

Outgassing Compliant Chip Inductors AE336RAA

- Exceptional Q values, even at high frequencies.
- Ceramic body and wire wound construction provides the highest SRFs available in 0805 size.
- Robust version of Coilcraft's standard 0805CS series
- Passes NASA low outgassing specifications
- Allows operation in ambient temperatures up to 155°C.
- Standard tin-lead (Sn-Pb) terminations ensures the best possible board adhesion. Note: Nickel barrier termination (tin-lead over tin over nickel over silver-platinum-glass frit, termination code P) is recommended for hand soldering applications.

Part number ¹	Inductance ² (nH)	Percent tolerance	Q min ³	SRF min ⁴ (MHz)	DCR max ⁵ (Ohms)	I _{max} (mA)
AE336RAA020JPZ	2.8@ 250 MHz	5	57@ 1000 MHz	5000	0.06	800
AE336RAA3N0JPZ	3.0@ 250 MHz	5	61@ 1000 MHz	5000	0.06	800
AE336RAA030JPZ	3.3@ 250 MHz	5	48@ 1000 MHz	5000	0.08	600
AE336RAA050JPZ	5.6@ 250 MHz	5	75@ 1000 MHz	4760	0.08	600
AE336RAA060JPZ	6.8@ 250 MHz	5	54@ 1000 MHz	4440	0.11	600
AE336RAA070JPZ	7.5@ 250 MHz	5	56@ 1000 MHz	3840	0.14	600
AE336RAA080_PZ	8.2@ 250 MHz	5,2	63@ 1000 MHz	3560	0.12	600
AE336RAA100_PZ	10@ 250 MHz	5,2,1	57@ 500 MHz	3460	0.10	600
AE336RAA120_PZ	12@ 250 MHz	5,2,1	46@ 500 MHz	3180	0.15	600
AE336RAA150_PZ	15@ 250 MHz	5,2,1	41@ 500 MHz	2560	0.17	600
AE336RAA180_PZ	18@ 250 MHz	5,2,1	48@ 500 MHz	2480	0.20	600
AE336RAA220_PZ	22@ 250 MHz	5,2,1	59@ 500 MHz	2080	0.22	500
AE336RAA240_PZ	24@ 250 MHz	5,2,1	59@ 500 MHz	1920	0.22	500
AE336RAA270_PZ	27@ 250 MHz	5,2,1	56@ 500 MHz	2060	0.25	500
AE336RAA330_PZ	33@ 250 MHz	5,2,1	64@ 500 MHz	1720	0.27	500
AE336RAA360_PZ	36@ 250 MHz	5,2,1	57@ 500 MHz	1520	0.27	500
AE336RAA390_PZ	39@ 250 MHz	5,2,1	44@ 250 MHz	1600	0.29	500
AE336RAA430_PZ	43@ 200 MHz	5,2,1	45@ 250 MHz	1440	0.34	500
AE336RAA470_PZ	47@ 200 MHz	5,2,1	44@ 250 MHz	1360	0.31	470
AE336RAA560_PZ	56@ 200 MHz	5,2,1	49@ 250 MHz	1280	0.34	460
AE336RAA680_PZ	68@ 200 MHz	5,2,1	52@ 250 MHz	1200	0.38	440
AE336RAA820_PZ	82@ 150 MHz	5,2,1	51@ 250 MHz	1060	0.42	400
AE336RAA910_PZ	91@ 150 MHz	5,2,1	49@ 250 MHz	1060	0.48	390
AE336RAA101_PZ	100@ 150 MHz	5,2,1	54@ 250 MHz	1000	0.46	390
AE336RAA111_PZ	110@ 150 MHz	5,2,1	38@ 250 MHz	880	0.48	390
AE336RAA121_PZ	120@ 150 MHz	5,2,1	52@ 250 MHz	880	0.51	380
AE336RAA151_PZ	150@ 100 MHz	5,2,1	33@ 100 MHz	730	0.56	340
AE336RAA181_PZ	180@ 100 MHz	5,2,1	37@ 100 MHz	730	0.64	340
AE336RAA221_PZ	220@ 100 MHz	5,2,1	36@ 100 MHz	650	0.70	330
AE336RAA241_PZ ⁶	240@ 100 MHz	5,2,1	36@ 100 MHz	610	1.00	270
AE336RAA271_PZ ⁶	270@ 100 MHz	5,2,1	36@ 100 MHz	580	1.00	260
AE336RAA331_PZ ⁶	330@ 100 MHz	5,2,1	36@ 100 MHz	520	1.40	230
AE336RAA391_PZ ⁶	390@ 100 MHz	5,2,1	34@ 100 MHz	480	1.50	210
AE336RAA471_PZ ⁶	470@ 50 MHz	5,2	24@ 50 MHz	300	1.76	230
AE336RAA561_PZ ⁶	560@ 25 MHz	5,2	21@ 50 MHz	260	1.90	210
AE336RAA681_PZ ⁶	680@ 25 MHz	5,2	21@ 50 MHz	220	2.20	190
AE336RAA821_PZ ⁶	820@ 25 MHz	5,2	23@ 50 MHz	240	2.35	170

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

AE336RAA821GPZ

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

Termination: See **Notes about terminations**

P = Tin-lead (63/37) over tin over nickel over silver-platinum-glass frit

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 using a Coilcraft SMD-A fixture in an Agilent/HP 4286A impedance analyzer or equivalent with Coilcraft-provided correlation pieces.

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

4. SRF measured on an Agilent 8753ES or equivalent with a Coilcraft CCF1297 test fixture.

5. DCR measured on a Keithley micro-ohmmeter or equivalent and a Coilcraft CCF858 test fixture.

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

7. Electrical specifications at 25°C.

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

Notes about terminations

For hand soldering applications, the nickel barrier termination (tin-lead over tin over nickel over silver-platinum-glass frit, termination code P) is recommended. Exposed gold or tin in the terminations migrates into the solder.



CRITICAL PRODUCTS & SERVICES

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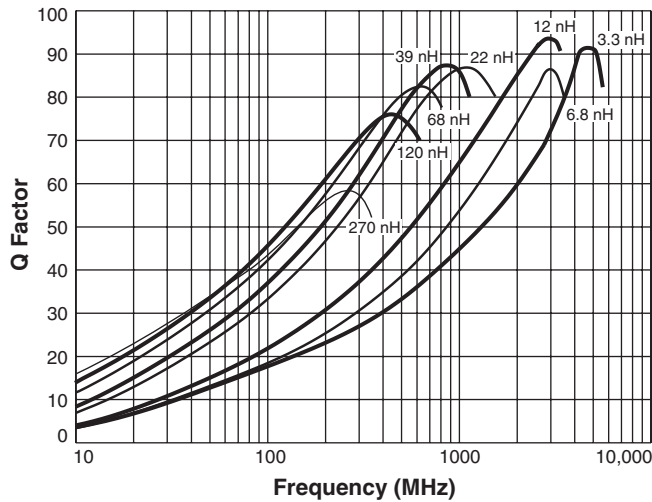
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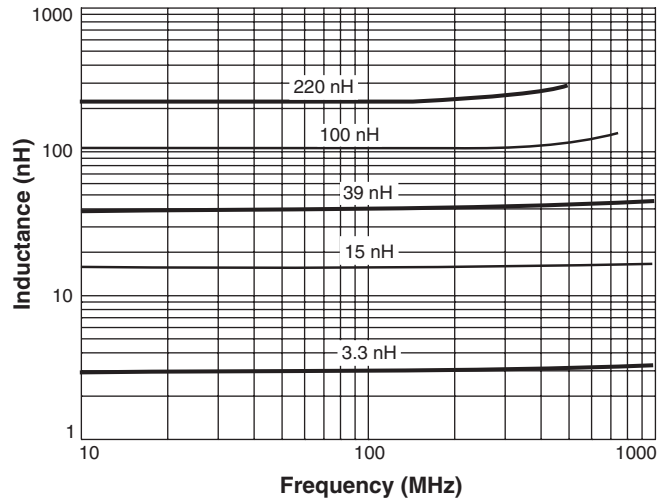
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AE336RAA Series (0805)

Typical Q vs Frequency



Typical L vs Frequency



Core material Ceramic

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

Ambient temperature -55°C to +125°C with I_{max} current

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

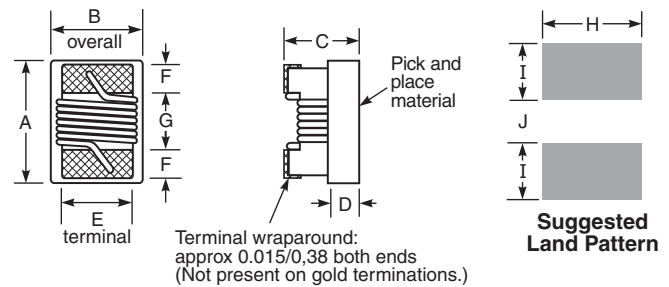
Storage temperature Component: -65°C to +155°C.
Tape and reel packaging: -55°C to +80°C

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
Plastic tape: 8 mm wide, 0.23 mm thick, 4 mm pocket spacing, 1.65 mm pocket depth



A max	B max	C max	D ref	E	F	G	H	I	J	
0.090	0.068	0.060	0.020	0.050	0.020	0.040	0.070	0.040	0.030	inches
2,29	1,73	1,52	0,51	1,27	0,51	1,02	1,78	1,02	0,76	mm

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**.



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