

# Chip Inductors for Critical Applications ST319RAD

- Combines the exceptionally high Q of an air core inductor with the rugged construction of a ceramic body component.
- Provides intermediate inductance values not available in Coilcraft's 0603, 0402 or 0906 product families
- Inductance values: 1.15 nH – 10.4 nH

Part number <sup>1</sup>	Inductance <sup>2</sup> (nH)	Percent tolerance <sup>3</sup>	Q min <sup>4</sup>	900 MHz		1.7 GHz		SRF min <sup>5</sup> (GHz)	DCR max <sup>6</sup> (Ohms)	I <sub>max</sub> (A)
				L typ	Q typ	L typ	Q typ			
ST319RAD1N1JLZ	1.15	5	25	1.2	40	1.2	136	>5.0	0.021	3.0
ST319RAD2N6JLZ	2.6	5	45	2.6	78	2.6	163	>5.0	0.026	2.0
ST319RAD4N5JLZ	4.5	5	50	4.5	103	4.7	155	>5.0	0.032	1.8
ST319RAD5N0JLZ	5.0	5	60	4.9	106	5.2	178	>5.0	0.032	1.6
ST319RAD6N8JLZ	6.8	5	60	6.9	101	7.4	172	4.7	0.035	1.8
ST319RAD7N6JLZ	7.6	5	60	7.4	109	7.9	137	4.4	0.035	1.5
ST319RAD10NJLZ	10.4	5	60	10.6	103	11.5	160	4.1	0.037	1.5

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

#### ST319RAD10NJLZ

**Termination:** L = Silver-palladium-platinum glass frit.

**Special order:**

S = Tin-lead (63/37) over silver-palladium-platinum-glass frit.

T = Tin-silver-copper (95.5/4/0.5) over silver-palladium-platinum-glass frit.

R = Tin over nickel over silver-platinum-glass frit.

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

Q = Tin-silver-copper (95.5/4/0.5) over tin over nickel over silver-platinum-glass frit.

**Testing:**

Z = Unscreened

H = Group A screening per Coilcraft CP-SA-10001

All screening performed to the document's latest revision  
Custom screening also available

2. Inductance measured at 500 MHz using a Coilcraft SMD-A fixture in an Agilent/HP 4286 impedance analyzer with Coilcraft-provided correlation pieces.
  3. Q measured at 500 MHz 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 CCF858 test fixture.
  6. Electrical specifications at 25°C.
- Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

**Core material** Ceramic

**Terminations** Silver-palladium-platinum-glass frit. Other terminations available at additional cost.

**Ambient temperature** -55°C to +125°C with I<sub>max</sub> 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



CRITICAL PRODUCTS & SERVICES

© Coilcraft, Inc. 2017

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

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

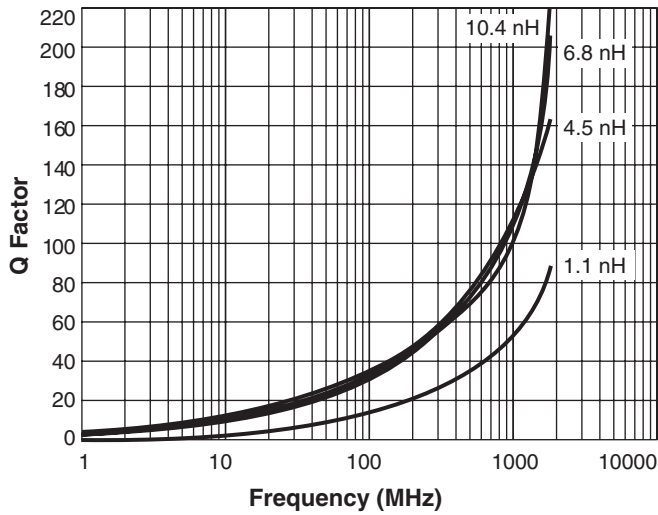
**COILCRAFT** ACCURATE  
PRECISION REPEATABLE  
MEASUREMENTS  
SEE WEB SITE **TEST FIXTURES**

Document ST285-1 Revised 06/12/13

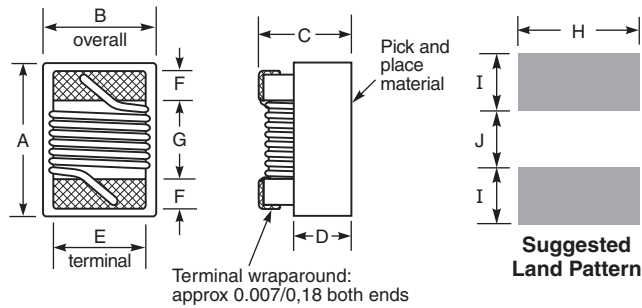
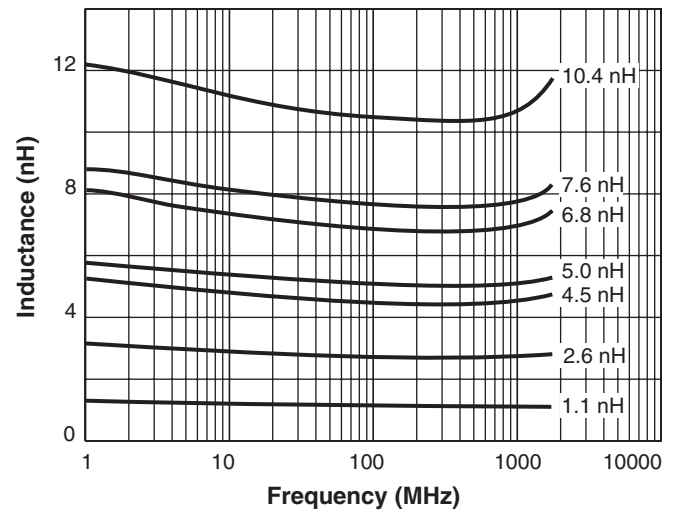
This product may not be used in medical or high risk applications without prior Coilcraft approval. Specifications subject to change without notice. Please check our web site for latest information.

# ST319RAD 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	0,63	0,63

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**.

