

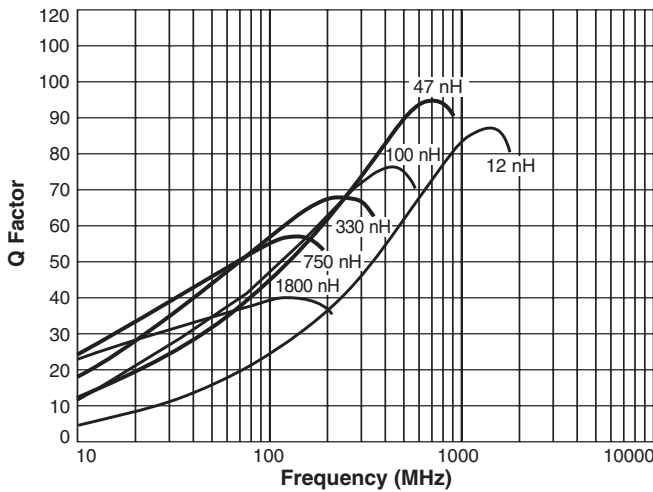
PRELIMINARY

Outgassing Compliant Chip Inductors AE413RAA

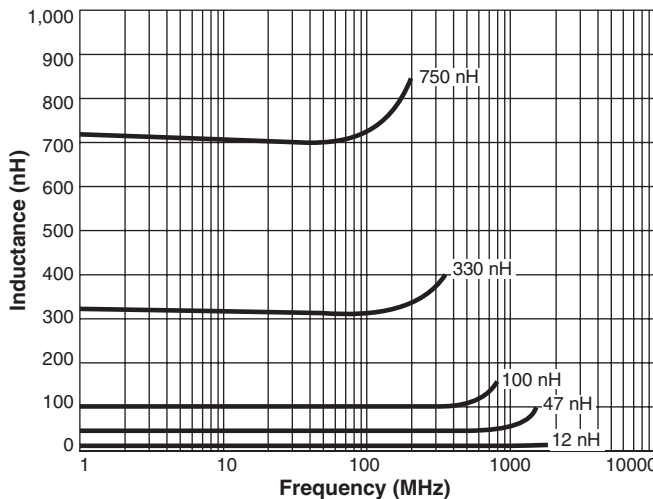
- High SRF and excellent Q values
- Tight tolerances, many values at 1%
- 39 inductance values from 10 nH to 8.2 μH

This robust version of Coilcraft's standard 1008CS 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.

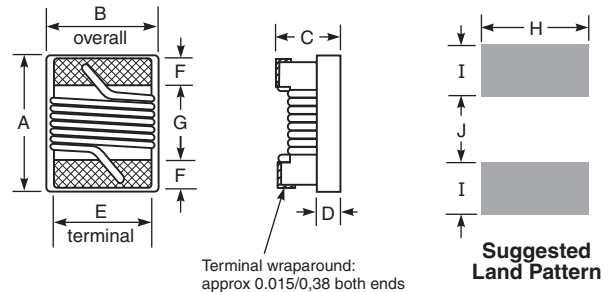
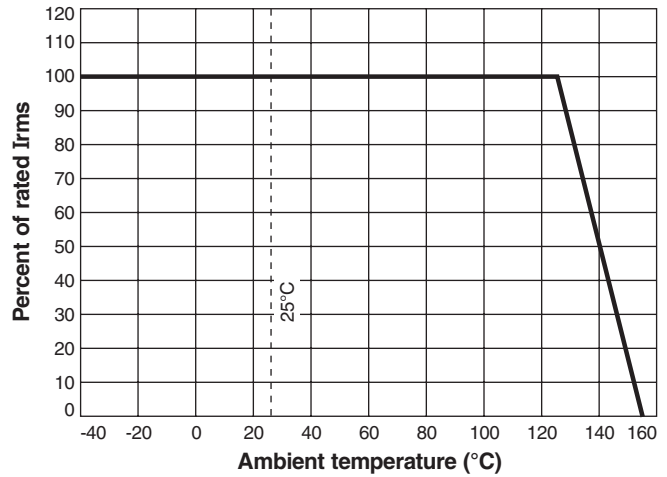
Typical Q vs Frequency



Typical L vs Frequency



Current Derating



A max	B max	C max	D ref	E	F	G	H	I	J
0.115	0.110	0.080	0.020	0.080	0.020	0.060	0.100	0.040	0.050
2,92	2,79	2,03	0,51	2,03	0,51	1,52	2,54	1,02	1,27

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

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, 0.3 mm thick, 4 mm pocket spacing, 2.0 mm pocket depth



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

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PRELIMINARY**AE413RAA Series (1008)**

Part number ¹	Inductance ² (nH)	Percent tolerance	Q min ³	SRF min ⁴ (MHz)	DCR max ⁵ (Ohms)	I _{max} (mA)
AE413RAA100_SZ	10 @ 50 MHz	5,2	44 @ 500 MHz	3060	0.08	1000
AE413RAA120_SZ	12 @ 50 MHz	5,2	45 @ 500 MHz	2680	0.09	1000
AE413RAA150_SZ	15 @ 50 MHz	5,2	50 @ 500 MHz	2220	0.10	1000
AE413RAA180_SZ	18 @ 50 MHz	5,2	50 @ 350 MHz	2200	0.11	1000
AE413RAA220_SZ	22 @ 50 MHz	5,2,1	55 @ 350 MHz	2100	0.12	1000
AE413RAA270_SZ	27 @ 50 MHz	5,2	55 @ 350 MHz	1380	0.13	1000
AE413RAA330_SZ	33 @ 50 MHz	5,2	60 @ 350 MHz	1600	0.14	1000
AE413RAA390_SZ	39 @ 50 MHz	5,2	60 @ 350 MHz	1420	0.15	1000
AE413RAA470_SZ	47 @ 50 MHz	5,2,1	65 @ 350 MHz	1420	0.16	1000
AE413RAA560_SZ	56 @ 50 MHz	5,2,1	60 @ 350 MHz	1140	0.18	1000
AE413RAA680_SZ	68 @ 50 MHz	5,2,1	46 @ 100 MHz	1140	0.20	1000
AE413RAA820_SZ	82 @ 50 MHz	5,2,1	48 @ 100 MHz	940	0.22	1000
AE413RAA101_SZ	100 @ 25 MHz	5,2,1	37 @ 100 MHz	900	0.56	650
AE413RAA121_SZ	120 @ 25 MHz	5,2,1	40 @ 100 MHz	840	0.63	650
AE413RAA151_SZ	150 @ 25 MHz	5,2,1	40 @ 100 MHz	740	0.70	580
AE413RAA181_SZ	180 @ 25 MHz	5,2,1	38 @ 100 MHz	680	0.77	620
AE413RAA221_SZ	220 @ 25 MHz	5,2,1	40 @ 100 MHz	580	0.84	500
AE413RAA271_SZ	270 @ 25 MHz	5,2,1	45 @ 100 MHz	540	0.91	500
AE413RAA331_SZ	330 @ 25 MHz	5,2,1	45 @ 100 MHz	500	1.05	450
AE413RAA391_SZ	390 @ 25 MHz	5,2,1	45 @ 100 MHz	480	1.12	350
AE413RAA471_SZ	470 @ 25 MHz	5,2,1	45 @ 100 MHz	400	1.19	350
AE413RAA561_SZ	560 @ 25 MHz	5,2,1	40 @ 100 MHz	360	1.33	325
AE413RAA621_SZ	620 @ 25 MHz	5,2,1	45 @ 100 MHz	360	1.40	300
AE413RAA681_SZ	680 @ 25 MHz	5,2,1	45 @ 100 MHz	345	1.47	400
AE413RAA751_SZ	750 @ 25 MHz	5,2,1	45 @ 100 MHz	335	1.54	360
AE413RAA821_SZ	820 @ 25 MHz	5,2,1	45 @ 100 MHz	310	1.61	400
AE413RAA911_SZ	910 @ 25 MHz	5,2,1	35 @ 50 MHz	280	1.68	380
AE413RAA102_SZ	1000 @ 25 MHz	5,2,1	34 @ 50 MHz	280	1.75	370
AE413RAA122_SZ	1200 @ 7.9 MHz	5,2	32 @ 50 MHz	220	2.0	310
AE413RAA152_SZ	1500 @ 7.9 MHz	5,2	28 @ 50 MHz	180	2.3	330
AE413RAA182_SZ	1800 @ 7.9 MHz	5,2	28 @ 50 MHz	160	2.6	300
AE413RAA222_SZ	2200 @ 7.9 MHz	5,2	19 @ 7.9 MHz	150	2.8	280
AE413RAA272_SZ	2700 @ 7.9 MHz	5,2	20 @ 7.9 MHz	110	3.2	290
AE413RAA332_SZ	3300 @ 7.9 MHz	5,2	20 @ 7.9 MHz	110	3.4	290
AE413RAA392_SZ	3900 @ 7.9 MHz	5,2	20 @ 7.9 MHz	85	3.6	260
AE413RAA472_SZ	4700 @ 7.9 MHz	5,2	13 @ 2.5 MHz	75	4.0	170
AE413RAA562JSZ	5600 @ 7.9 MHz	5	14 @ 2.5 MHz	20	4.0	170
AE413RAA682JSZ	6800 @ 7.9 MHz	5	14 @ 2.5 MHz	40	4.9	170
AE413RAA822JSZ	8200 @ 2.5 MHz	5	14 @ 2.5 MHz	25	6.5	170

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

AE413RAA102 **G** **SZ**

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

Testing: Z = COTS

H = Screening per Coilcraft CP-SA-10001

N = Screening per Coilcraft CP-SA-10003

C = Custom screening (please specify when ordering)

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.

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

5. DCR measured on a Cambridge Technology micro-ohmmeter and a Coilcraft CCF840 test fixture.

6. Electrical specifications at 25°C.

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



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