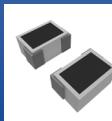


Ultra-High Q Multi-layer RF Inductor



AIMC-06UHQ

Request Samples



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0.6 x 0.3 x 0.4 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
					0.5	0.8	1.8	2.0	2.4			
Units	nH	%	-	MHz	-					Min.	Max.	Typ.
Symbol	L	B, C, S, H, J	Q	Freq.	Q					SRF	DCR	Irms
AIMC-06UHQ-0N5	0.5	B, C, S	20	500	-	-	-	-	-	20000	0.04	1100
AIMC-06UHQ-0N6	0.6	B, C, S	20	500	-	-	-	-	-	20000	0.04	1100
AIMC-06UHQ-0N7	0.7	B, C, S	20	500	-	-	-	-	-	20000	0.04	1100
AIMC-06UHQ-0N8	0.8	B, C, S	20	500	-	-	-	-	-	18000	0.04	1100
AIMC-06UHQ-0N9	0.9	B, C, S	20	500	-	-	-	-	-	18000	0.04	1100
AIMC-06UHQ-1N0	1.0	B, C, S	20	500	47	60	92	99	110	16000	0.04	1100
AIMC-06UHQ-1N1	1.1	B, C, S	20	500	46	58	90	95	104	14000	0.04	1100
AIMC-06UHQ-1N2	1.2	B, C, S	20	500	45	56	88	92	100	13000	0.04	1100
AIMC-06UHQ-1N3	1.3	B, C, S	20	500	45	56	88	93	102	13000	0.04	1100
AIMC-06UHQ-1N4	1.4	B, C, S	20	500	42	55	89	95	103	12000	0.04	1100
AIMC-06UHQ-1N5	1.5	B, C, S	20	500	42	54	86	90	100	12000	0.05	1000
AIMC-06UHQ-1N6	1.6	B, C, S	20	500	41	52	80	83	92	10000	0.05	1000
AIMC-06UHQ-1N7	1.7	B, C, S	20	500	39	49	75	79	86	10000	0.07	800
AIMC-06UHQ-1N8	1.8	B, C, S	20	500	38	45	72	75	81	10000	0.08	800
AIMC-06UHQ-1N9	1.9	B, C, S	20	500	36	46	71	74	81	10000	0.12	600
AIMC-06UHQ-2N0	2.0	B, C, S	20	500	36	45	68	70	77	9000	0.12	600
AIMC-06UHQ-2N1	2.1	B, C, S	20	500	36	45	67	71	76	9000	0.12	600
AIMC-06UHQ-2N2	2.2	B, C, S	20	500	36	45	67	69	76	9000	0.12	600
AIMC-06UHQ-2N3	2.3	B, C, S	20	500	37	46	68	71	76	9000	0.12	600
AIMC-06UHQ-2N4	2.4	B, C, S	20	500	39	48	72	75	82	9000	0.12	600
AIMC-06UHQ-2N5	2.5	B, C, S	20	500	38	47	70	73	80	9000	0.12	600
AIMC-06UHQ-2N6	2.6	B, C, S	20	500	35	43	64	66	72	9000	0.12	600
AIMC-06UHQ-2N7	2.7	B, C, S	20	500	36	44	65	68	73	9000	0.12	600
AIMC-06UHQ-2N8	2.8	B, C, S	20	500	34	43	63	65	70	8000	0.12	600
AIMC-06UHQ-2N9	2.9	B, C, S	20	500	36	45	65	66	72	8000	0.12	600

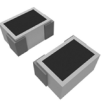


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Electrical Specifications (Cont'd)

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			
Units	nH	%	-	MHz	-					MHz	Ω	mA
Symbol	L	B, C, S, H, J	Q	Freq.	Q					SRF	DCR	Irms
AIMC-06UHQ-3N0	3.0	B, C, S	20	500	36	44	65	66	72	8000	0.12	600
AIMC-06UHQ-3N1	3.1	B, C, S	20	500	34	42	62	64	69	7500	0.17	500
AIMC-06UHQ-3N2	3.2	B, C, S	20	500	33	42	63	66	72	7000	0.17	500
AIMC-06UHQ-3N3	3.3	B, C, S	20	500	34	45	73	77	89	7000	0.17	500
AIMC-06UHQ-3N4	3.4	B, C, S	20	500	33	41	59	61	66	7000	0.17	500
AIMC-06UHQ-3N5	3.5	B, C, S	20	500	33	41	59	61	65	7000	0.17	500
AIMC-06UHQ-3N6	3.6	B, C, S	20	500	32	42	59	61	65	7000	0.17	500
AIMC-06UHQ-3N7	3.7	B, C, S	20	500	32	40	59	60	65	7000	0.17	500
AIMC-06UHQ-3N8	3.8	B, C, S	20	500	31	38	60	62	70	7000	0.17	500
AIMC-06UHQ-3N9	3.9	B, C, S	20	500	30	39	61	64	72	7000	0.17	500
AIMC-06UHQ-4N0	4.0	B, C, S	20	500	33	41	59	61	66	7000	0.17	500
AIMC-06UHQ-4N1	4.1	B, C, S	20	500	30	38	56	58	62	7000	0.17	500
AIMC-06UHQ-4N2	4.2	B, C, S	20	500	31	39	57	59	6	7000	0.17	500
AIMC-06UHQ-4N3	4.3	H, J	20	500	32	40	58	59	64	7000	0.17	500
AIMC-06UHQ-4N4	4.4	H, J	20	500	32	40	58	59	64	7000	0.25	400
AIMC-06UHQ-4N5	4.5	H, J	20	500	32	40	58	59	64	7000	0.25	400
AIMC-06UHQ-4N6	4.6	H, J	20	500	32	40	58	59	64	7000	0.25	400
AIMC-06UHQ-4N7	4.7	H, J	20	500	31	39	58	58	63	7000	0.25	400
AIMC-06UHQ-4N8	4.8	H, J	20	500	31	39	58	58	63	5500	0.25	400
AIMC-06UHQ-4N9	4.9	H, J	20	500	31	39	58	58	63	5500	0.25	400
AIMC-06UHQ-5N0	5.0	H, J	20	500	31	39	58	58	63	5500	0.25	400
AIMC-06UHQ-5N1	5.1	H, J	20	500	32	39	55	56	59	5500	0.25	400
AIMC-06UHQ-5N6	5.6	H, J	20	500	32	40	56	57	57	5500	0.25	400
AIMC-06UHQ-6N2	6.2	H, J	20	500	29	36	51	52	55	5500	0.25	400
AIMC-06UHQ-6N8	6.8	H, J	20	500	29	36	50	51	53	5500	0.30	400
AIMC-06UHQ-7N5	7.5	H, J	20	500	28	36	50	52	53	4500	0.30	400
AIMC-06UHQ-8N2	8.2	H, J	20	500	29	37	51	51	52	4500	0.40	300
AIMC-06UHQ-9N1	9.1	H, J	20	500	27	35	48	50	51	4500	0.40	300
AIMC-06UHQ-10N	10	H, J	20	500	28	36	48	49	47	4500	0.40	300
AIMC-06UHQ-11N	11	H, J	20	500	28	36	48	49	47	4000	0.50	300
AIMC-06UHQ-12N	12	H, J	20	500	29	36	48	49	48	4000	0.50	300
AIMC-06UHQ-13N	13	H, J	20	500	28	35	45	46	43	4000	0.50	300
AIMC-06UHQ-15N	15	H, J	20	500	27	34	41	40	37	3500	0.70	300
AIMC-06UHQ-16N	16	H, J	20	500	27	34	41	40	36	3500	0.80	250
AIMC-06UHQ-18N	18	H, J	20	500	28	35	41	39	35	3500	0.80	250
AIMC-06UHQ-20N	20	H, J	20	500	26	33	38	37	30	3000	0.80	250
AIMC-06UHQ-22N	22	H, J	20	500	25	31	35	33	29	3000	0.82	250
AIMC-06UHQ-24N	24	H, J	15	500	27	32	32	29	22	2000	1.6	170
AIMC-06UHQ-27N	27	H, J	15	500	25	30	29	25	17	2000	1.6	170

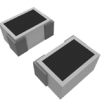


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0.6 x 0.3 x 0.4 mm
RoHS/RoHS II Compliant
MSL Level = 1

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
			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	Irms
AIMC-06UHQ-30N	30	H, J	12	500	27	31	26	21	11	1700	2.0	150
AIMC-06UHQ-33N	33	H, J	12	300	26	31	23	19	8	1700	2.0	150
AIMC-06UHQ-36N	36	H, J	12	300	24	28	20	13	-	1500	2.0	150
AIMC-06UHQ-39N	39	H, J	12	300	25	29	17	11	-	1500	2.0	150
AIMC-06UHQ-43N	43	H, J	12	300	25	28	15	10	-	1300	2.5	130
AIMC-06UHQ-47N	47	H, J	12	300	25	28	14	7	-	1300	2.5	130
AIMC-06UHQ-51N	51	H, J	12	300	25	29	112	6	-	1200	2.5	130
AIMC-06UHQ-56N	56	H, J	12	300	24	27	10	2	-	1200	2.5	130
AIMC-06UHQ-62N	62	H, J	12	300	22	25	7	1	-	1100	5.0	100
AIMC-06UHQ-68N	68	H, J	12	300	21	24	2	-	-	1100	5.0	100
AIMC-06UHQ-75N	75	H, J	10	300	22	24	1	-	-	1100	5.0	100
AIMC-06UHQ-82N	82	H, J	10	300	20	20	-	-	-	1000	5.0	100
AIMC-06UHQ-91N	91	H, J	10	300	19	19	-	-	-	1000	7.0	80
AIMC-06UHQ-R10	100	H, J	10	300	18	17	-	-	-	900	7.0	80
AIMC-06UHQ-R11	110	H, J	10	300	19	18	-	-	-	900	8.0	80
AIMC-06UHQ-R12	120	H, J	10	300	18	17	-	-	-	800	8.0	80
AIMC-06UHQ-R13	130	H, J	7	100	16	14	-	-	-	700	8.0	80
AIMC-06UHQ-R15	150	H, J	7	100	17	16	-	-	-	700	8.0	80

*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-06UHQ Series is RoHS Compliant and Pb free.

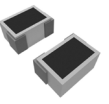


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Part Identification

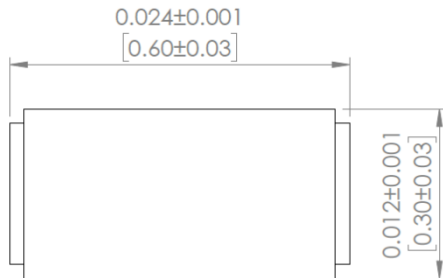
AIMC - 06UHQ - [] [] - []

Inductance Code
Please refer to Electrical Spec. table. E.g., 4N7

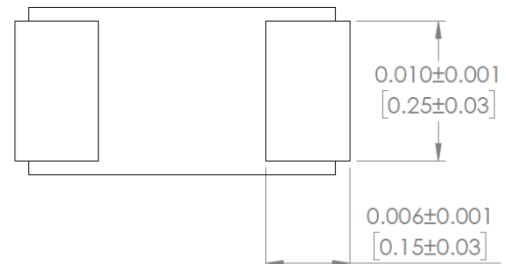
Tolerance
B: $\pm 0.1\text{nH}$
C: $\pm 0.2\text{nH}$
S: $\pm 0.3\text{nH}$
H: $\pm 3\%$
J: $\pm 5\%$

Packaging
T: Tape and Reel (15kpcs / reel)
Blank: Bulk

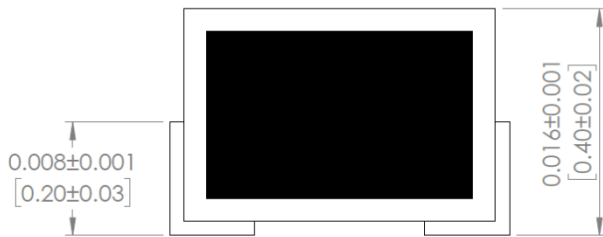
Mechanical Specifications



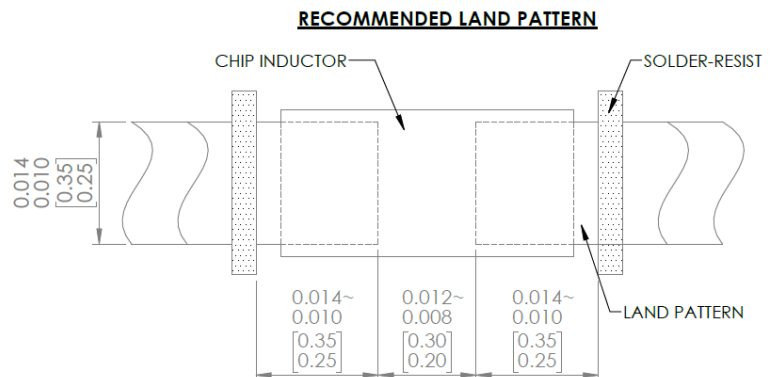
TOP VIEW



BOTTOM VIEW



FRONT VIEW



Dimensions Unit: Inches [mm]

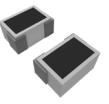


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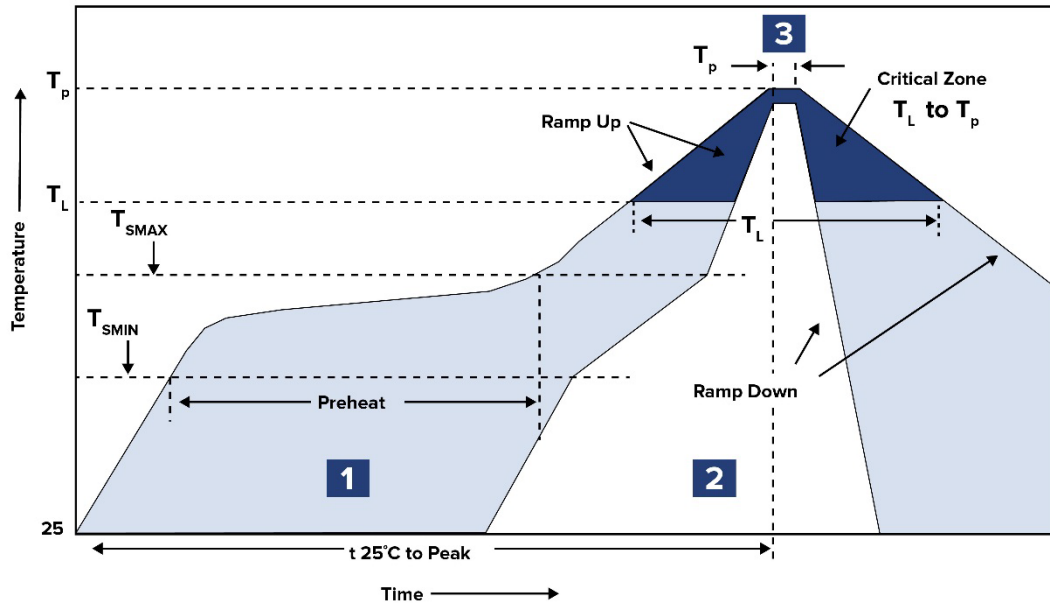


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MSL Level = 1

Reflow Profile



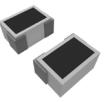
Zone	Description	Temperature	Times
1	Preheat	$T_{SMIN} \sim T_{SMAX}$ 150°C ~ 200°C	60 ~ 120 sec.
2	Reflow	T_L 217°C	60 ~ 90 sec.
3	Peak heat	T_p 260°C Max	10 sec. MAX

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

Ramp up rate: 3°C/s Max.

Ramp down rate: 6°C/s Max.

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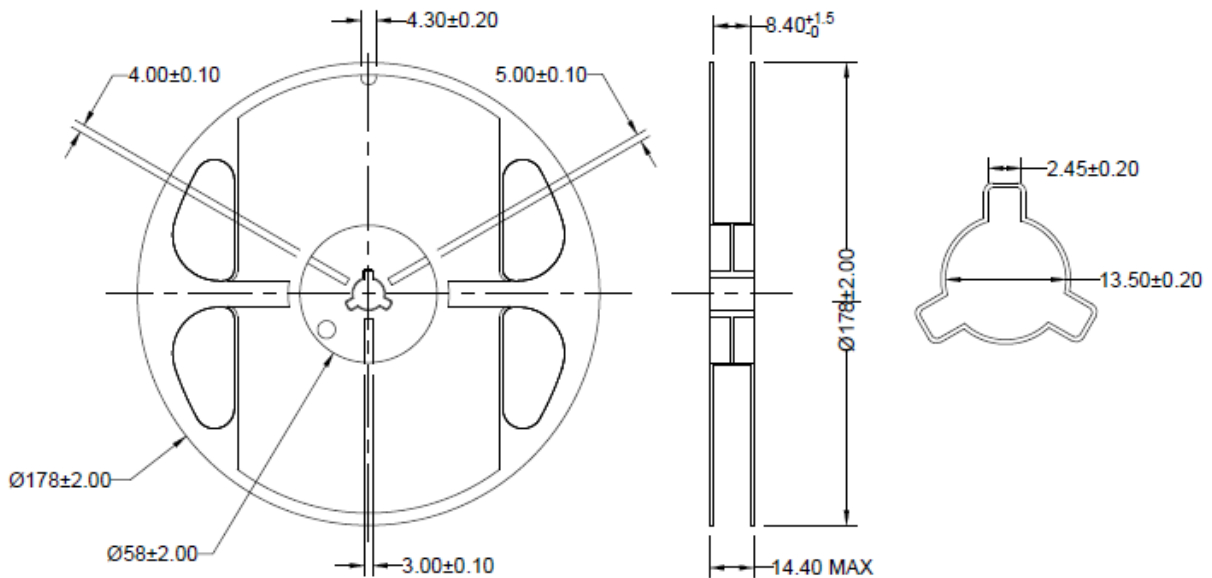
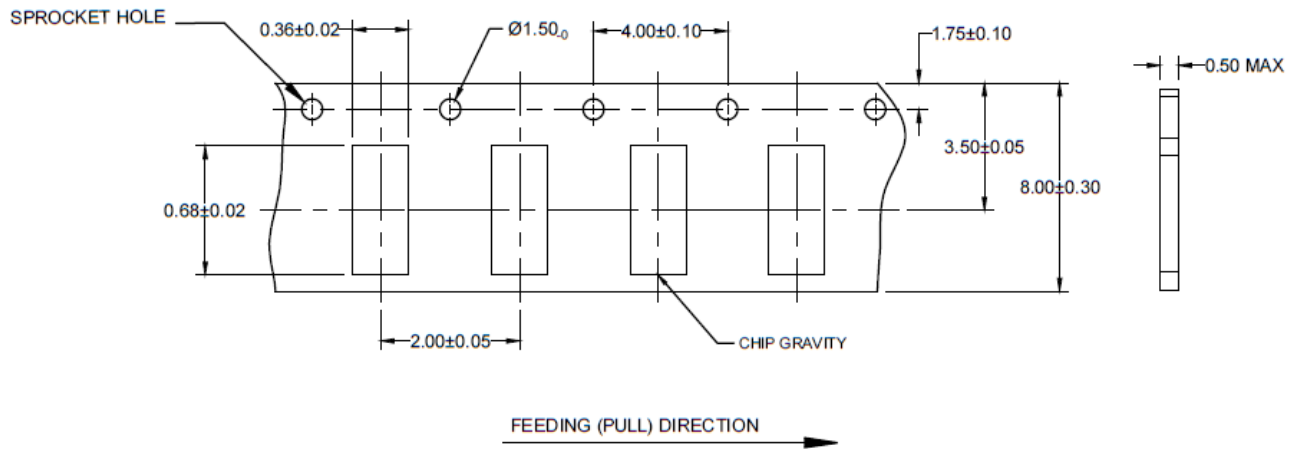
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0.6 x 0.3 x 0.4 mm
RoHS/RoHS II Compliant
MSL Level = 1

Packaging

Tape & Reel: 15,000 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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