	400	±0.3nH
MHI0402D33NJT	33	100MHz, 200mV	8	1,800	0.90	200	5/10
MHI0402D39NJT	39	100MHz, 200mV	8	1,600	1.00	150	5/10
MHI0402D3N3ST	3.3	100MHz, 200mV	8	6,300	0.15	400	±0.3nH/10
MHI0402D3N9ST	3.9	100MHz, 200mV	8	6,100	0.18	400	±0.3nH/10
MHI0402D47NJT	47	100MHz, 200mV	8	1,400	1.20	150	5/10
MHI0402D4N7ST	4.7	100MHz, 200mV	8	6,000	0.18	400	±0.3nH/10
MHI0402D56NJT	56	100MHz, 200mV	8	1,300	1.30	150	5/10
MHI0402D5N6ST	5.6	100MHz, 200mV	8	5,100	0.20	400	±0.3nH/10
MHI0402D68NJT	68	100MHz, 200mV	8	1,100	1.50	100	5/10
MHI0402D6N8JT	6.8	100MHz, 200mV	8	4,550	0.24	400	5/10
MHI0402D82NJT	82	100MHz, 200mV	8	1,000	1.60	100	5/10
MHI0402D8N2JT	8.2	100MHz, 200mV	8	4,100	0.24	300	5/10
MHI0402DR10JT	100	100MHz, 200mV	8	900	2.00	100	5/10
MHI0402DR12JT	120	100MHz, 200mV	8	800	2.20	100	5/10

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

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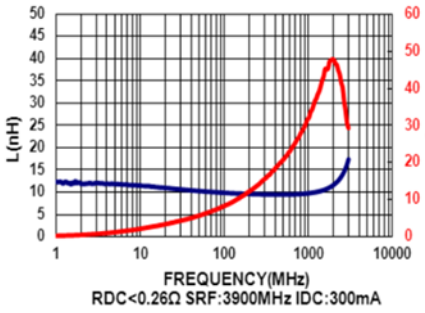
High Frequency Characteristics:

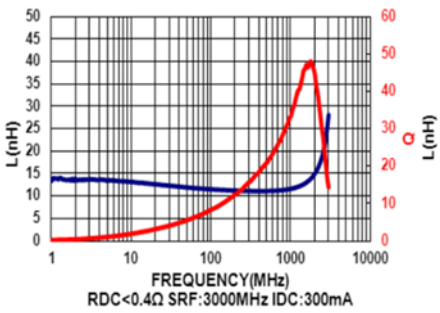
Test Instruments：Agilent E4991A Material/Impedance Analyzer

MHI0402D10N



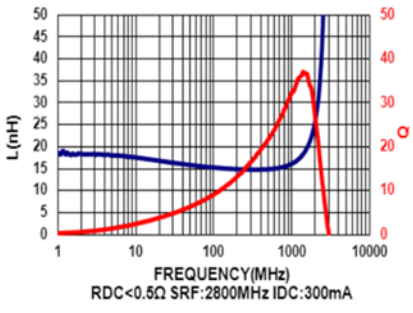
RDC<0.26Ω SRF:3900MHz IDC:300mA

MHI0402D12N



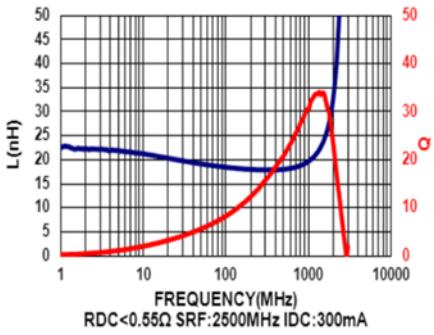
RDC<0.4Ω SRF:3000MHz IDC:300mA

MHI0402D15N



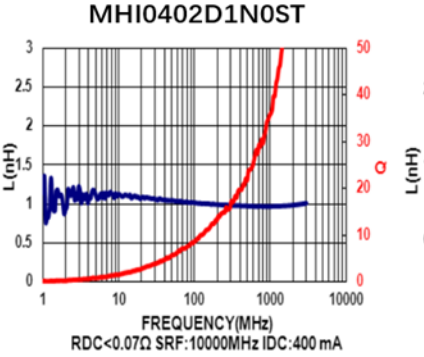
RDC<0.5Ω SRF:2800MHz IDC:300mA

MHI0402D18NJT



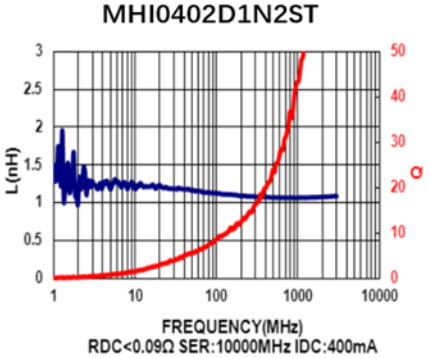
RDC<0.55Ω SRF:2500MHz IDC:300mA

MHI0402D1N0ST



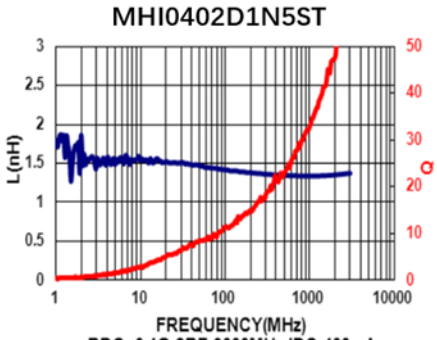
RDC<0.07Ω SRF:10000MHz IDC:400 mA

MHI0402D1N2ST



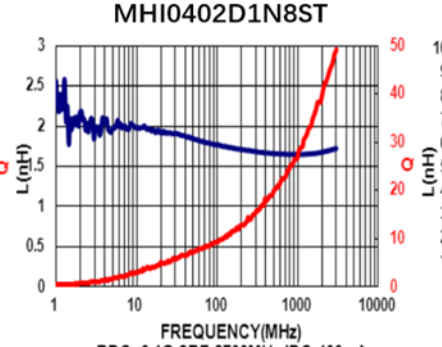
RDC<0.09Ω SER:10000MHz IDC:400mA

MHI0402D1N5ST



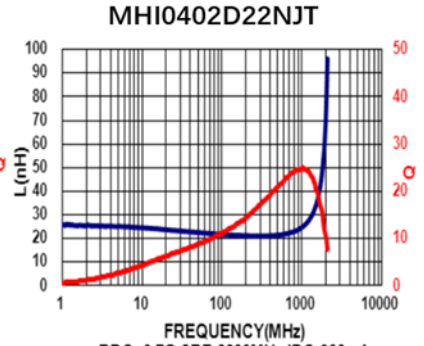
RDC<0.1Ω SRF:9000MHz IDC:400mA

MHI0402D1N8ST



RDC<0.1Ω SRF:8700MHz IDC:400mA

MHI0402D22NJT



RDC<0.7Ω SRF:2200MHz IDC:300mA

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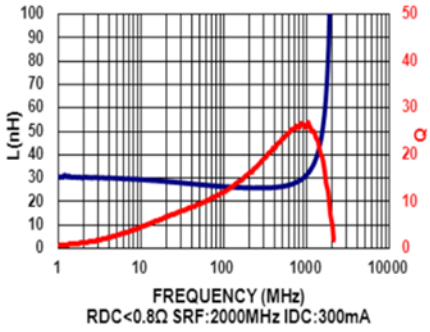
High Frequency Characteristics:

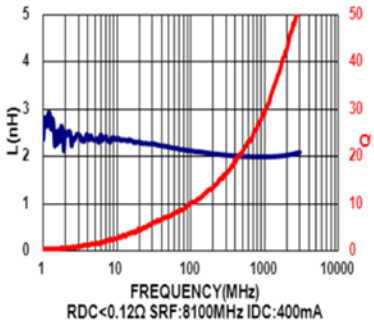
Test Instruments：Agilent E4991A Material/Impedance Analyzer

MHI0402D27NJT



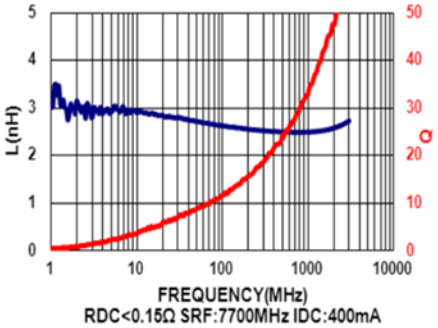
RDC<0.8Ω SRF:2000MHz IDC:300mA

MHI0402D2N2ST



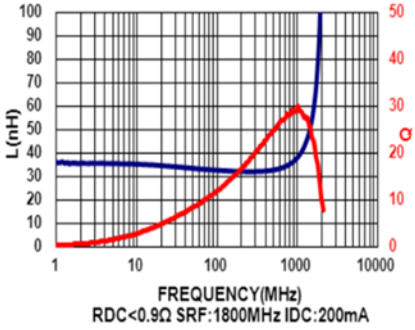
RDC<0.12Ω SRF:8100MHz IDC:400mA

MHI0402D2N7ST



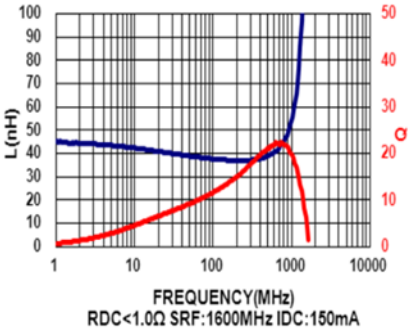
RDC<0.15Ω SRF:7700MHz IDC:400mA

MHI0402D33NJT



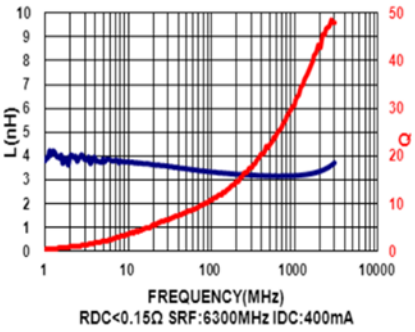
RDC<0.9Ω SRF:1800MHz IDC:200mA

MHI0402D39NJT



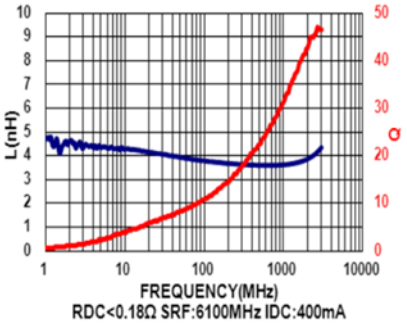
RDC<1.0Ω SRF:1600MHz IDC:150mA

MHI0402D3N3ST



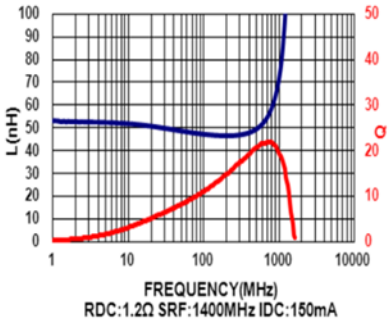
RDC<0.15Ω SRF:6300MHz IDC:400mA

MHI0402D3N9ST



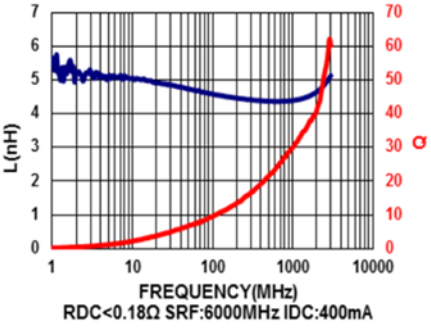
RDC<0.18Ω SRF:6100MHz IDC:400mA

MHI0402D47NJT



RDC:1.2Ω SRF:1400MHz IDC:150mA

MHI0402D4N7ST



RDC<0.18Ω SRF:6000MHz IDC:400mA

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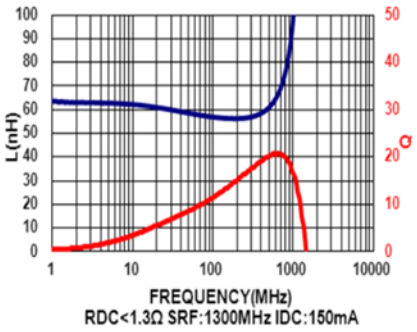
High Frequency Characteristics:

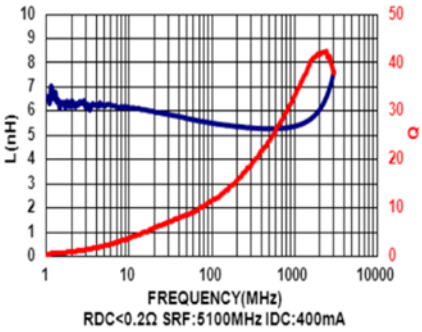
Test Instruments：Agilent E4991A Material/Impedance Analyzer

MHI0402D56NJT



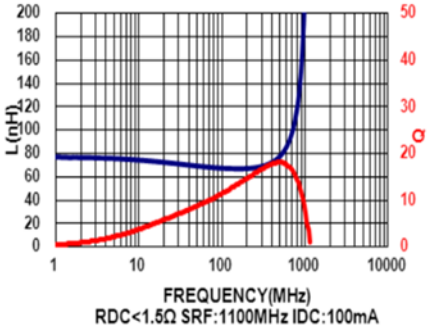
RDC<1.3Ω SRF:1300MHz IDC:150mA

MHI0402D5N6ST



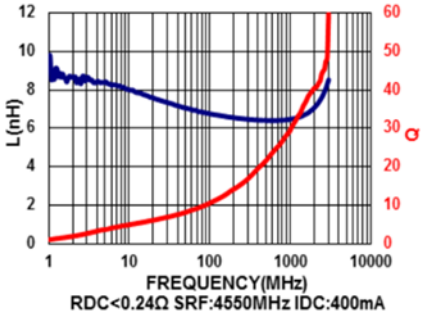
RDC<0.2Ω SRF:5100MHz IDC:400mA

MHI0402D68NJT



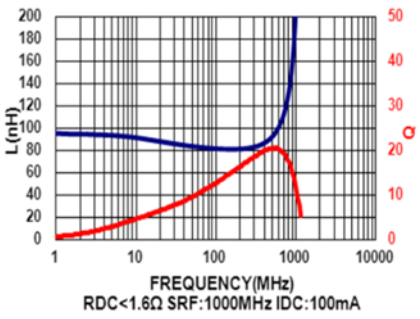
RDC<1.5Ω SRF:1100MHz IDC:100mA

MHI0402D6N8JT



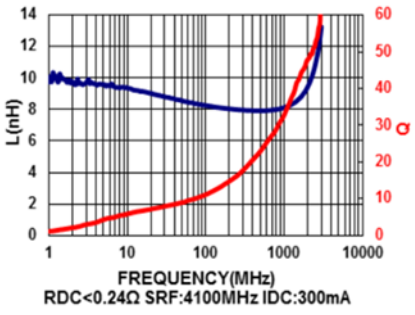
RDC<0.24Ω SRF:4550MHz IDC:400mA

MHI0402D82NJT



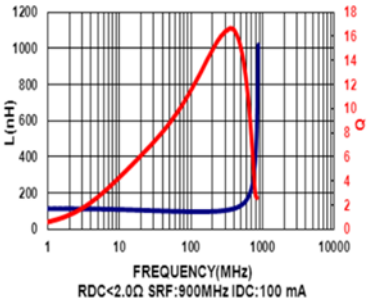
RDC<1.6Ω SRF:1000MHz IDC:100mA

MHI0402D8N2JT



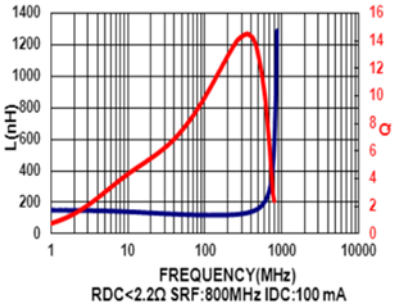
RDC<0.24Ω SRF:4100MHz IDC:300mA

MHI0402DR10JT



RDC<2.0Ω SRF:900MHz IDC:100 mA

MHI0402DR12JT



RDC<2.2Ω SRF:800MHz IDC:100 mA

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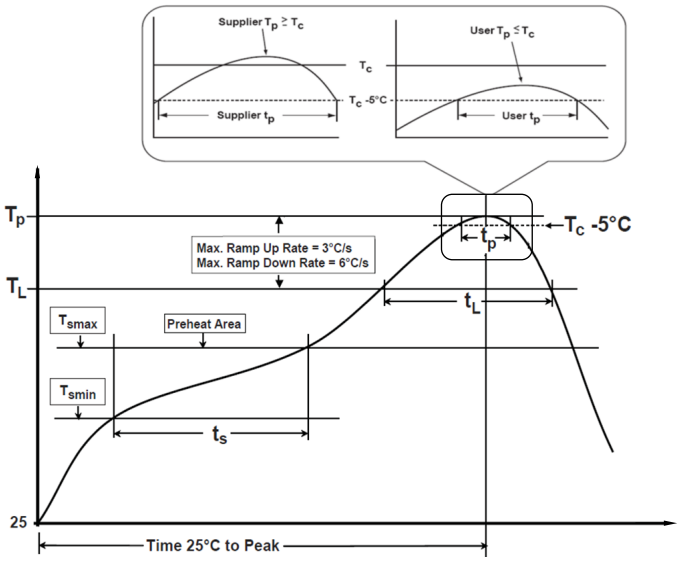
Recommended Temperature Profile:

* 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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AEM Components (Suzhou) Co., Ltd

461 Zhongnan Street,
China-Singapore Suzhou Industrial Park
Jiangsu, P. R. China, 215026

Tel: 86-512-6258-0028
Fax: 86-512-6258-0018
Email: marketing@aemchina.com

AEM Components (USA), Inc.

6670 Cobra Way, San Diego, CA 92121, USA

Tel: 1-858-750-6100
Fax: 1-858-481-1123
Email: sales@aemcomponents.com