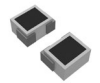


Ultra-High Q Multi-layer RF Inductor



AIMC-02UHQ

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0.25 x 0.125 x 0.2 mm
RoHS/RoHS II Compliant
MSL Level = 1

Features

- Ceramic base with high SRF
- Excellent DCR and current carrying characteristics
- Multilayer monolithic construction yields high reliability
- Tight tolerances down to $\pm 0.1\text{nH}$
- Wide range of inductors options

Applications

- Wireless communication, RF amplifiers, filters, oscillators, and mobile devices, satellite communication and IoT technologies
- TV transmitters, RFID systems, medical devices, GPS systems, drones, and Bluetooth
- Impedance matching networks, low-noise amplifiers (LNAs), signal coupler, mixers
- Tuned circuits, phase-locked loops (PLLs), RF combiners and diplexers

Electrical Specifications

Part Number*	Inductance	Tolerance	Quality Factor	L/Q Test Freq.	Typical Q @ Freq. (GHz)					Self-resonant Frequency	DC Resistance	Rated Current
			Min		0.5	0.8	1.8	2.0	2.4			
Units	nH	%, nH	-	MHz	-					Min.	Max.	Typ.
Symbol	L	B, C, S, H, J	Q	Freq.	Q					SRF	DCR	I _{rms}
AIMC-02UHQ-0N3	0.3	B, C, S	8	500	-	-	-	-	-	14000	0.02	650
AIMC-02UHQ-0N4	0.4	B, C, S	8	500	-	-	-	-	-	14000	0.04	560
AIMC-02UHQ-0N5	0.5	B, C, S	8	500	-	-	-	-	-	14000	0.06	560
AIMC-02UHQ-0N6	0.6	B, C, S	8	500	-	-	-	-	-	14000	0.10	560
AIMC-02UHQ-0N7	0.7	B, C, S	8	500	-	-	-	-	-	14000	0.15	360
AIMC-02UHQ-0N8	0.8	B, C, S	8	500	12	16	21	22	23	13000	0.15	360
AIMC-02UHQ-0N9	0.9	B, C, S	8	500	12	16	20	21	23	13000	0.15	360
AIMC-02UHQ-1N0	1.0	B, C, S	8	500	12	15	19	20	22	13000	0.18	340
AIMC-02UHQ-1N1	1.1	B, C, S	8	500	12	15	20	21	23	12000	0.18	340
AIMC-02UHQ-1N2	1.2	B, C, S	8	500	12	15	19	20	22	12500	0.18	340
AIMC-02UHQ-1N3	1.3	B, C, S	8	500	12	15	20	21	22	12500	0.29	330
AIMC-02UHQ-1N4	1.4	B, C, S	8	500	12	15	19	20	22	12000	0.32	330
AIMC-02UHQ-1N5	1.5	B, C, S	8	500	12	15	19	20	22	12000	0.32	330
AIMC-02UHQ-1N6	1.6	B, C, S	8	500	12	14	19	20	21	11000	0.32	330
AIMC-02UHQ-1N7	1.7	B, C, S	8	500	12	14	19	20	21	11000	0.32	330
AIMC-02UHQ-1N8	1.8	B, C, S	8	500	12	14	19	20	21	10000	0.32	330
AIMC-02UHQ-1N9	1.9	B, C, S	8	500	12	15	19	20	22	10000	0.32	330
AIMC-02UHQ-2N0	2.0	B, C, S	8	500	12	14	19	20	22	10000	0.32	330
AIMC-02UHQ-2N1	2.1	B, C, S	8	500	12	15	19	20	22	9500	0.42	260
AIMC-02UHQ-2N2	2.2	B, C, S	8	500	12	14	19	20	21	9000	0.43	260
AIMC-02UHQ-2N3	2.3	B, C, S	8	500	12	14	19	20	22	9000	0.45	260
AIMC-02UHQ-2N4	2.4	B, C, S	8	500	12	14	19	20	21	9000	0.46	260
AIMC-02UHQ-2N5	2.5	B, C, S	8	500	12	14	19	20	21	9000	0.46	260
AIMC-02UHQ-2N6	2.6	B, C, S	8	500	12	15	19	20	22	8500	0.46	260
AIMC-02UHQ-2N7	2.7	B, C, S	8	500	12	14	19	20	21	8500	0.46	260
AIMC-02UHQ-2N8	2.8	B, C, S	8	500	12	14	19	20	22	8500	0.46	260
AIMC-02UHQ-2N9	2.9	B, C, S	8	500	12	15	19	20	21	8000	0.6	240
AIMC-02UHQ-3N0	3.0	B, C, S	8	500	12	15	19	20	21	8000	0.6	240

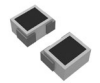


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RoHS/RoHS II Compliant
MSL Level = 1

Electrical Specifications (Cont'd)

Part Number*	Inductance	Tolerance	Quality Factor	L/Q Test Freq.	Typical Q @ Freq. (GHz)					Self-resonant Frequency	DC Resistance	Rated Current
			Min		0.5	0.8	1.8	2.0	2.4	Min.	Max.	Typ.
Units	nH	%	-	MHz	-					MHz	Ω	mA
Symbol	L	B, C, S, H, J	Q	Freq.	Q					SRF	DCR	I _{rms}
AIMC-02UHQ-3N1	3.1	B, C, S	8	500	12	15	19	20	21	7500	0.6	240
AIMC-02UHQ-3N2	3.2	B, C, S	8	500	12	14	18	19	21	7500	0.6	240
AIMC-02UHQ-3N3	3.3	B, C, S	8	500	12	14	18	19	21	6700	0.6	240
AIMC-02UHQ-3N4	3.4	B, C, S	8	500	12	14	18	19	20	6700	0.7	220
AIMC-02UHQ-3N5	3.5	B, C, S	8	500	11	14	18	19	20	6700	0.7	220
AIMC-02UHQ-3N6	3.6	B, C, S	8	500	11	14	18	19	20	6700	0.85	200
AIMC-02UHQ-3N7	3.7	B, C, S	8	500	11	14	18	19	20	6000	0.85	200
AIMC-02UHQ-3N8	3.8	B, C, S	8	500	11	14	18	19	20	5500	0.88	200
AIMC-02UHQ-3N9	3.9	B, C, S	8	500	11	14	18	19	20	5500	0.88	200
AIMC-02UHQ-4N0	4.0	B, C, S	8	500	11	14	18	20	20	5500	0.88	200
AIMC-02UHQ-4N1	4.1	B, C, S	8	500	11	14	18	19	20	5200	0.90	180
AIMC-02UHQ-4N2	4.2	B, C, S	8	500	11	14	18	19	20	5200	0.90	180
AIMC-02UHQ-4N3	4.3	H, J, S	8	500	11	14	18	19	21	5200	0.90	180
AIMC-02UHQ-4N7	4.7	H, J, S	8	500	11	14	18	19	21	4000	1.20	170
AIMC-02UHQ-5N1	5.1	H, J, S	8	500	11	14	18	19	20	4000	1.20	160
AIMC-02UHQ-5N6	5.6	H, J	8	500	10	13	14	18	19	4000	1.20	160
AIMC-02UHQ-6N2	6.2	H, J	8	500	10	13	14	18	20	4000	1.30	150
AIMC-02UHQ-6N8	6.8	H, J	8	500	10	13	14	19	20	3900	1.50	140
AIMC-02UHQ-7N5	7.5	H, J	8	500	10	13	17	19	21	3900	1.50	140
AIMC-02UHQ-8N2	8.2	H, J	8	500	10	13	17	19	20	3900	1.50	140
AIMC-02UHQ-9N1	9.1	H, J	7	500	10	13	17	18	20	3700	2.00	130
AIMC-02UHQ-10N	10	H, J	7	500	10	13	17	18	19	3700	2.00	130

*For orderable part numbers, please select the tolerance and packaging option as described in the [Part Identification](#) section.

Test Conditions:

L, Q, SRF Test signal: -20dBm, or 50mV.

Ir: DC current that causes the temperature rise (ΔT , approximate 20 °C) from 20°C ambient.

Operating Temperature: -55°C ~ +125°C. (including self-temperature rise)

Storage Condition: -55°C ~ +125°C (on board), -10°C ~ +40°C (with packaging) and R.H. 70% max.

AIMC-02UHQ Series is RoHS Compliant and Pb free.



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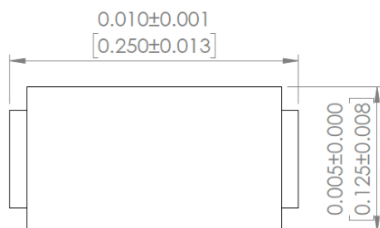
0.25 x 0.125 x 0.2 mm
RoHS/RoHS II Compliant
MSL Level = 1

Part Identification

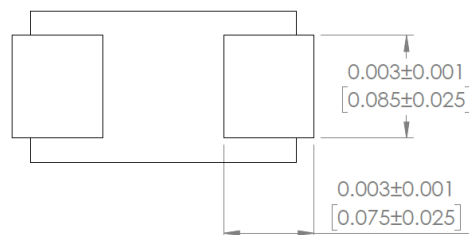
AIMC-02UHQ - -

Inductance Code	Tolerance	Packaging
Please refer to Electrical Spec. table. E.g., 4N7	B: $\pm 0.1\text{nH}$ C: $\pm 0.2\text{nH}$ S: $\pm 0.3\text{nH}$ H: $\pm 3\%$ J: $\pm 5\%$	T: Tape and Reel (40kpcs / reel) Blank: Bulk

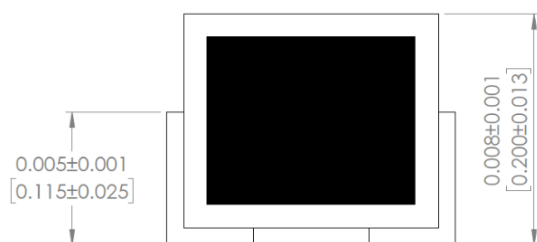
Mechanical Specifications



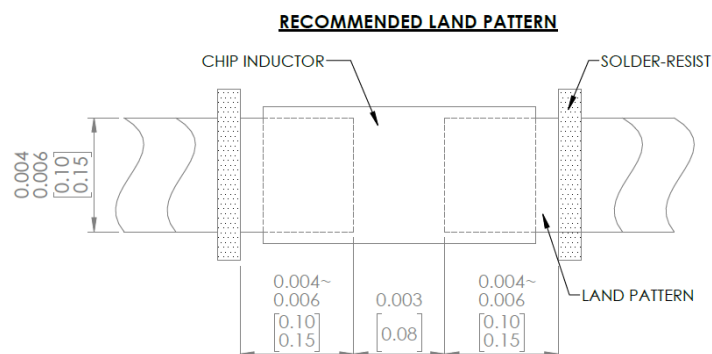
TOP VIEW



BOTTOM VIEW



FRONT VIEW



Dimensions Unit: Inches[mm]



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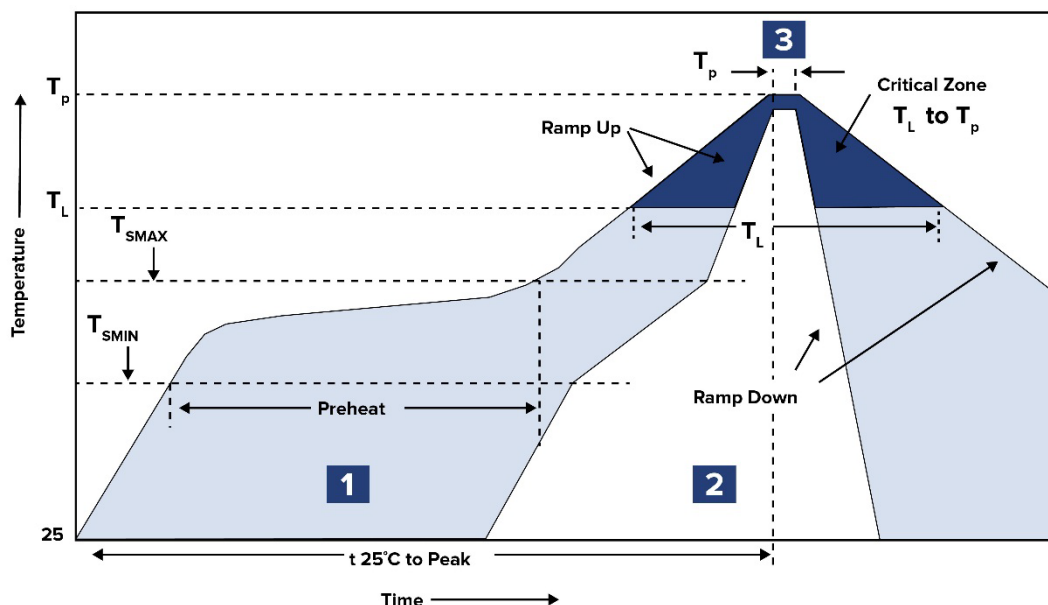


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0.25 x 0.125 x 0.2 mm
RoHS/RoHS II Compliant
MSL Level = 1

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 ~ 90 sec.
3	Peak heat	T_p 260°C Max	10 sec. MAX

Ref. Solder paste: Pb-free Sn/3.0Ag/0.5Cu

Ramp up rate: 3°C/s Max.

Ramp down rate: 6°C/s Max.

Ultra-High Q Multi-layer RF Inductor



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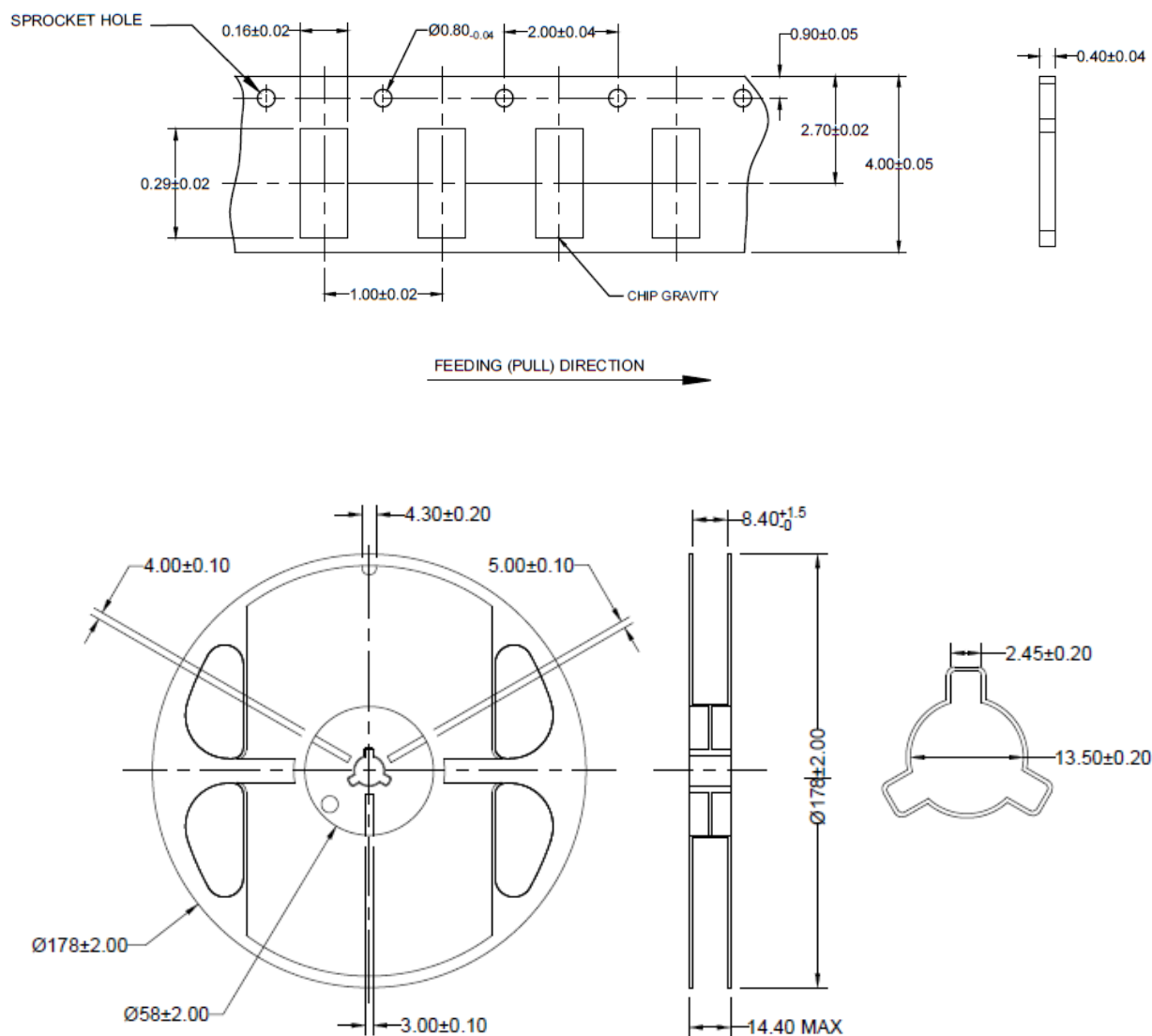
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0.25 x 0.125 x 0.2 mm
RoHS/RoHS II Compliant
MSL Level = 1

Packaging

Tape & Reel: 40,000 pcs/reel



Dimensions: 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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