

PRELIMINARY

Aerospace Grade Chip Inductors AE336RAF

- Lowest profile 0805 surface mount inductors – 0.035" high
- Their wire wound ceramic design provides exceptional Q and high SRF values.
- Tight tolerances – many at 2%, some at 1%

This robust version of Coilcraft's standard 0805HT series features high temperature materials that pass NASA low outgassing specifications and allows 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	Q min ³	SRF min ⁴ (MHz)	DCR max ⁵ (Ohms)	I _{max} (mA)
AE336RAF1N8JSZ	1.8 @ 250 MHz	5	55 @ 1500 MHz	9400	0.030	800
AE336RAF2N0JSZ	2.0 @ 250 MHz	5	55 @ 1500 MHz	11500	0.018	800
AE336RAF3N9JSZ	3.9 @ 250 MHz	5	50 @ 1000 MHz	6100	0.055	800
AE336RAF4N3JSZ	4.3 @ 250 MHz	5	80 @ 1000 MHz	6364	0.030	800
AE336RAF4N7JSZ	4.7 @ 250 MHz	5	50 @ 1000 MHz	5500	0.060	800
AE336RAF5N1JSZ	5.1 @ 250 MHz	5	45 @ 1000 MHz	6100	0.069	800
AE336RAF5N6JSZ	5.6 @ 250 MHz	5	45 @ 1000 MHz	5800	0.091	800
AE336RAF6N8JSZ	6.8 @ 250 MHz	5	50 @ 1000 MHz	4800	0.080	800
AE336RAF7N5JSZ	7.5 @ 250 MHz	5	47 @ 1000 MHz	4600	0.082	800
AE336RAF8N2JSZ	8.2 @ 250 MHz	5	50 @ 1000 MHz	4800	0.080	800
AE336RAF9N1JSZ	9.1 @ 250 MHz	5	54 @ 1000 MHz	3900	0.105	800
AE336RAF10N_SZ	10 @ 250 MHz	5,2	55 @ 750 MHz	3300	0.080	800
AE336RAF12N_SZ	12 @ 250 MHz	5,2	55 @ 750 MHz	3800	0.10	800
AE336RAF15N_SZ	15 @ 250 MHz	5,2	50 @ 500 MHz	2950	0.10	800
AE336RAF18N_SZ	18 @ 250 MHz	5,2	50 @ 500 MHz	3100	0.13	800
AE336RAF20N_SZ	20 @ 250 MHz	5,2	50 @ 500 MHz	2700	0.17	800
AE336RAF22N_SZ	22 @ 250 MHz	5,2	50 @ 500 MHz	2900	0.15	800
AE336RAF27N_SZ	27 @ 250 MHz	5,2	50 @ 500 MHz	2450	0.19	700
AE336RAF33N_SZ	33 @ 250 MHz	5,2	55 @ 500 MHz	2350	0.19	600
AE336RAF39N_SZ	39 @ 250 MHz	5,2,1	55 @ 500 MHz	2200	0.27	600
AE336RAF47N_SZ	47 @ 200 MHz	5,2,1	50 @ 500 MHz	2000	0.30	600
AE336RAF56N_SZ	56 @ 200 MHz	5,2,1	50 @ 500 MHz	1850	0.39	500
AE336RAF68N_SZ	68 @ 200 MHz	5,2,1	50 @ 500 MHz	1500	0.40	500
AE336RAF82N_SZ	82 @ 150 MHz	5,2,1	50 @ 500 MHz	1500	0.44	500
AE336RAFR10_SZ	100 @ 150 MHz	5,2	50 @ 500 MHz	1200	0.64	400
AE336RAFR12_SZ	120 @ 150 MHz	5,2	40 @ 250 MHz	1150	0.68	300
AE336RAFR15_SZ	150 @ 150 MHz	5,2	40 @ 250 MHz	1050	0.80	300
AE336RAFR18_SZ	180 @ 150 MHz	5,2	40 @ 250 MHz	830	0.86	300
AE336RAFR22_SZ	220 @ 150 MHz	5,2	39 @ 150 MHz	820	1.29	200
AE336RAFR27_SZ	270 @ 150 MHz	5,2	33 @ 150 MHz	790	1.40	200
AE336RAFR33_SZ	330 @ 150 MHz	5,2	32 @ 150 MHz	730	1.93	200
AE336RAFR39_SZ	390 @ 100 MHz	5,2	30 @ 150 MHz	675	2.80	200
AE336RAFR47_SZ	470 @ 100 MHz	5,2	30 @ 150 MHz	610	3.10	200
AE336RAFR50_SZ	500 @ 50 MHz	5,2	20 @ 50 MHz	585	3.20	200

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

AE336RAFR50 G SZ

Tolerance: F = 1% 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

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

3. Q measured using an Agilent/HP 4291A with an Agilent/HP 16193 test fixture and on an Agilent/HP 8753D with a Coilcraft SMD-D test fixture.

4. SRF measured using an Agilent/HP 8720D network analyzer and a Coilcraft SMD-D test fixture.

5. DCR measured on a Cambridge Technology micro-ohmmeter and a Coilcraft CCF858 test fixture.

6. Electrical specifications at 25°C.

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



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

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CRITICAL PRODUCTS & SERVICES

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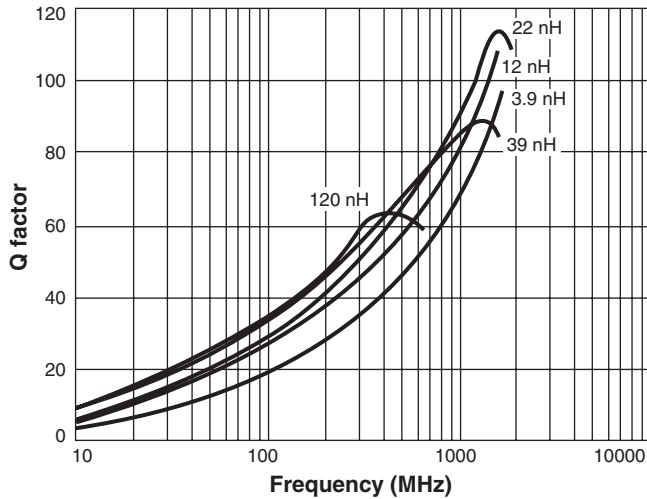
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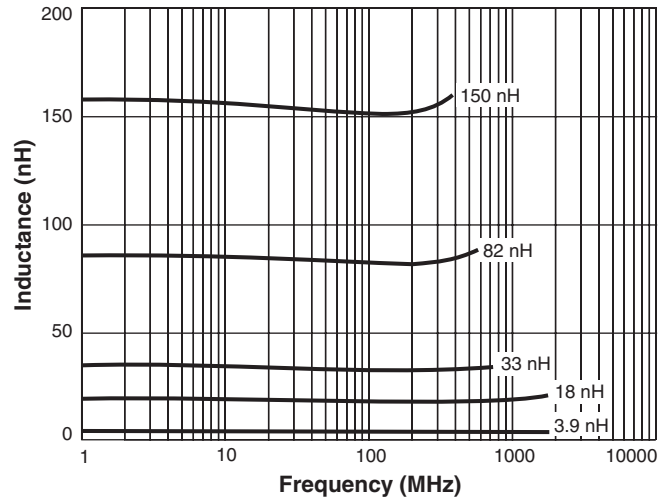
PRELIMINARY

AE336RAF Series (0805)

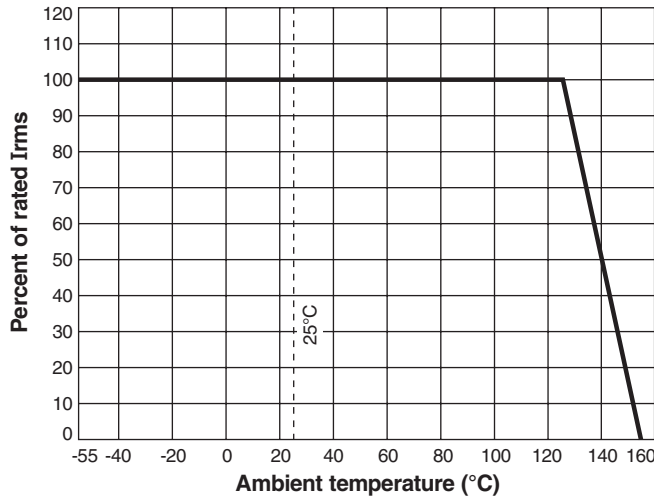
Typical Q vs Frequency



Typical L vs Frequency



Irms Derating



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

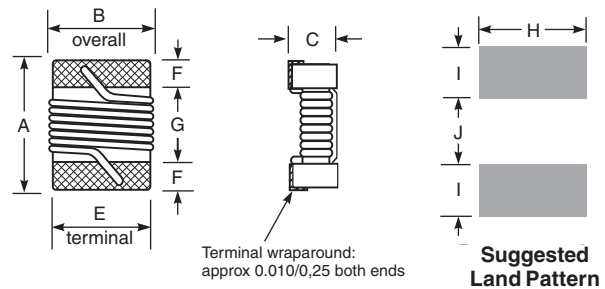
Storage temperature Component: -55°C to +155°C. Packaging: -55°C to +80°C

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, 0.9 mm pocket depth



A	B	C	E	F	G	H	I	J	
max	max	max							inches
0.085	0.060	0.035	0.050	0.017	0.045	0.070	0.040	0.030	
2,16	1,52	0,89	1,27	0,43	1,14	1,78	1,02	0,76	mm

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

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