

Automotive Multilayer Ceramic Chip Inductor



AIMC-Q0402

Request Samples



Check Inventory



1.0 x 0.5 x 0.5 mm
RoHS/RoHS II Compliant
MSL Level = 1

Features

- PPAP ready and supported
- TS16949 certified production lines
- AEC-Q200 (grade 1) qualified
- Ceramic base with high SRF
- Excellent DCR and current carrying characteristics.
- Multilayer monolithic construction yields high reliability
- Tight tolerance down to $\pm 0.1\text{nH}$

Applications

- Automotive applications
- Bluetooth, W-LAN, Broadband Network
- Impedance matching networks
- Filtering for high frequency communication circuits
- Video cameras, displays, and other electronic devices.

Electrical Specifications

Part Number	Inductance (nH)	Tolerance	Quality Factor min.	L/Q Freq. (MHz)	SRF (GHz) min.	DCR (Ω) max.	Rated Current (mA) max.
AIMC-Q0402-0N3	0.3	B	8	100	10.00	0.08	1000
AIMC-Q0402-0N4	0.4	B	8	100	10.00	0.08	1000
AIMC-Q0402-0N5	0.5	B	8	100	10.00	0.08	1000
AIMC-Q0402-0N6	0.6	B	8	100	10.00	0.08	1000
AIMC-Q0402-0N7	0.7	B	8	100	10.00	0.08	1000
AIMC-Q0402-0N8	0.8	B	8	100	10.00	0.08	1000
AIMC-Q0402-1N0	1.0	B, C, S	8	100	10.00	0.08	1000
AIMC-Q0402-1N1	1.1	B, C, S	8	100	10.00	0.08	1000
AIMC-Q0402-1N2	1.2	B, C, S	8	100	10.00	0.09	1000
AIMC-Q0402-1N3	1.3	B, C, S	8	100	10.00	0.09	1000
AIMC-Q0402-1N5	1.5	B, C, S	8	100	10.00	0.10	1000
AIMC-Q0402-1N6	1.6	B, C, S	8	100	10.00	0.10	1000
AIMC-Q0402-1N8	1.8	B, C, S	8	100	10.00	0.12	900
AIMC-Q0402-2N0	2.0	B, C, S	8	100	10.00	0.12	900
AIMC-Q0402-2N2	2.2	B, C, S	8	100	10.00	0.13	900
AIMC-Q0402-2N4	2.4	B, C, S	8	100	10.00	0.13	800
AIMC-Q0402-2N7	2.7	B, C, S	8	100	6.00	0.16	800
AIMC-Q0402-3N0	3.0	B, C, S	8	100	6.00	0.16	800
AIMC-Q0402-3N3	3.3	B, C, S	8	100	6.00	0.16	800
AIMC-Q0402-3N6	3.6	B, C, S	8	100	6.00	0.20	700
AIMC-Q0402-3N9	3.9	B, C, S	8	100	6.00	0.20	700

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Electrical Specifications (Cont'd)

Part Number	Inductance (nH)	Tolerance	Quality Factor min.	L/Q Freq. (MHz)	SRF (GHz) min.	DCR (Ω) max.	Rated Current (mA) max.
AIMC-Q0402-4N3	4.3	B, C, S	8	100	6.00	0.20	700
AIMC-Q0402-4N7	4.7	B, C, S	8	100	6.00	0.20	700
AIMC-Q0402-5N1	5.1	B, C, S	8	100	5.30	0.23	600
AIMC-Q0402-5N6	5.6	B, C, S	8	100	4.50	0.23	600
AIMC-Q0402-6N2	6.2	B, C, S	8	100	4.50	0.25	600
AIMC-Q0402-6N8	6.8	G, H, J	8	100	4.50	0.25	600
AIMC-Q0402-7N5	7.5	G, H, J	8	100	4.20	0.28	500
AIMC-Q0402-8N2	8.2	G, H, J	8	100	3.70	0.28	500
AIMC-Q0402-9N1	9.1	G, H, J	8	100	3.40	0.30	500
AIMC-Q0402-10N	10	G, H, J	8	100	3.40	0.30	500
AIMC-Q0402-12N	12	G, H, J	8	100	3.00	0.45	400
AIMC-Q0402-15N	15	G, H, J	8	100	2.50	0.55	400
AIMC-Q0402-18N	18	G, H, J	8	100	2.20	0.65	300
AIMC-Q0402-22N	22	G, H, J	8	100	1.90	0.70	300
AIMC-Q0402-27N	27	G, H, J	8	100	1.70	0.80	300
AIMC-Q0402-33N	33	G, H, J	8	100	1.60	0.90	200
AIMC-Q0402-39N	39	G, H, J	8	100	1.20	1.00	200
AIMC-Q0402-47N	47	G, H, J	8	100	1.10	1.10	200
AIMC-Q0402-56N	56	G, H, J	8	100	1.00	1.10	200
AIMC-Q0402-68N	68	G, H, J	8	100	0.80	1.20	200
AIMC-Q0402-82N	82	J	8	100	0.60	1.30	200
AIMC-Q0402-R10	100	J	8	100	0.60	1.60	200

Test Conditions and equipment

L, Q: High Accuracy RF Impedance /Material Analyzer-E4991A+16197A

DCR: High Accuracy Milliohm meter Agilent 4338B

Rated Current: DC Power Supplier, Current Meter, Thermometer. $\Delta T \leq 25^{\circ}\text{C}$

Operating Temperature: $-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$ (including self-temperature rise)

Storage Temperature: $-10^{\circ}\text{C} \sim +40^{\circ}\text{C}$, RH 70% (Max.)

AIMC-Q0402 is AEC-Q200 qualified.

AIMC-Q0402 Series is RoHS Compliant and Pb free.



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Part Identification

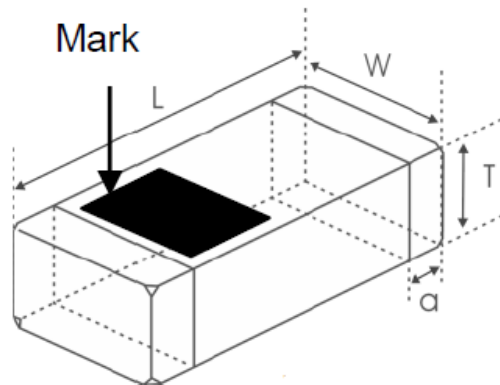
AIMC - Q0402 - -

Inductance Code
Please refer to Electrical Spec table

Tolerance
B: $\pm 0.1\text{nH}$
C: $\pm 0.2\text{nH}$
S: $\pm 0.3\text{nH}$
G: $\pm 2\%$
H: $\pm 3\%$
J: $\pm 5\%$

Packaging
T: Tape and Reel (10kpcs / reel)
Blank: Bulk

Mechanical Specifications



Series	L	W	T	a
AIMC-Q0402	1.00 ± 0.1	0.50 ± 0.1	0.50 ± 0.1	0.10~0.30
	[0.039±0.004]	[0.02±0.004]	[0.02±0.004]	[0.004~0.011]

Dimension: mm [inch]



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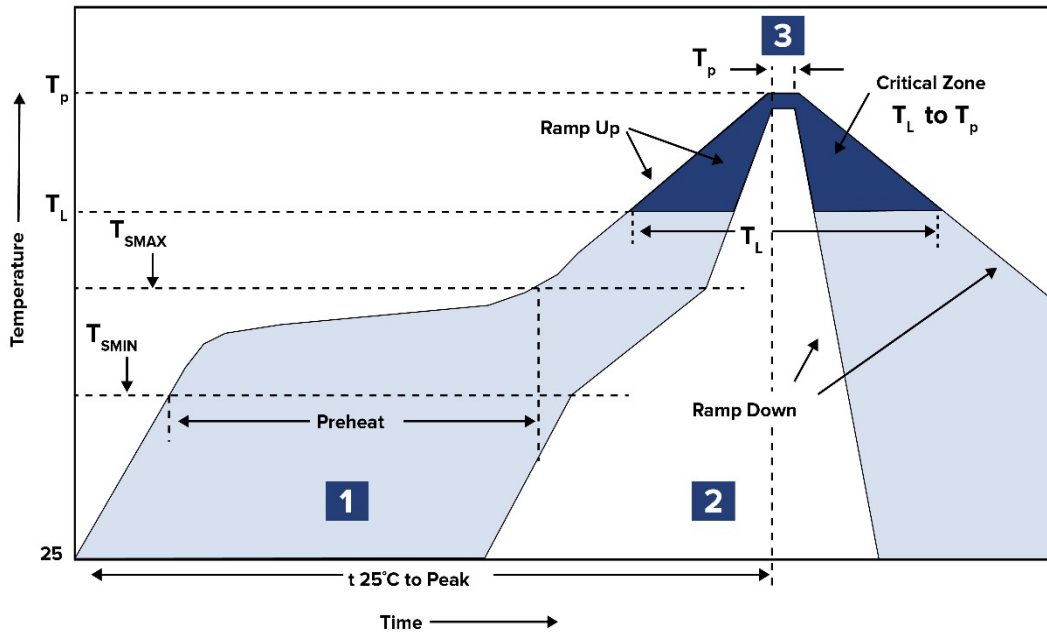


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Reflow Profile



Zone	Description	Temperature	Times
1	Preheat	$T_{SMIN} \sim T_{SMAX}$ 150°C ~ 200°C	60 ~ 120 sec.
2	Reflow	T_L 217°C	60 ~ 150 sec.
3	Peak heat	T_P 260°C	30 sec. MAX

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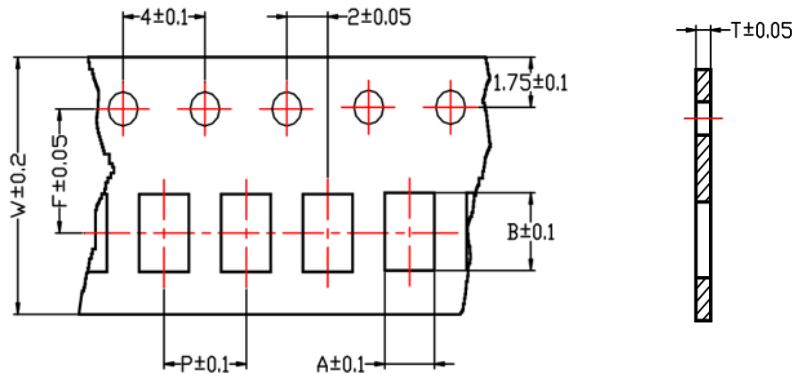
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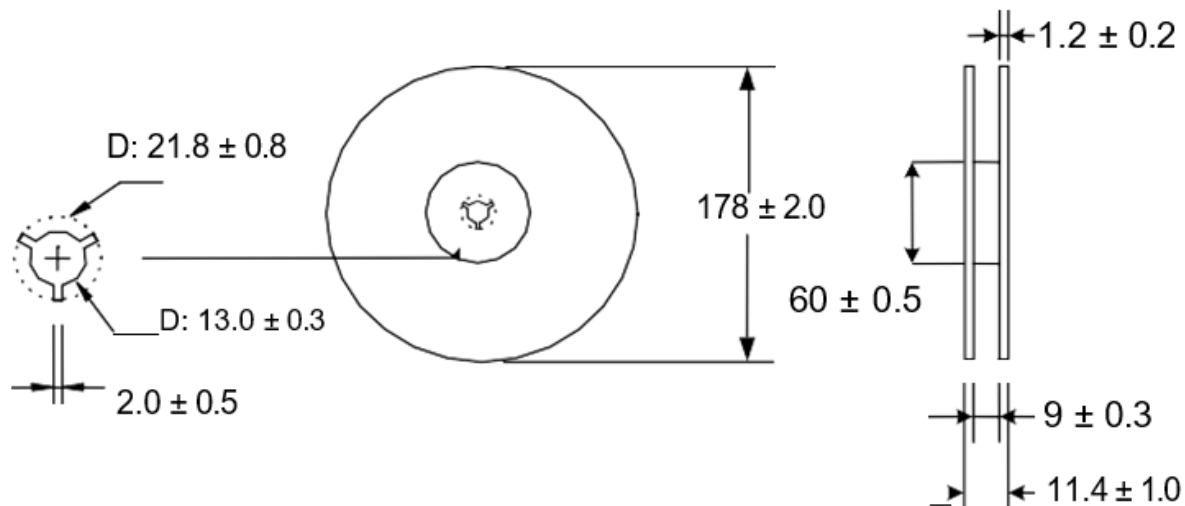
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Packaging

Tape & Reel: 10,000 pcs/reel



Series	A	B	T	W	P	F
AIMC-Q0402	0.60	1.12	0.6	8.0	2.0	3.5



Dimension: mm

ATTENTION: Abracon LLC's products are Commercial-Off-The-Shelf (COTS, which are designed, intended and validated for use in commercial, industrial and automotive applications. The customer is responsible for testing and verifying the performance of an Abracon solution to meet their system-level requirements.



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