

PRELIMINARY

Aerospace Grade Chip Inductors AE336RAD

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, 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 leach-resistant base metalization with tin-lead (Sn-Pb) terminations ensures the best possible board adhesion.

Part number ¹	Inductance ² (nH)	Percent tolerance ³	Q min ⁴	SRF min ⁵ (GHz)	DCR max ⁶ (Ohms)	I _{max} (A)
AE336RAD2N5_LZ	2.5 @ 250 MHz	5	80 @ 1500 MHz	10.30	0.020	1.6
AE336RAD5N6_LZ	5.6 @ 250 MHz	5	98 @ 1500 MHz	6.10	0.035	1.6
AE336RAD6N2_LZ	6.2 @ 250 MHz	5	88 @ 1000 MHz	4.75	0.035	1.6
AE336RAD12N_LZ	12 @ 250 MHz	5	80 @ 1000 MHz	3.00	0.045	1.6
AE336RAD16N_LZ	16 @ 250 MHz	5,2	72 @ 500 MHz	2.95	0.060	1.5
AE336RAD18N_LZ	18 @ 250 MHz	5,2	75 @ 500 MHz	2.55	0.060	1.4
AE336RAD20N_LZ	20 @ 250 MHz	5,2	70 @ 500 MHz	2.05	0.055	1.4
AE336RAD27N_LZ	27 @ 250 MHz	5,2	75 @ 500 MHz	2.00	0.070	1.3
AE336RAD30N_LZ	30 @ 250 MHz	5,2	65 @ 500 MHz	1.95	0.095	1.2
AE336RAD39N_LZ	39 @ 250 MHz	5,2	65 @ 500 MHz	1.60	0.110	1.1
AE336RAD48N_LZ	48 @ 200 MHz	5,2	65 @ 500 MHz	1.40	0.095	1.2
AE336RAD51N_LZ	51 @ 200 MHz	5,2	65 @ 500 MHz	1.40	0.120	1.0

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

AE336RAD51NGLZ

Tolerance: G = 2% J = 5%

Testing: Z = Coilcraft Critical Products Environmental Stress Conditions Testing.

H = Coilcraft Qual + Coilcraft Hi-Rel Burn-in

P = Coilcraft Qual + MIL-STD-981 Class S Group A screening

N = Coilcraft Qual + MIL-STD-981 Class B Group A screening

C = Coilcraft Qual + MIL-STD-981 Class S Group A screening + MIL-STD-981 Class S Group B qualification

W = Coilcraft Qual + MIL-STD-981 Class B Group A screening + MIL-STD-981 Class S Group B qualification

- Inductance measured using a Coilcraft SMD-A fixture in an Agilent/HP 4286 impedance analyzer with Coilcraft-provided correlation pieces.
- Tolerances in bold are stocked for immediate shipment.
- Q measured using an Agilent/HP 4291A with an Agilent/HP 16193 test fixture.
- For SRF less than 6 GHz, measured using an Agilent/HP 8753D network analyzer and a Coilcraft SMD-D test fixture. For SRF greater than 6 GHz, measured using an Agilent/HP 8722ES network analyzer and a Coilcraft SMD-D test fixture.
- DCR measured on a Cambridge Technology micro-ohmmeter and a Coilcraft CCF840 test fixture.
- Electrical specifications at 25°C.

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

Core material Ceramic

Terminations Tin-lead (63/37) over silver-platinum-glass frit

Ambient temperature -55°C to +125°C with I_{max} current, +125°C to +155°C with derated current

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

COILCRAFT ACCURATE
PRECISION REPEATABLE
MEASUREMENTS
SEE INDEX **TEST FIXTURES**



These parts are preproduction products for electrical evaluation only.
Specification subject to change without notice.

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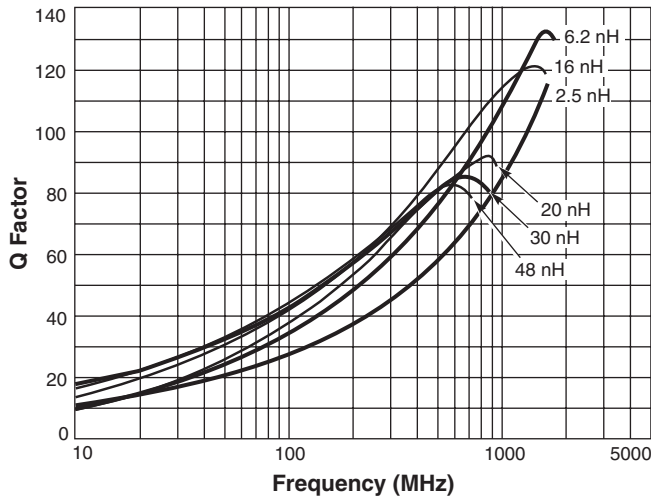
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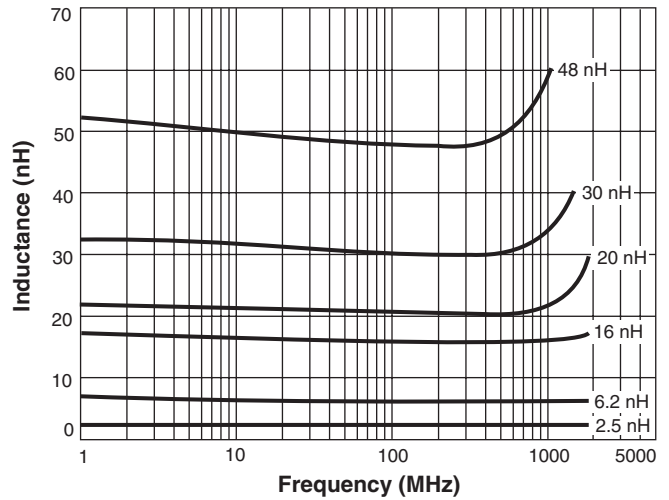
PRELIMINARY

AE336RAD Series (0805)

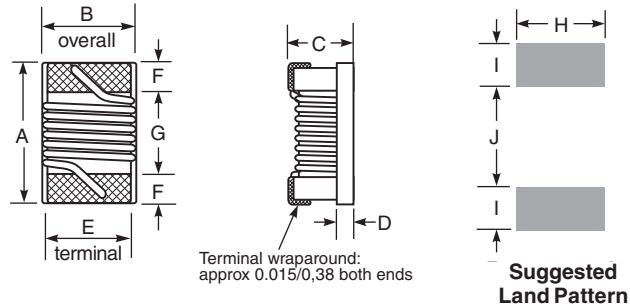
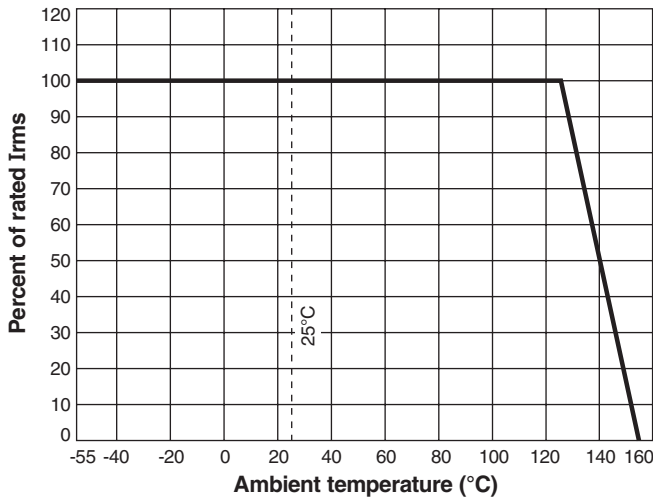
Typical Q vs Frequency



Typical L vs Frequency



Irms Derating



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

All dimensions are without solder applied to the terminations. For maximum dimensions with solder, add 0.006 inches / 0,152 mm.