

NEW!

Chip Inductors for Critical Applications AR319RAD

- Combines the exceptionally high Q of an air core inductor with the rugged construction of a ceramic body component.
- Inductance values: 1.15 nH – 10.4 nH
- Provides intermediate inductance values not available in Coilcraft's 0603, 0402 or 0906 product families
- High temperature materials allow operation in ambient temperatures up to 155°C.
- Passes NASA low outgassing specifications
- Standard tin-lead (Sn-Pb) terminations ensures the best possible board adhesion. Note: Nickel barrier termination (tin-lead over tin over nickel over silver-platinum-glass frit, termination code P) is recommended for hand soldering applications.

Part number ¹	Inductance ² (nH)	Percent tolerance	Q min ³	900 MHz		1.7 GHz		SRF min ⁴ (GHz)	DCR max ⁵ (Ohms)	I _{max} (A)
				L typ	Q typ	L typ	Q typ			
AR319RAD1N1JPZ	1.15	5	25	1.2	40	1.2	136	>5.0	0.021	3.0
AR319RAD2N6JPZ	2.6	5	45	2.6	78	2.6	163	>5.0	0.026	2.0
AR319RAD4N5JPZ	4.5	5	50	4.5	103	4.7	155	>5.0	0.032	1.8
AR319RAD5N0JPZ	5.0	5	60	4.9	106	5.2	178	>5.0	0.032	1.6
AR319RAD6N8JPZ	6.8	5	60	6.9	101	7.4	172	4.7	0.035	1.8
AR319RAD7N6JPZ	7.6	5	60	7.4	109	7.9	137	4.4	0.035	1.5
AR319RAD10NJPZ	10.4	5	60	10.6	103	11.5	160	4.1	0.037	1.5

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

AR319RAD10NJPZ

Termination: P = Tin-lead (63/37) over tin over nickel over silver-platinum-glass frit.

Special order:

L = Silver-palladium-platinum glass frit.

S = Tin-lead (63/37) over 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.

2. L is measured at 500 MHz on an Agilent 4286A (or equivalent) with a Coilcraft SMD-A test fixture using the listed correlation.

3. Q is measured at 500 MHz on an Agilent 4291A (or equivalent) with an Agilent 16197A (or equivalent) test fixture.

4. SRF measured using an Agilent/HP 8753ES network analyzer and a Coilcraft CCF1236 test fixture.

5. DCR is measured on a Keithley 580 Micro-ohmmeter (or equivalent) with a Coilcraft CCF1010 test fixture.

6. Electrical specifications at 25°C.

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

Core material Ceramic

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

Weight 4.6 – 5.8 mg

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)

Packaging 2000 per 7" reel; Plastic tape: 8 mm wide, 0.23 mm thick, 4 mm pocket spacing, 1.27 mm pocket depth

Coilcraft CPS
CRITICAL PRODUCTS & SERVICES

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

Fax 847-639-1508
Email cps@coilcraft.com
www.coilcraft-cps.com

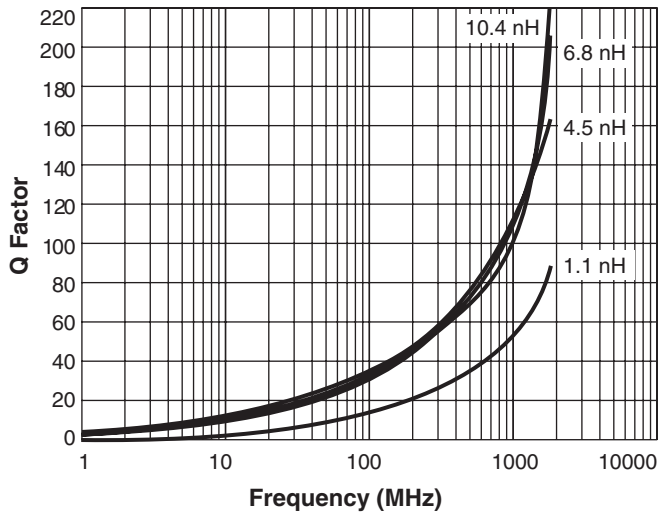
COILCRAFT ACCURATE
PRECISION REPEATABLE
MEASUREMENTS
SEE WEB SITE **TEST FIXTURES**

Document AR285-1 Revised 08/24/23

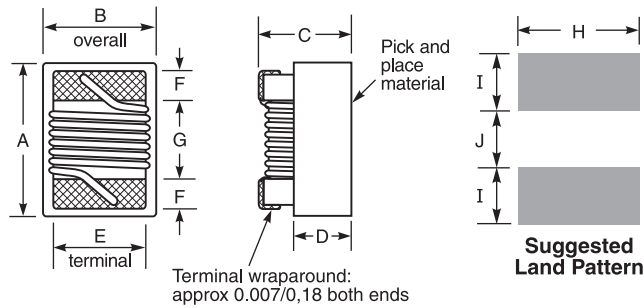
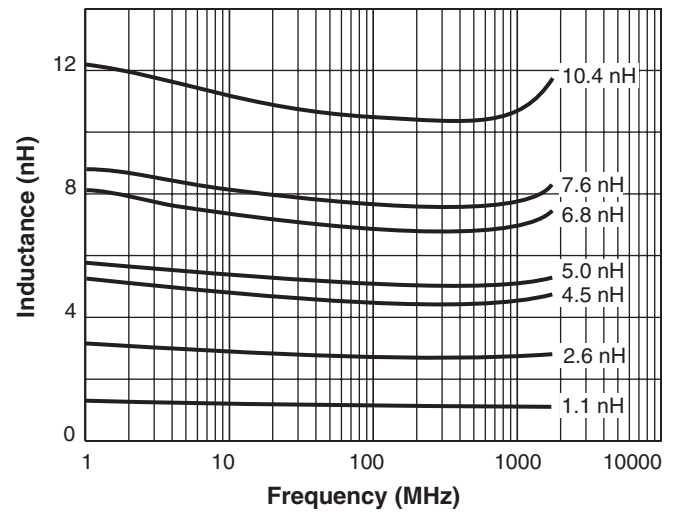
This product may not be used in medical or high risk applications without prior Coilcraft approval. Specifications subject to change without notice. Please check our web site for latest information.

AR319RAD Series (0604)

Typical Q vs Frequency



Typical L vs Frequency



A	B	C	D	E	F	G	H	I	J
max	max	max	ref						
0.073	0.054	0.047	0.025	0.040	0.013	0.034	0.053	0.025	0.025
1,85	1,37	1,19	0,64	1,02	0,33	0,86	1,35	0,64	0,64

Note: Dimensions are before optional 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**.