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 ±0.1nH

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 Milliohmmeter Agilent 4338B
Rated Current: DC Power Supplier, Current Meter, Thermometer. $\Delta T \leq 25^{\circ}C$

Operating Temperature: -55℃ ~ +125℃ (including self-temperature rise)
Storage Temperature: -10℃ ~ +40℃, RH 70% (Max.)
AIMC-Q0402 is AEC-Q200 qualified
AIMC-Q0402 Series is RoHS Compliant and Pb free

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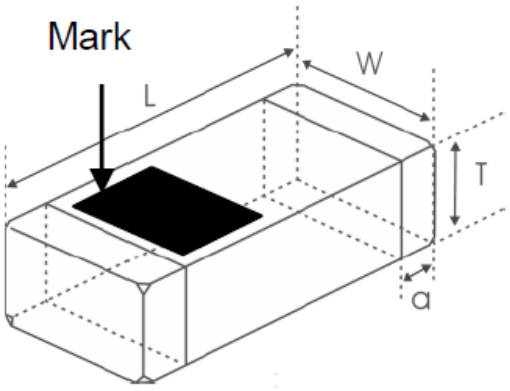
1.0 x 0.5 x 0.5 mm
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MSL Level = 1

Part Identification

AIMC - Q0402 - ☐☐ - ☐

Inductance Code	Tolerance	Packaging
Please refer to Electrical Spec table	B: ±0.1nH	T: Tape and Reel (10kpcs / reel)
	C: ±0.2nH	
	S: ±0.3nH	
	H: ±3%	
	J: ±5%	

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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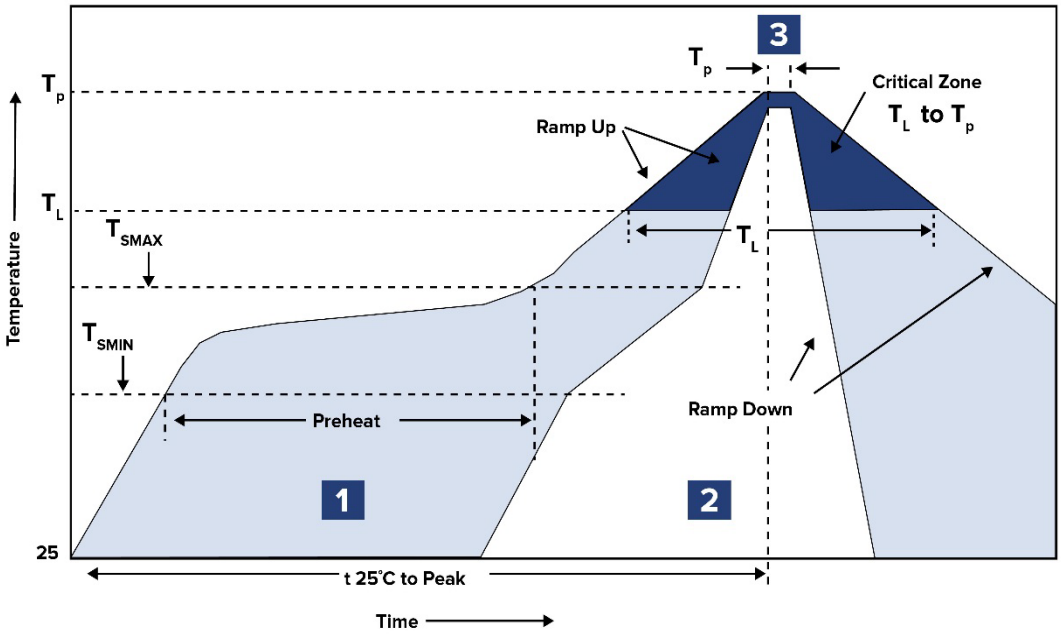


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Reflow Profile



Zone	Description	Temperature	Times
1	Preheat	T_{SMIN} ~ 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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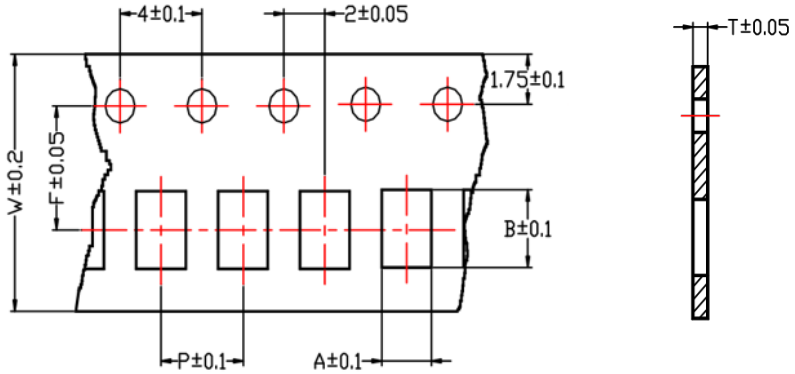
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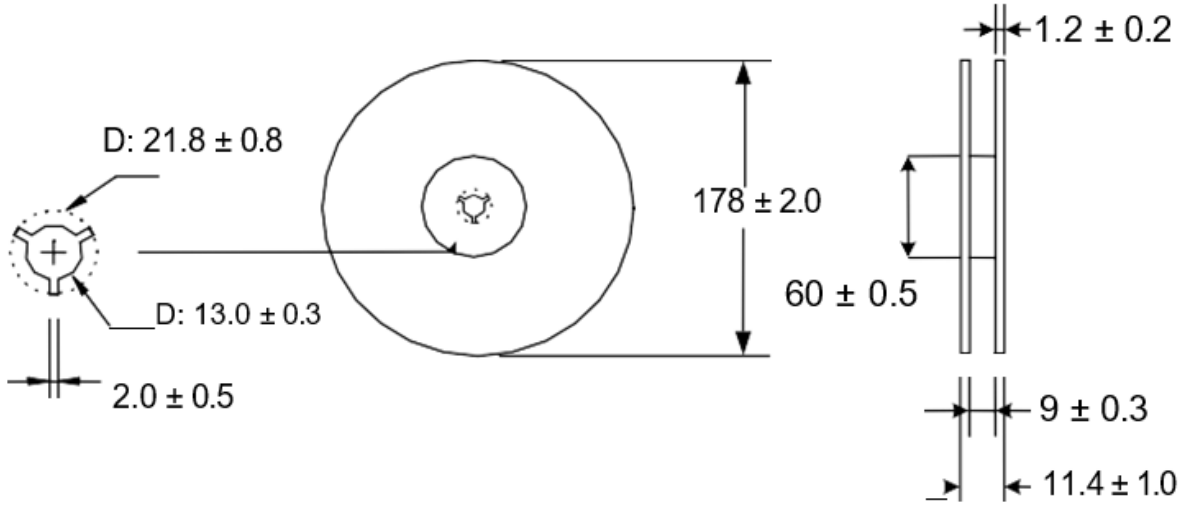
1.0 x 0.5 x 0.5 mm
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Packaging

Tape & Reel: 10,000 pcs/reel



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



Dimension: mm

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