

Outgassing Compliant Chip Inductors AE336RAD

The AE336RAD inductors provide exceptional Q values, even at high frequencies. They have a ceramic body and wire wound construction to provide the highest SRFs, tight inductance tolerance and batch consistency.

This robust version of Coilcraft's standard 0805HQ 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 ensure the best possible board adhesion.

All parts are qualified and compliant with MIL-STD-981 Family 50, Class S.

Part number ¹	Inductance ² (nH)	Percent tolerance	Q min ³	SRF min ⁴ (GHz)	DCR max ⁵ (Ohms)	I _{max} (A)
AE336RAD2N5JPZ	2.5 @ 250 MHz	5	56 @ 1000 MHz	>5.00	0.020	2.0
AE336RAD5N6JPZ	5.6 @ 250 MHz	5	83 @ 1000 MHz	4.88	0.035	1.9
AE336RAD6N2JPZ	6.2 @ 250 MHz	5	80 @ 1000 MHz	4.55	0.035	1.8
AE336RAD12NJPZ	12 @ 250 MHz	5	52 @ 500 MHz	2.80	0.045	1.6
AE336RAD16N_PZ	16 @ 250 MHz	5,2	72 @ 500 MHz	2.40	0.060	1.4
AE336RAD18N_PZ	18 @ 250 MHz	5,2	70 @ 500 MHz	2.20	0.060	1.4
AE336RAD20N_PZ	20 @ 250 MHz	5,2	54 @ 250 MHz	2.05	0.060	1.4
AE336RAD27N_PZ	27 @ 250 MHz	5,2,1	58 @ 250 MHz	2.00	0.070	1.3
AE336RAD30N_PZ	30 @ 250 MHz	5,2,1	50 @ 250 MHz	1.74	0.095	1.1
AE336RAD39N_PZ	39 @ 250 MHz	5,2,1	53 @ 250 MHz	1.60	0.110	1.0
AE336RAD48N_PZ	48 @ 200 MHz	5,2,1	44 @ 150 MHz	1.40	0.095	1.1
AE336RAD51N_PZ	51 @ 200 MHz	5,2,1	36 @ 150 MHz	1.28	0.120	0.9

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

AE336RAD51NGPZ

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

Termination: P = Tin-lead (63/37) over tin over nickel over silver-platinum-glass frit.
 C = Tin-lead (63/37) over gold over nickel over moly-mag.
 S = Tin-lead (63/37) over leach-resistant silver-platinum-glass frit.
 A = Gold over nickel over moly-mag
 L = Silver-palladium-platinum-glass frit

Screening: Z = Unscreened

- H = Coilcraft CP-SA-10001 Group A
 1 = EEE-INST-002 (Family 3) Level 1
 2 = EEE-INST-002 (Family 3) Level 2
 3 = EEE-INST-002 (Family 3) Level 3
 4 = MIL-STD-981 (Family 50) Class B
 5 = MIL-STD-981 (Family 50) Class S
- Screening performed to the document's latest revision.
 - Lot qualification (Group B) available.
 - Testing T and U have been replaced with more detailed codes 4, 5, and 1, 2, 3, respectively. Codes T and U can still be used, if necessary. Custom testing also available.
 - Country of origin restrictions available; prefix option G or F.

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

3. Q measured at the same frequency as inductance using an Agilent/HP 4291A with an Agilent/HP 16197 test fixture or equivalents.

4. SRF measured using an Agilent/HP 8753ES network analyzer or equivalent and a Coilcraft SMD-D test fixture.

5. DCR measured on a Keithley 580 micro-ohmmeter or equivalent and a Coilcraft CCF858 test fixture.

6. Electrical specifications at 25°C.

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

COILCRAFT ACCURATE
 REPEATABLE
PRECISION MEASUREMENTS
 SEE WEB SITE **TEST FIXTURES**



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.

AE336RAD Series (0805)

Core material Ceramic

Terminations Tin-lead (63/37) 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)

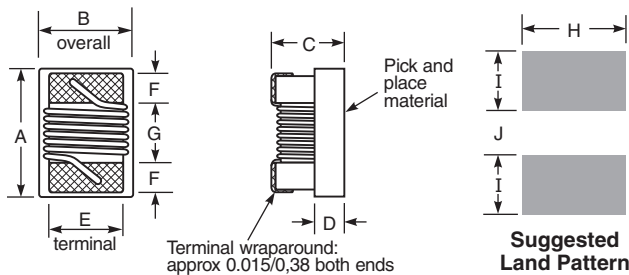
Storage temperature Component: -55°C to +155°C.
Packaging: -55°C to +80°C

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)

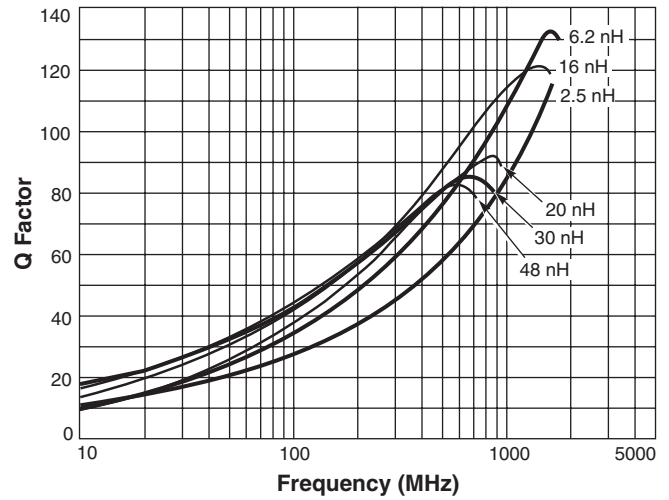
Enhanced crush-resistant packaging 2000 per 7" reel
Plastic tape: 8 mm wide, 0.23 mm thick, 4 mm pocket spacing, 1.65 mm pocket depth



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

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 Q vs Frequency



Typical L vs Frequency

