

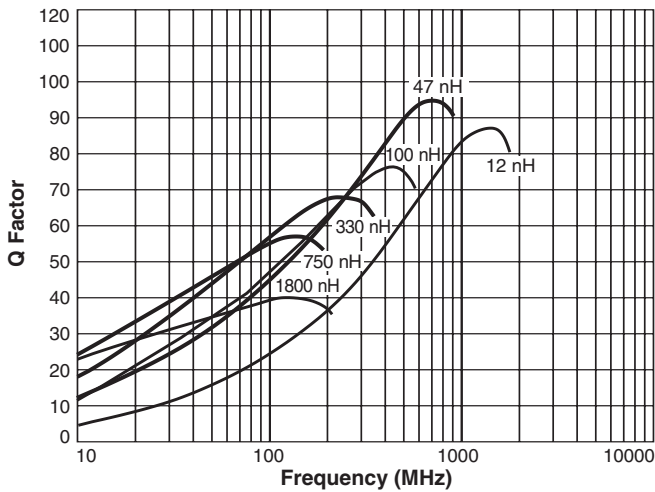
PRELIMINARY

Outgassing Compliant Chip Inductors AE413RAA

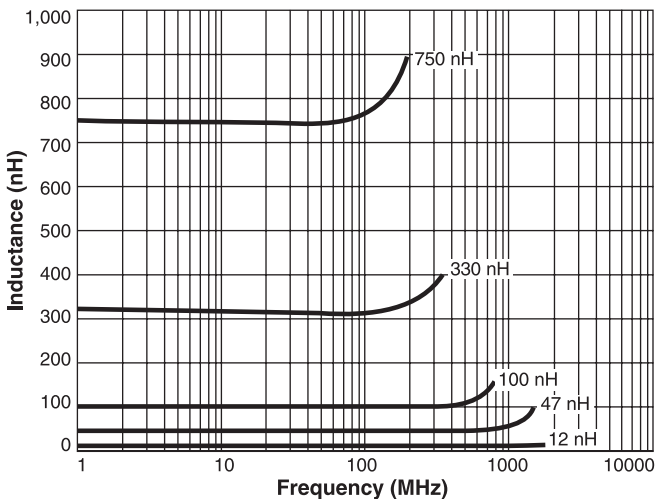
- High SRF and excellent Q values
- Tight tolerances, many values at 1%
- 28 inductance values from 10 nH to 1 μ H
- All parts are compliant with MIL-STD-981 Family 50, Class S

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.

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_{max} current

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

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

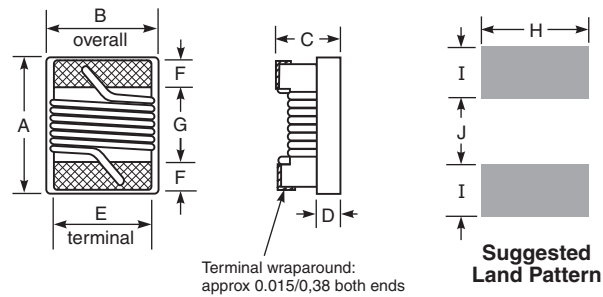
Tape and reel packaging: -55°C to +80°C

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



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

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.



CRITICAL PRODUCTS & SERVICES

1102 Silver Lake Road
Cary, IL 60013
Phone 800-981-0363

PRELIMINARY**AE413RAA Series (1008)**

Part number ¹	Inductance ² (nH)	Percent tolerance	Q min ³	SRF min ⁴ (MHz)	DCR max ⁵ (Ohms)	Imax (mA)
AE413RAA100_SZ	10 @ 50 MHz	5,2	44 @ 500 MHz	3060	0.08	900
AE413RAA120_SZ	12 @ 50 MHz	5,2	45 @ 500 MHz	2680	0.09	900
AE413RAA150_SZ	15 @ 50 MHz	5,2	50 @ 500 MHz	2220	0.10	850
AE413RAA180_SZ	18 @ 50 MHz	5,2,1	50 @ 350 MHz	2200	0.11	900
AE413RAA220_SZ	22 @ 50 MHz	5,2,1	55 @ 350 MHz	2100	0.12	900
AE413RAA270_SZ	27 @ 50 MHz	5,2,1	55 @ 350 MHz	1380	0.13	900
AE413RAA330_SZ	33 @ 50 MHz	5,2,1	60 @ 350 MHz	1600	0.14	850
AE413RAA390_SZ	39 @ 50 MHz	5,2,1	60 @ 350 MHz	1420	0.15	850
AE413RAA470_SZ	47 @ 50 MHz	5,2,1	65 @ 350 MHz	1420	0.16	820
AE413RAA560_SZ	56 @ 50 MHz	5,2,1	60 @ 350 MHz	1140	0.18	780
AE413RAA680_SZ	68 @ 50 MHz	5,2,1	46 @ 100 MHz	1140	0.20	710
AE413RAA820_SZ	82 @ 50 MHz	5,2,1	48 @ 100 MHz	940	0.22	710
AE413RAA101_SZ	100 @ 25 MHz	5,2,1	37 @ 100 MHz	900	0.56	440
AE413RAA121_SZ	120 @ 25 MHz	5,2,1	40 @ 100 MHz	840	0.63	410
AE413RAA151_SZ	150 @ 25 MHz	5,2,1	40 @ 100 MHz	740	0.70	400
AE413RAA181_SZ	180 @ 25 MHz	5,2,1	38 @ 100 MHz	680	0.77	390
AE413RAA221_SZ	220 @ 25 MHz	5,2,1	40 @ 100 MHz	580	0.84	370
AE413RAA271_SZ	270 @ 25 MHz	5,2,1	45 @ 100 MHz	540	0.91	330
AE413RAA331_SZ	330 @ 25 MHz	5,2,1	45 @ 100 MHz	500	1.05	330
AE413RAA391_SZ	390 @ 25 MHz	5,2,1	45 @ 100 MHz	480	1.12	310
AE413RAA471_SZ	470 @ 25 MHz	5,2,1	45 @ 100 MHz	400	1.19	280
AE413RAA561_SZ	560 @ 25 MHz	5,2,1	40 @ 100 MHz	360	1.33	280
AE413RAA621_SZ	620 @ 25 MHz	5,2,1	45 @ 100 MHz	360	1.40	270
AE413RAA681_SZ	680 @ 25 MHz	5,2,1	45 @ 100 MHz	345	1.47	270
AE413RAA751_SZ	750 @ 25 MHz	5,2,1	45 @ 100 MHz	335	1.54	270
AE413RAA821_SZ	820 @ 25 MHz	5,2,1	45 @ 100 MHz	310	1.61	250
AE413RAA911_SZ	910 @ 25 MHz	5,2,1	35 @ 50 MHz	280	1.68	250
AE413RAA102_SZ	1000 @ 25 MHz	5,2,1	34 @ 50 MHz	280	1.75	230

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

AE413RAA102GSZ

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

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

Special order:

L = RoHS compliant 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

N = Group A screening per Coilcraft CP-SA-10003

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 using an Agilent/HP 8753ES network analyzer or equivalent and a Coilcraft CCF1297 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 CPS
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.