

Outgassing Compliant Chip Inductors AR235RAA

- Exceptionally high Q factors
- Outstanding self-resonant frequency
- Tight inductance tolerance
- High temperature materials allow operation in ambient temperatures up to 155°C.
- Passes NASA low outgassing specifications
- Standard tin-lead (Sn-Pb) terminations over leach-resistant base metalization ensures the best possible board adhesion

Core material Ceramic

Terminations Tin-lead (63/37) over silver-platinum-glass frit. Other terminations are also available.

Ambient temperature -65°C to +125°C with I_{max} current

Maximum part temperature +155°C (ambient + temp rise)

Storage temperature Component: -65°C to +155°C.

Packaging: -55°C to +80°C

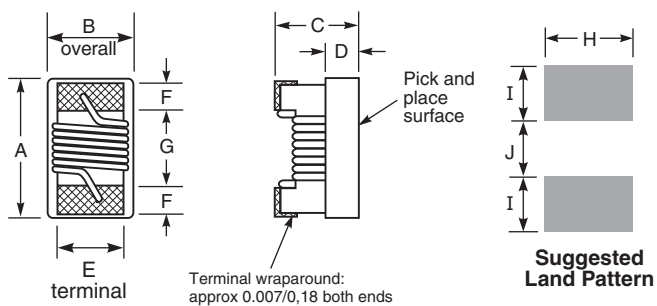
Resistance to soldering heat Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

Temperature Coefficient of Inductance (TCL) +25 to +155 ppm/°C

Moisture Sensitivity Level (MSL) 1 (unlimited floor life at <30°C / 85% relative humidity)

Enhanced crush-resistant packaging 2000 per 7" reel

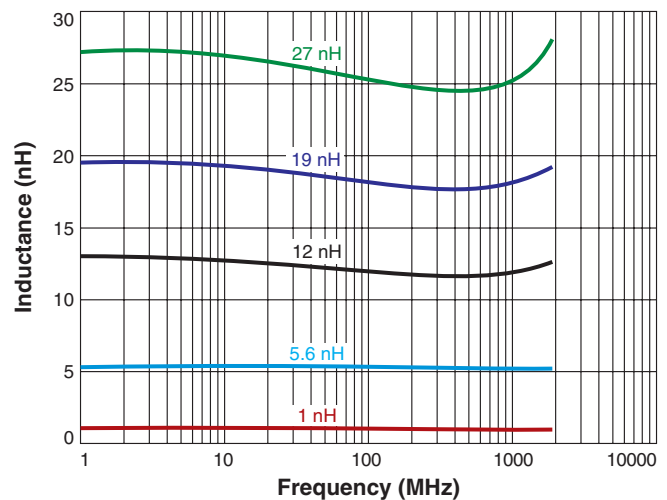
Paper tape: 8 mm wide, 0.68 mm thick, 2 mm pocket spacing



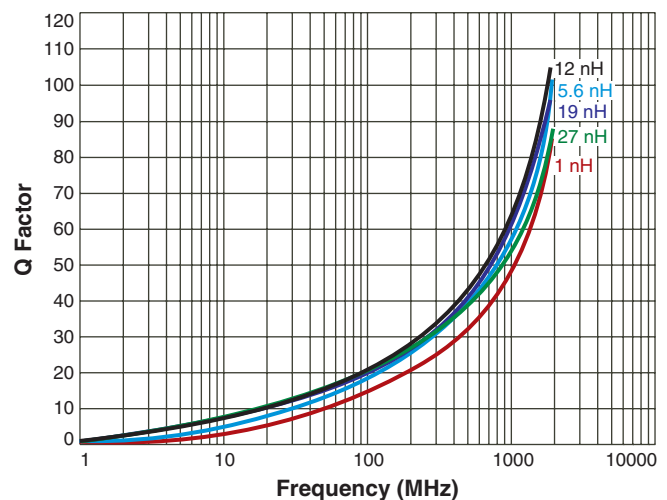
A	B	C	D	E	F	G	H	I	J
max	max	max	ref						
0,047	0,025	0,026	0,010	0,020	0,009	0,022	0,026	0,014	0,018
1,19	0,64	0,66	0,25	0,51	0,23	0,56	0,66	0,36	0,46

Note: Dimensions are before solder application. For maximum overall dimensions including solder, add 0.0025 in / 0,064 mm to **B** and 0.006 in / 0,15 mm to **A** and **C**.

Typical L vs Frequency



Typical Q vs Frequency



AR235RAA Series (0402)

Part number ¹	Inductance ² (nH)	Percent tolerance	Q min ³	900 MHz		1.7 GHz		SRF min ⁵ (GHz)	DCR max ⁶ (Ohms)	I _{max} (mA)
				L typ	Q typ ⁴	L typ	Q typ ⁴			
AR235RAA1N0JSZ	1.0	5	20	1.02	77	1.02	69	>5.00	0.045	600
AR235RAA1N2JSZ ⁷	1.2	5	12	1.17	28	1.17	38	>5.00	0.090	360
AR235RAA1N8JSZ	1.8	5	20	1.78	54	1.78	75	>5.00	0.070	600
AR235RAA1N9JSZ	1.9	5	20	1.72	68	1.74	82	>5.00	0.070	600
AR235RAA2N0_SZ	2.0	5,2	20	1.93	54	1.93	75	>5.00	0.070	600
AR235RAA2N2_SZ	2.2	5,2	20	2.19	59	2.23	100	>5.00	0.070	600
AR235RAA2N4_SZ ⁷	2.4	5,2	20	2.24	51	2.27	68	>5.00	0.068	600
AR235RAA2N7_SZ ⁷	2.7	5,2,1	16	2.58	42	2.60	61	>5.00	0.120	425
AR235RAA3N3_SZ	3.3	5,2,1	20	3.10	65	3.12	87	>5.00	0.066	600
AR235RAA3N6_SZ	3.6	5,2,1	20	3.56	45	3.62	71	>5.00	0.066	600
AR235RAA3N9_SZ	3.9	5,2,1	20	3.89	50	4.00	75	>5.00	0.066	600
AR235RAA4N3_SZ ⁷	4.3	5,2,1	20	4.19	47	4.30	71	>5.00	0.091	600
AR235RAA4N7_SZ ⁷	4.7	5,2,1	20	4.55	48	4.68	68	4.77	0.130	600
AR235RAA5N1_SZ	5.1	5,2,1	20	5.15	56	5.25	82	4.80	0.083	600
AR235RAA5N6_SZ	5.6	5,2,1	20	5.16	54	5.28	81	4.80	0.083	600
AR235RAA6N2_SZ	6.2	5,2,1	20	6.16	52	6.37	76	4.80	0.083	600
AR235RAA6N8_SZ	6.8	5,2,1	20	6.56	63	6.93	78	4.80	0.083	600
AR235RAA7N5_SZ	7.5	5,2,1	22	7.91	60	8.22	88	4.80	0.104	600
AR235RAA8N2_SZ	8.2	5,2,1	22	8.50	57	8.85	84	4.40	0.104	600
AR235RAA8N7_SZ ⁷	8.7	5,2,1	20	8.78	54	9.21	73	3.80	0.195	480
AR235RAA9N0_SZ	9.0	5,2,1	22	9.07	62	9.53	78	4.66	0.100	600
AR235RAA9N5_SZ ⁷	9.5	5,2,1	20	9.42	54	9.98	69	3.48	0.195	480
AR235RAA10N_SZ ⁷	10.0	5,2,1	21	9.8	50	10.10	67	3.68	0.195	480
AR235RAA11N_SZ	11.0	5,2,1	24	10.7	52	11.20	78	3.48	0.120	580
AR235RAA12N_SZ	12.0	5,2,1	24	11.9	53	12.70	71	3.60	0.120	580

Continued on next page

1. When ordering, specify **tolerance, termination and testing** codes:

AR235RAA12NGSZ

Tolerance: F = 1% G = 2% J = 5%

Termination: S = Tin-lead (63/37) over leach-resistant silver-platinum-glass frit

A = Gold over nickel over moly-mag

C = Tin-lead (63/37) over gold over nickel over moly-mag

L = Silver-palladium-platinum-glass frit

Testing: Z = Unscreened

H = Group A screening per Coilcraft CP-SA-10001

T = Screening per MIL-STD-981

U = Screening per EEE-INST-002

F = Screening per ESCC 3201

All screening performed to the document's latest revision

Custom screening also available

2. Inductance measured at 250 MHz using a Coilcraft SMD-F test fixture and Coilcraft-provided correlation pieces with an Agilent/HP 4286A impedance analyzer or equivalent.

3. Q measured at 250 MHz using an Agilent/HP 4291A with an Agilent/HP 16197A test fixture or equivalents.

4. Q measured using an Agilent/HP 4291A with an Agilent/HP 16197A test fixture or equivalents.

5. SRF measured using an Agilent/HP 8753ES network analyzer and a Coilcraft CCF1232 test fixture.

6. DCR measured on a Keithley 580 micro-ohmmeter and a Coilcraft CCF1192 test fixture.

7. Part is not compliant with MIL-STD-981 Family 50, Class S due to wire gauge.

8. Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



CRITICAL PRODUCTS & SERVICES

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This product may not be used in medical or high risk applications without prior Coilcraft approval. Specifications subject to change without notice. Please check our web site for latest information.

AR235RAA Series (0402)

Part number ¹	Inductance ² (nH)	Percent tolerance	Q min ³	900 MHz		1.7 GHz		SRF min ⁵ (GHz)	DCR max ⁶ (Ohms)	I _{max} (mA)
				L typ	Q typ ⁴	L typ	Q typ ⁴			
AR235RAA13N_SZ ⁷	13.0	5,2,1	20	13.4	51	14.63	57	3.28	0.210	440
AR235RAA15N_SZ ⁷	15.0	5,2,1	22	14.6	55	15.50	77	3.10	0.172	500
AR235RAA16N_SZ ⁷	16.0	5,2,1	23	16.6	46	18.86	47	3.05	0.220	480
AR235RAA18N_SZ ⁷	18.0	5,2,1	24	18.3	57	20.28	62	2.68	0.230	420
AR235RAA19N_SZ ⁷	19.0	5,2,1	24	19.1	50	21.10	67	3.00	0.202	460
AR235RAA20N_SZ ⁷	20.0	5,2,1	24	20.7	52	23.66	53	2.90	0.250	400
AR235RAA22N_SZ ⁷	22.0	5,2,1	24	23.2	53	26.75	53	2.80	0.300	380
AR235RAA23N_SZ ⁷	23.0	5,2,1	24	23.8	49	26.90	64	2.72	0.300	400
AR235RAA24N_SZ ⁷	24.0	5,2,1	24	25.1	51	29.50	50	2.60	0.300	390
AR235RAA27N_SZ ⁷	27.0	5,2,1	24	28.7	49	33.50	63	2.48	0.298	380
AR235RAA30N_SZ ⁷	30.0	5,2,1	24	31.1	46	38.50	39	2.35	0.300	340
AR235RAA33N_SZ ⁷	33.0	5,2,1	20	34.9	31	41.74	32	2.30	0.300	340
AR235RAA36N_SZ ⁷	36.0	5,2,1	24	39.5	44	48.40	53	2.20	0.440	310
AR235RAA39N_SZ ⁷	39.0	5,3,2	24	41.7	47	50.23	45	2.10	0.550	200
AR235RAA40N_SZ ⁷	40.0	5,2,1	24	39.0	44	47.40	33	2.24	0.440	290
AR235RAA43N_SZ ⁷	43.0	5,2,1	22	45.8	46	61.55	34	2.03	0.81	100
AR235RAA47N_SZ ⁷	47.0	5,2,1	20	50.0	38	—	—	2.10	0.83	150
AR235RAA51N_SZ ⁷	51.0	5,2,1	19	56.6	40	—	—	1.75	0.82	100
AR235RAA56N_SZ ⁷	56.0	5,2,1	22	62.8	42	—	—	1.76	0.97	100
AR235RAA68N_SZ ⁷	68.0	5,2,1	22	78.2	36	—	—	1.62	1.12	100
AR235RAA82N_SZ ⁷	82.0	5,2,1	25	—	—	—	—	1.26	1.55	50
AR235RAAR10_SZ ⁷	100	5,2,1	25	—	—	—	—	1.16	2.00	50
AR235RAAR12_SZ ⁷	120	5,2,1	22	—	—	—	—	1.20	2.20	50

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N = Group A screening per Coilcraft CP-SA-10003

J = Group A screening per Coilcraft CP-SA-10006

T = Screening per MIL-STD-981

U = Screening per IEEE-INST-002

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