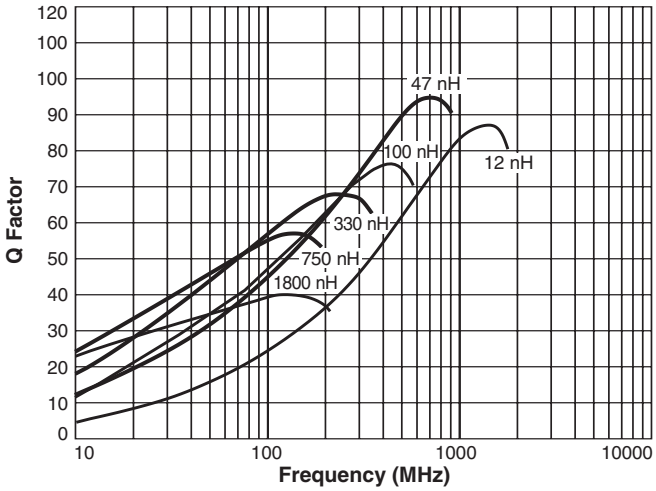
NEW!

Outgassing Compliant Chip Inductors AR413RAA

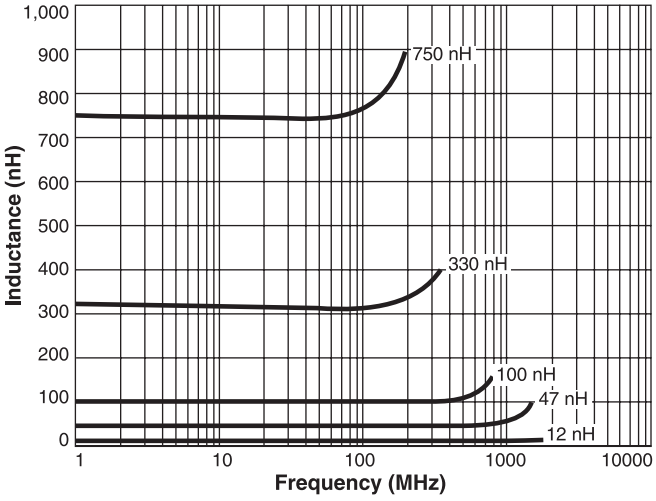
- High SRF and excellent Q values
- Tight tolerances, many values at 1%
- 40 inductance values from 10 nH to 8.2 µH
- Compliant with MIL-STD-981 (Family 50) Class S

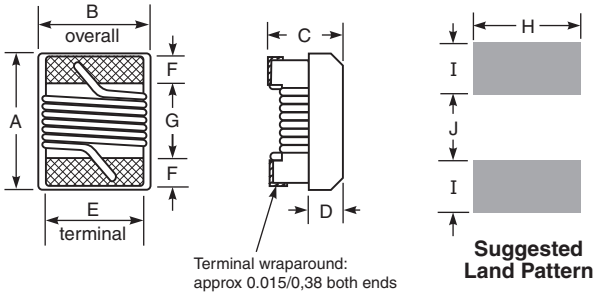
Features high temperature materials that pass NASA low outgassing specifications and allow operation in an ambient temperature range of –55°C to 155°C. The standard tin-lead (Sn-Pb) terminations over leach-resistant base metalization ensures the best possible board adhesion.

Typical Q vs Frequency



Typical L vs Frequency





A max	B max	C max	D ref	E	F	G	H	I	J
0.115	0.110	0.090	0.025	0.080	0.020	0.060	0.100	0.040	0.050
2,92	2,79	2,29	0,64	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**.

Core material Ceramic

Terminations Tin-lead (63/37) over tin over nickel over silver-platinum-glass frit. Other terminations are also available.

Weight 30 – 42 mg

Ambient temperature –55°C to +125°C with Imax 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

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AR413RAA Series (1008)

Part number[1]	Inductance[2] (nH)	Percent tolerance	Q min[3]	SRF min[4] (MHz)	DCR max[5] (Ohms)	Imax (mA)
AR413RAA100_PZ	10 @ 50 MHz	5,2	44 @ 500 MHz	3060	0.08	900
AR413RAA120_PZ	12 @ 50 MHz	5,2	45 @ 500 MHz	2680	0.09	900
AR413RAA150_PZ	15 @ 50 MHz	5,2	50 @ 500 MHz	2220	0.13	850
AR413RAA180_PZ	18 @ 50 MHz	5,2,1	50 @350 MHz	2200	0.11	900
AR413RAA220_PZ	22 @ 50 MHz	5,2,1	55 @ 350 MHz	2100	0.12	900
AR413RAA270_PZ	27 @ 50 MHz	5,2,1	55 @ 350 MHz	1380	0.13	900
AR413RAA330_PZ	33 @ 50 MHz	5,2,1	60 @ 350 MHz	1600	0.14	850
AR413RAA390_PZ	39 @ 50 MHz	5,2,1	60 @ 350 MHz	1420	0.15	850
AR413RAA470_PZ	47 @ 50 MHz	5,2,1	65 @ 350 MHz	1420	0.16	820
AR413RAA560_PZ	56 @ 50 MHz	5,2,1	60 @ 350 MHz	1140	0.18	780
AR413RAA680_PZ	68 @ 50 MHz	5,2,1	46 @ 100 MHz	1140	0.20	710
AR413RAA820_PZ	82 @ 50 MHz	5,2,1	48 @ 100 MHz	940	0.22	710
AR413RAA101_PZ	100 @ 25 MHz	5,2,1	37 @ 100 MHz	900	0.56	440
AR413RAA121_PZ	120 @ 25 MHz	5,2,1	40 @ 100 MHz	840	0.63	410
AR413RAA151_PZ	150 @ 25 MHz	5,2,1	40 @ 100 MHz	740	0.70	400
AR413RAA181_PZ	180 @ 25 MHz	5,2,1	38 @ 100 MHz	680	0.77	390
AR413RAA221_PZ	220 @ 25 MHz	5,2,1	40 @ 100 MHz	580	0.84	370
AR413RAA271_PZ	270 @ 25 MHz	5,2,1	45 @ 100 MHz	540	0.91	330
AR413RAA331_PZ	330 @ 25 MHz	5,2,1	45 @ 100 MHz	500	1.05	330
AR413RAA361_PZ	360 @ 25 MHz	5,2,1	45 @ 100 MHz	480	1.20	330
AR413RAA391_PZ	390 @ 25 MHz	5,2,1	45 @ 100 MHz	480	1.12	310
AR413RAA471_PZ	470 @ 25 MHz	5,2,1	45 @ 100 MHz	400	1.19	280
AR413RAA561_PZ	560 @ 25 MHz	5,2,1	40 @ 100 MHz	360	1.33	280
AR413RAA621_PZ	620 @ 25 MHz	5,2,1	45 @ 100 MHz	360	1.40	270
AR413RAA681_PZ	680 @ 25 MHz	5,2,1	45 @ 100 MHz	345	1.47	270
AR413RAA751_PZ	750 @ 25 MHz	5,2,1	45 @ 100 MHz	335	1.54	270
AR413RAA821_PZ	820 @ 25 MHz	5,2,1	45 @ 100 MHz	310	1.61	250
AR413RAA911_PZ	910 @ 25 MHz	5,2,1	35 @ 50 MHz	280	1.68	250
AR413RAA102_PZ	1000 @ 25 MHz	5,2,1	34 @ 50 MHz	280	1.75	230
AR413RAA122_PZ	1200 @ 7.9 MHz	5,2	32 @ 50 MHz	220	2.0	230
AR413RAA152_PZ	1500 @ 7.9 MHz	5,2	28 @ 50 MHz	180	2.3	220
AR413RAA182_PZ	1800 @ 7.9 MHz	5,2	28 @ 50 MHz	160	2.6	210
AR413RAA222_PZ	2200 @ 7.9 MHz	5,2	19 @ 7.9 MHz	150	2.8	190
AR413RAA272_PZ	2700 @ 7.9 MHz	5,2	20 @ 7.9 MHz	110	3.2	180
AR413RAA332_PZ	3300 @ 7.9 MHz	5,2	20 @ 7.9 MHz	110	3.4	160
AR413RAA392_PZ	3900 @ 7.9 MHz	5,2	20 @ 7.9 MHz	85	3.6	160
AR413RAA472_PZ	4700 @ 7.9 MHz	5,2	13 @ 2.5 MHz	75	4.0	160
AR413RAA562JPZ	5600 @ 7.9 MHz	5	14 @ 2.5 MHz	20	4.0	150
AR413RAA682JPZ	6800 @ 7.9 MHz	5	14 @ 2.5 MHz	40	4.9	150
AR413RAA822JPZ[6]	8200 @ 2.5 MHz	5	14 @ 2.5 MHz	20	6.5	110

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

AR413RAA822JPZ

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
F = ESCC3201 (F4 operational life performed at 90°C)
- Screening performed to the document's latest revision.
- Lot qualification (Group B) available.
- 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 4286A impedance analyzer or equivalent with Coilcraft-provided correlation pieces.
3. Q measured using an Agilent/HP 4291A with an AgilentHP 16197A test fixture or equivalents.
4. SRF measured using an Aglilent/HP 8753ES network analyzer or equivalent and a Coilcraft CCF1502 test fixture.
5. DCR measured on a Keithley 580 micro-ohmmeter or equivalent and a Coilcraft CCF859 test fixture.
6. AR413RAA822 is only compliant with MIL-STD-981 (Family 50) Class B.
7. Electrical specifications at 25°C.

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

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