

# Outgassing Compliant Chip Inductors AE336RAA

The AE336RAA inductors provide exceptional Q values, even at high frequencies. They have a ceramic body and wire wound construction to provide the highest SRFs available in 0805 size.

This robust version of Coilcraft's standard 0805CS series features high temperature materials that pass NASA low outgassing specifications and allow operation in ambient temperatures up to 155°C. The standard tin-lead (Sn-Pb) terminations over leach-resistant base metalization ensures the best possible board adhesion.

Part number <sup>1</sup>	Inductance <sup>2</sup> (nH)	Percent tolerance	Q min <sup>3</sup>	SRF min <sup>4</sup> (MHz)	DCR max <sup>5</sup> (Ohms)	I <sub>max</sub> (mA)
AE336RAA020JSZ	2.8@ 250 MHz	5	57@ 1000 MHz	5000	0.06	800
AE336RAA3N0JSZ	3.0@ 250 MHz	5	61@ 1000 MHz	5000	0.06	800
AE336RAA030JSZ	3.3@ 250 MHz	5	48@ 1000 MHz	5000	0.08	600
AE336RAA050JSZ	5.6@ 250 MHz	5	75@ 1000 MHz	4760	0.08	600
AE336RAA060JSZ	6.8@ 250 MHz	5	54@ 1000 MHz	4440	0.11	600
AE336RAA070JSZ	7.5@ 250 MHz	5	56@ 1000 MHz	3840	0.14	600
AE336RAA080_SZ	8.2@ 250 MHz	5,2	63@ 1000 MHz	3560	0.12	600
AE336RAA100_SZ	10@ 250 MHz	5,2,1	57@ 500 MHz	3460	0.10	600
AE336RAA120_SZ	12@ 250 MHz	5,2,1	46@ 500 MHz	3180	0.15	600
AE336RAA150_SZ	15@ 250 MHz	5,2,1	41@ 500 MHz	2560	0.17	600
AE336RAA180_SZ	18@ 250 MHz	5,2,1	48@ 500 MHz	2480	0.20	600
AE336RAA220_SZ	22@ 250 MHz	5,2,1	59@ 500 MHz	2080	0.22	500
AE336RAA240_SZ	24@ 250 MHz	5,2,1	59@ 500 MHz	1920	0.22	500
AE336RAA270_SZ	27@ 250 MHz	5,2,1	56@ 500 MHz	2060	0.25	500
AE336RAA330_SZ	33@ 250 MHz	5,2,1	64@ 500 MHz	1720	0.27	500
AE336RAA360_SZ	36@ 250 MHz	5,2,1	57@ 500 MHz	1520	0.27	500
AE336RAA390_SZ	39@ 250 MHz	5,2,1	44@ 250 MHz	1600	0.29	500
AE336RAA430_SZ	43@ 200 MHz	5,2,1	45@ 250 MHz	1440	0.34	500
AE336RAA470_SZ	47@ 200 MHz	5,2,1	44@ 250 MHz	1360	0.31	470
AE336RAA560_SZ	56@ 200 MHz	5,2,1	49@ 250 MHz	1280	0.34	460
AE336RAA680_SZ	68@ 200 MHz	5,2,1	52@ 250 MHz	1200	0.38	440
AE336RAA820_SZ	82@ 150 MHz	5,2,1	51@ 250 MHz	1060	0.42	400
AE336RAA910_SZ	91@ 150 MHz	5,2,1	49@ 250 MHz	1060	0.48	390
AE336RAA101_SZ	100@ 150 MHz	5,2,1	54@ 250 MHz	1000	0.46	390
AE336RAA111_SZ	110@ 150 MHz	5,2,1	38@ 250 MHz	880	0.48	390
AE336RAA121_SZ	120@ 150 MHz	5,2,1	52@ 250 MHz	880	0.51	380
AE336RAA151_SZ	150@ 100 MHz	5,2,1	33@ 100 MHz	730	0.56	340
AE336RAA181_SZ	180@ 100 MHz	5,2,1	37@ 100 MHz	730	0.64	340
AE336RAA221_SZ	220@ 100 MHz	5,2,1	36@ 100 MHz	650	0.70	330
AE336RAA241_SZ <sup>7</sup>	240@ 100 MHz	5,2,1	36@ 100 MHz	610	1.00	270
AE336RAA271_SZ <sup>7</sup>	270@ 100 MHz	5,2,1	36@ 100 MHz	580	1.00	260
AE336RAA331_SZ <sup>7</sup>	330@ 100 MHz	5,2,1	36@ 100 MHz	520	1.40	230
AE336RAA391_SZ <sup>7</sup>	390@ 100 MHz	5,2,1	34@ 100 MHz	480	1.50	210

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

AE336RAA821GSZ

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

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

**Special order:**

L = Silver-palladium-platinum-glass frit

A = Gold over nickel over moly-mag

P = Tin-Lead (63/37) over tin over nickel over silver-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.



CRITICAL PRODUCTS & SERVICES

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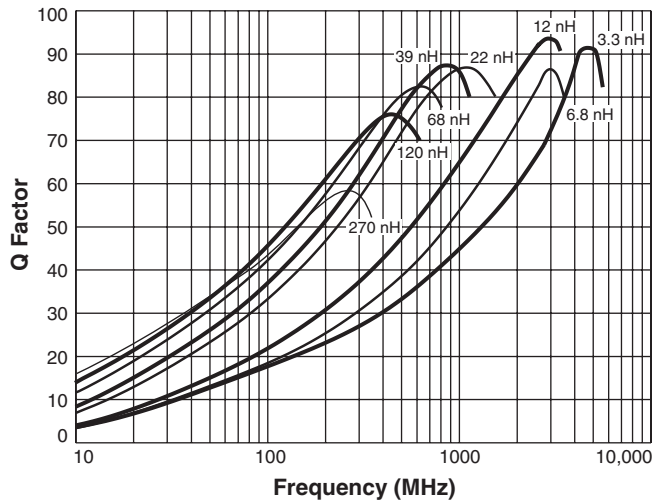
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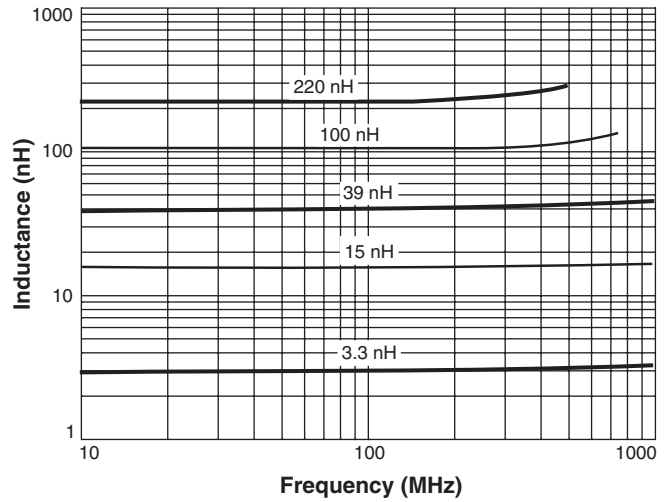
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# AE336RAA Series (0805)

## Typical Q vs Frequency



## Typical L vs Frequency



**Core material** Ceramic

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

**Ambient temperature** -55°C to +125°C with I<sub>max</sub> current

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

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

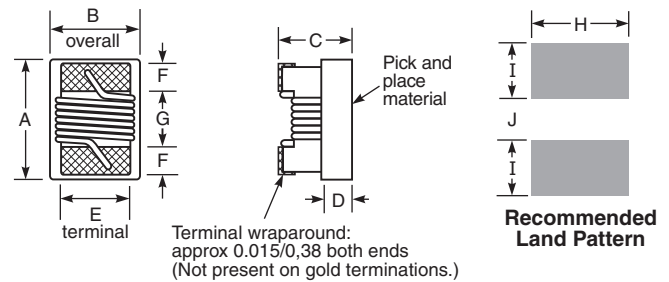
Tape and reel packaging: -55°C to +80°C

**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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