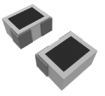


Ultra-High Q Multi-layer RF Inductor



AIMC-04UHQ

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0.4 x 0.2 x 0.3 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 $\pm 0.05\text{nH}$
- 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	Min.	Max.	Typ.
Units	nH	%, nH	-	MHz	-					MHz	Ω	mA
Symbol	L	W, B, C, S, H, J	Q	Freq.	Q					SRF	DCR	Irms
AIMC-04UHQ-0N2	0.2	W, B, C, S	-	500	-	-	-	-	-	17000	0.01	1000
AIMC-04UHQ-0N3	0.3	W, B, C, S	-	500	-	-	-	-	-	17000	0.015	1000
AIMC-04UHQ-0N4	0.4	W, B, C, S	-	500	-	-	-	-	-	17000	0.03	1000
AIMC-04UHQ-0N5	0.5	W, B, C, S	-	500	-	-	-	-	-	17000	0.04	1000
AIMC-04UHQ-0N6	0.6	W, B, C, S	14	500	28	31	44	48	55	17000	0.05	950
AIMC-04UHQ-0N7	0.7	W, B, C, S	14	500	25	29	41	44	51	15500	0.05	900
AIMC-04UHQ-0N8	0.8	W, B, C, S	14	500	23	27	39	43	48	15500	0.05	900
AIMC-04UHQ-0N9	0.9	W, B, C, S	14	500	21	25	37	40	45	14600	0.05	900
AIMC-04UHQ-1N0	1.0	W, B, C, S	14	500	20	24	36	39	44	13200	0.05	900
AIMC-04UHQ-1N1	1.1	W, B, C, S	14	500	22	26	40	42	48	13000	0.07	850
AIMC-04UHQ-1N2	1.2	W, B, C, S	14	500	20	25	37	20	46	13000	0.07	800
AIMC-04UHQ-1N3	1.3	W, B, C, S	14	500	21	26	39	42	48	12700	0.80	700
AIMC-04UHQ-1N4	1.4	W, B, C, S	14	500	21	25	38	42	47	12700	0.80	700
AIMC-04UHQ-1N5	1.5	W, B, C, S	14	500	20	25	37	40	46	12700	0.80	700
AIMC-04UHQ-1N6	1.6	W, B, C, S	14	500	19	23	35	37	42	11000	0.80	700
AIMC-04UHQ-1N7	1.7	W, B, C, S	14	500	20	24	37	39	44	11000	0.80	700
AIMC-04UHQ-1N8	1.8	W, B, C, S	14	500	22	28	43	46	50	10200	0.80	700
AIMC-04UHQ-1N9	1.9	W, B, C, S	14	500	24	30	46	50	55	10200	0.08	700
AIMC-04UHQ-2N0	2.0	W, B, C, S	14	500	22	27	41	44	48	10100	0.10	700
AIMC-04UHQ-2N1	2.1	W, B, C, S	14	500	24	29	45	48	54	10100	0.10	650
AIMC-04UHQ-2N2	2.2	W, B, C, S	14	500	22	27	42	45	49	9800	0.20	500
AIMC-04UHQ-2N3	2.3	W, B, C, S	14	500	24	30	46	50	55	9800	0.20	450
AIMC-04UHQ-2N4	2.4	W, B, C, S	14	500	20	25	19	42	46	9500	0.20	450
AIMC-04UHQ-2N5	2.5	W, B, C, S	14	500	19	24	19	42	46	9500	0.20	450
AIMC-04UHQ-2N6	2.6	B, C, S	14	500	19	24	19	42	46	9500	0.20	450
AIMC-04UHQ-2N7	2.7	B, C, S	14	500	20	25	19	41	45	8800	0.20	450
AIMC-04UHQ-2N8	2.8	B, C, S	14	500	19	25	40	44	47	8800	0.20	450
AIMC-04UHQ-2N9	2.9	B, C, S	14	500	19	25	40	44	47	8800	0.20	450

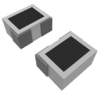


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AIMC-04UHQ

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0.4 x 0.2 x 0.3 mm
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
					0.5	0.8	1.8	2.0	2.4			
Units	nH	%	-	MHz	-					Min.	Max.	Typ.
Symbol	L	W, B, C, S, H, J	Q	Freq.	Q					SRF	DCR	Irms
AIMC-04UHQ-3N0	3.0	B, C, S	14	500	20	26	40	43	46	8500	0.20	450
AIMC-04UHQ-3N1	3.1	B, C, S	14	500	20	25	41	43	45	8500	0.25	400
AIMC-04UHQ-3N2	3.2	B, C, S	14	500	20	26	41	44	47	8500	0.25	400
AIMC-04UHQ-3N3	3.3	B, C, S	14	500	20	26	42	44	48	8200	0.25	400
AIMC-04UHQ-3N4	3.4	B, C, S	14	500	20	26	42	44	48	8200	0.30	400
AIMC-04UHQ-3N5	3.5	B, C, S	14	500	20	26	42	44	48	8200	0.30	350
AIMC-04UHQ-3N6	3.6	B, C, S	14	500	20	27	42	44	48	8200	0.30	350
AIMC-04UHQ-3N7	3.7	B, C, S	14	500	19	25	41	43	49	8200	0.35	350
AIMC-04UHQ-3N8	3.8	B, C, S	14	500	18	23	37	39	43	8200	0.35	350
AIMC-04UHQ-3N9	3.9	B, C, S	14	500	19	24	37	39	42	7700	0.35	350
AIMC-04UHQ-4N0	4.0	B, C, S	14	500	18	24	38	41	44	6900	0.35	350
AIMC-04UHQ-4N1	4.1	B, C, S	14	500	19	24	38	41	44	6900	0.35	350
AIMC-04UHQ-4N2	4.2	B, C, S	14	500	18	23	37	39	45	6900	0.35	350
AIMC-04UHQ-4N3	4.3	H, J, S	14	500	19	24	37	39	42	6900	0.35	350
AIMC-04UHQ-4N7	4.7	H, J, S	14	500	18	23	36	38	41	6700	0.35	350
AIMC-04UHQ-5N1	5.1	H, J, S	14	500	18	24	36	38	41	6600	0.35	350
AIMC-04UHQ-5N6	5.6	H, J	14	500	18	24	35	37	40	6100	0.40	300
AIMC-04UHQ-6N2	6.2	H, J	14	500	17	22	32	34	37	6000	0.40	300
AIMC-04UHQ-6N8	6.8	H, J	14	500	17	22	33	35	37	5700	0.40	300
AIMC-04UHQ-7N5	7.5	H, J	14	500	17	23	34	36	38	5600	0.50	300
AIMC-04UHQ-8N2	8.2	H, J	14	500	17	21	30	31	33	5100	0.50	300
AIMC-04UHQ-9N1	9.1	H, J	14	500	17	22	31	32	33	4900	0.50	300
AIMC-04UHQ-10N	10	H, J	14	500	17	22	32	33	34	4900	0.60	250
AIMC-04UHQ-11N	11	H, J	14	500	15	20	30	31	33	4000	0.80	250
AIMC-04UHQ-12N	12	H, J	14	500	17	21	30	31	32	4000	0.82	230
AIMC-04UHQ-13N	13	H, J	14	500	15	20	30	31	32	4000	0.99	210
AIMC-04UHQ-15N	15	H, J	12	500	16	20	29	30	30	4000	1.53	170
AIMC-04UHQ-16N	16	H, J	12	500	17	21	29	30	29	4000	1.53	170
AIMC-04UHQ-18N	18	H, J	12	500	16	19	29	29	29	3700	1.63	160
AIMC-04UHQ-20N	20	H, J	12	500	16	19	25	24	23	3000	2.26	140
AIMC-04UHQ-22N	22	H, J	12	500	15	18	25	24	22	3000	2.26	140
AIMC-04UHQ-24N	24	H, J	12	500	15	18	23	21	20	2900	2.6	120
AIMC-04UHQ-27N	27	H, J	12	500	13	16	22	20	17	2900	2.6	120
AIMC-04UHQ-30N	30	H, J	10	300	13	16	18	19	20	2600	3.2	120
AIMC-04UHQ-33N	33	H, J	10	300	13	15	20	19	20	2600	3.2	120
AIMC-04UHQ-36N	36	H, J	10	300	13	15	16	15	12	2400	3.6	110
AIMC-04UHQ-39N	39	H, J	10	300	13	14	16	15	10	2400	3.6	120
AIMC-04UHQ-43N	43	H, J	8	300	12	14	13	12	7	2100	4.0	100
AIMC-04UHQ-47N	47	H, J	8	300	12	41	13	11	6	2100	4.0	100
AIMC-04UHQ-51N	51	H, J	8	300	12	14	11	9	4	1900	4.2	100
AIMC-04UHQ-56N	56	H, J	8	300	12	14	10	8	-	1900	4.2	100

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

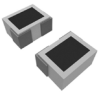


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AIMC-04UHQ

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0.4 x 0.2 x 0.3 mm
RoHS/RoHS II Compliant
MSL Level = 1

Electrical Specifications (Cont'd)

Test Conditions:

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

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

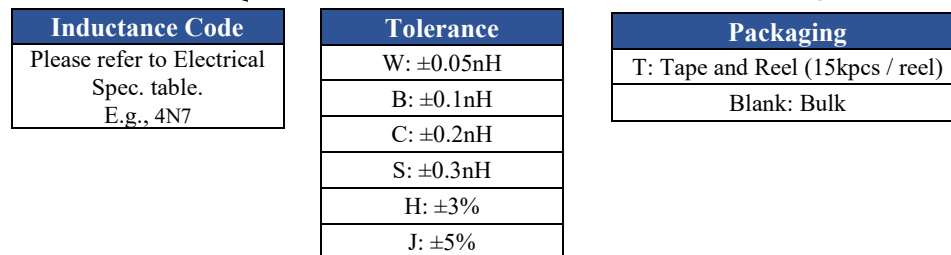
Operating Temperature: -55°C ~ +125°C. (including self-temperature rise)

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

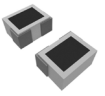
AIMC-04UHQ Series is **RoHS Compliant and Pb free.**

Part Identification

AIMC - 04UHQ - -



Ultra-High Q Multi-layer RF Inductor



AIMC-04UHQ

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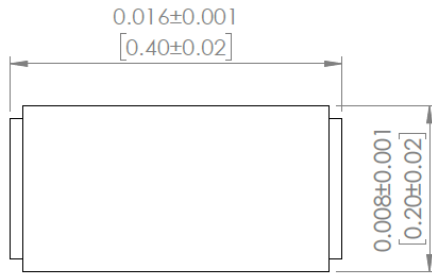


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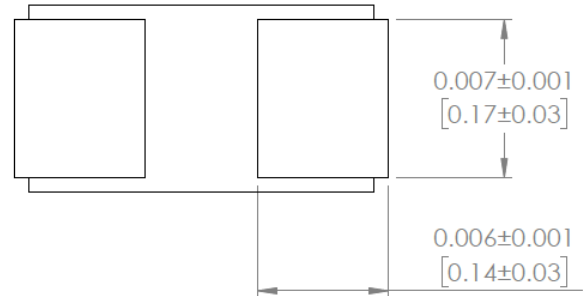


0.4 x 0.2 x 0.3 mm
RoHS/RoHS II Compliant
MSL Level = 1

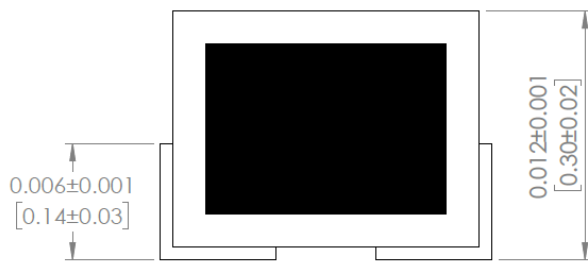
Mechanical Specifications



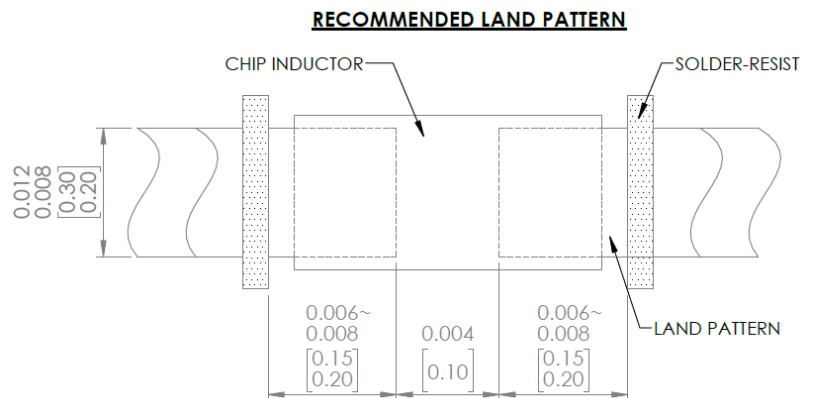
TOP VIEW



BOTTOM VIEW



FRONT VIEW



Dimensions Unit: Inches [mm]

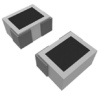


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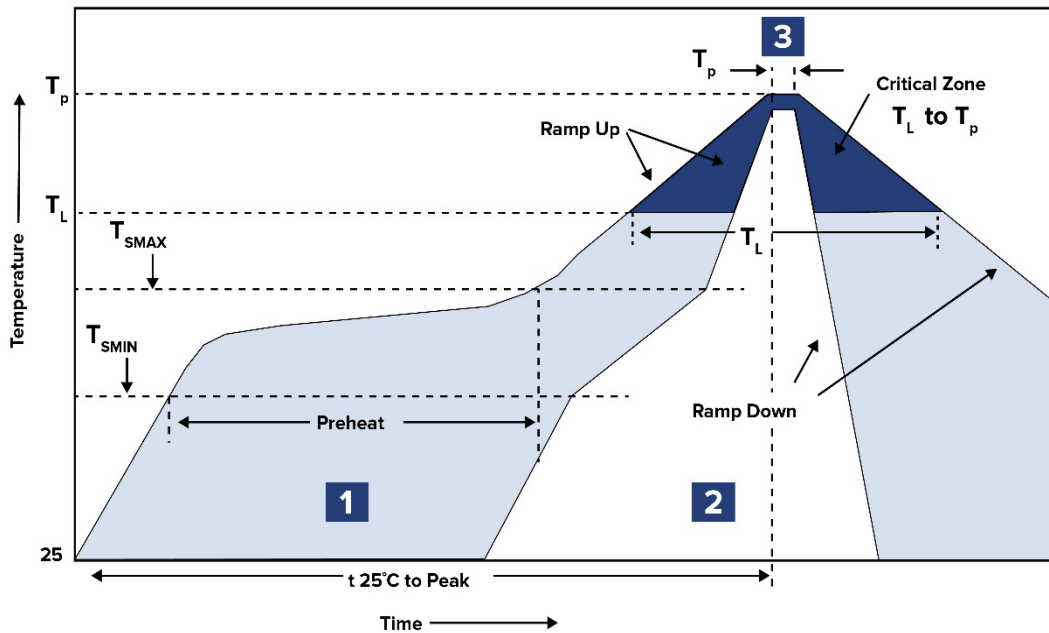


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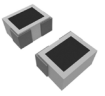
Reflow Profile



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 ~ 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



AIMC-04UHQ

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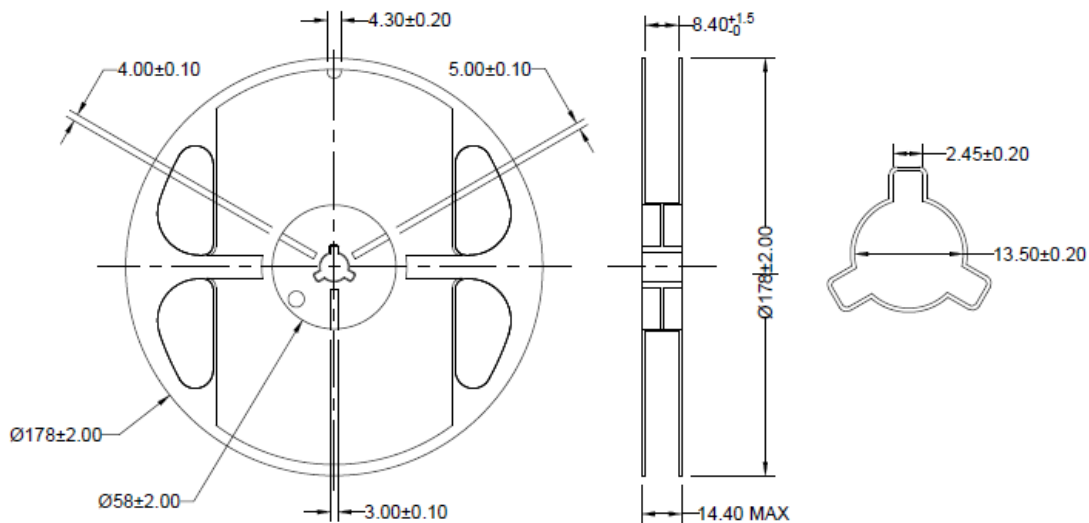
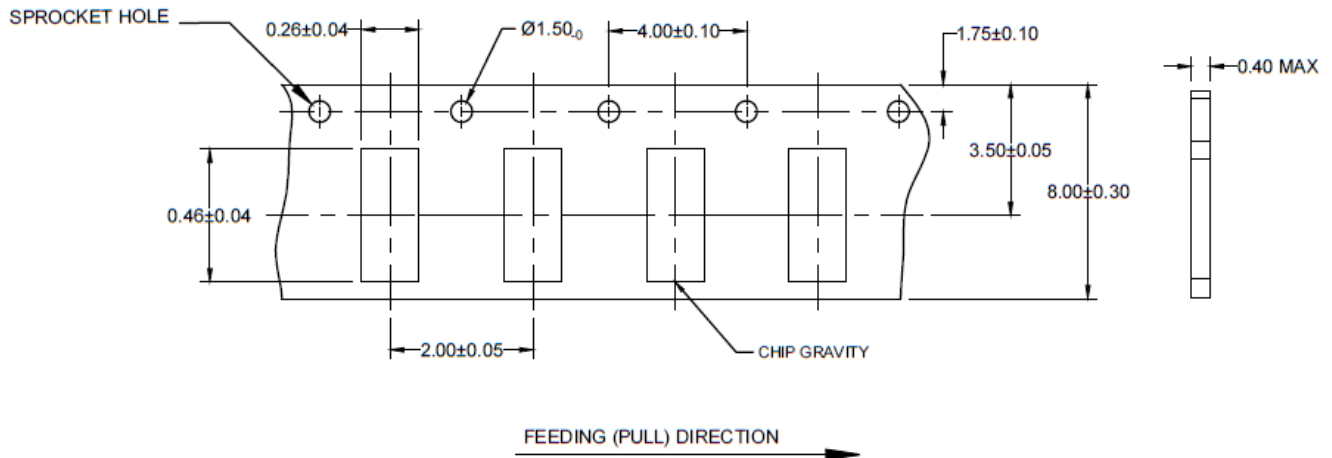
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0.4 x 0.2 x 0.3 mm
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MSL Level = 1

Packaging

Tape & Reel: 15,000 pcs/reel



Dimensions: mm

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