

# Chip Inductors for Critical Applications ST336RAF

- Lowest profile 0805 surface mount inductors – 0.035" high
- Our wire wound ceramic design provides exceptional Q and high SRF values.
- Tight tolerances – many at 2%, some at 1%

Part number <sup>1</sup>	Inductance <sup>2</sup> (nH)	Percent tolerance	Q min <sup>3</sup>	SRF min <sup>4</sup> (MHz)	DCR max <sup>5</sup> (Ohms)	I <sub>max</sub> (mA)	Color Code
ST336RAF1N8JRZ	1.8 @ 250 MHz	5	53 @ 1500 MHz	>5000	0.030	800	Black
ST336RAF2N0JRZ	2.0 @ 250 MHz	5	48 @ 1500 MHz	>5000	0.018	800	Violet
ST336RAF3N9JRZ	3.9 @ 250 MHz	5	54 @ 1000 MHz	>5000	0.055	800	Brown
ST336RAF4N3JRZ	4.3 @ 250 MHz	5	59 @ 1000 MHz	>5000	0.030	800	White
ST336RAF4N7JRZ	4.7 @ 250 MHz	5	63 @ 1000 MHz	4400	0.072	800	Red
ST336RAF5N1JRZ	5.1 @ 250 MHz	5	52 @ 1000 MHz	>5000	0.069	800	Blue
ST336RAF5N6JRZ	5.6 @ 250 MHz	5	49 @ 1000 MHz	4700	0.091	800	Gray
ST336RAF6N8JRZ	6.8 @ 250 MHz	5	64 @ 1000 MHz	3900	0.082	800	Orange
ST336RAF7N5JRZ	7.5 @ 250 MHz	5	47 @ 1000 MHz	3700	0.082	800	Black
ST336RAF8N2JRZ	8.2 @ 250 MHz	5	56 @ 1000 MHz	3900	0.082	800	Yellow
ST336RAF9N1JRZ	9.1 @ 250 MHz	5	58 @ 1000 MHz	3200	0.105	780	Red
ST336RAF10N_RZ	10 @ 250 MHz	5,2	68 @ 750 MHz	2700	0.082	800	Green
ST336RAF12N_RZ	12 @ 250 MHz	5,2	59 @ 750 MHz	3100	0.10	790	Blue
ST336RAF15N_RZ	15 @ 250 MHz	5,2	57 @ 500 MHz	2400	0.10	740	Violet
ST336RAF18N_RZ	18 @ 250 MHz	5,2	58 @ 500 MHz	2500	0.13	740	Gray
ST336RAF20N_RZ	20 @ 250 MHz	5,2	50 @ 500 MHz	2200	0.17	680	Yellow
ST336RAF22N_RZ	22 @ 250 MHz	5,2	52 @ 500 MHz	2400	0.15	720	White
ST336RAF27N_RZ	27 @ 250 MHz	5,2	56 @ 500 MHz	2000	0.19	600	Black
ST336RAF33N_RZ	33 @ 250 MHz	5,2	56 @ 500 MHz	1900	0.19	600	Brown
ST336RAF39N_RZ	39 @ 250 MHz	5,2,1	60 @ 500 MHz	1800	0.27	550	Red
ST336RAF47N_RZ	47 @ 200 MHz	5,2,1	56 @ 500 MHz	1600	0.30	550	Orange
ST336RAF56N_RZ	56 @ 200 MHz	5,2,1	58 @ 500 MHz	1500	0.40	470	Yellow
ST336RAF68N_RZ	68 @ 200 MHz	5,2,1	60 @ 500 MHz	1200	0.40	470	Green
ST336RAF82N_RZ	82 @ 150 MHz	5,2,1	60 @ 500 MHz	1200	0.48	430	Blue
ST336RAFR10_RZ	100 @ 150 MHz	5,2	52 @ 500 MHz	1000	0.64	400	Violet
ST336RAFR12_RZ	120 @ 150 MHz	5,2	46 @ 250 MHz	950	0.68	300	Gray
ST336RAFR15_RZ	150 @ 150 MHz	5,2	44 @ 250 MHz	850	0.80	300	White
ST336RAFR18_RZ	180 @ 150 MHz	5,2	40 @ 250 MHz	700	0.86	200	Black
ST336RAFR22_RZ	220 @ 150 MHz	5,2	34 @ 150 MHz	700	1.29	200	Orange
ST336RAFR27_RZ	270 @ 150 MHz	5,2	34 @ 150 MHz	650	1.40	200	Yellow
ST336RAFR33_RZ	330 @ 150 MHz	5,2	35 @ 150 MHz	600	1.93	200	Green
ST336RAFR39_RZ	390 @ 100 MHz	5,2	35 @ 150 MHz	550	2.80	170	Blue
ST336RAFR47_RZ	470 @ 100 MHz	5,2	32 @ 150 MHz	500	3.10	160	Violet
ST336RAFR50_RZ	500 @ 50 MHz	5,2	22 @ 50 MHz	470	3.20	150	Gray

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

**ST336RAFR50GLZ**

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

**Termination:** R = Matte tin over nickel over silver-platinum glass frit  
L = Silver-palladium-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.

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

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

**Screening:** Z = Unscreened

- H = Group A screening per Coilcraft CP-SA-10001
- Screening performed to the document's latest revision.
  - Lot qualification (Group B) available.
  - Custom testing also available.
  - Country of origin restrictions available; prefix options G or F.

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 CCF1297 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.



CRITICAL PRODUCTS & SERVICES

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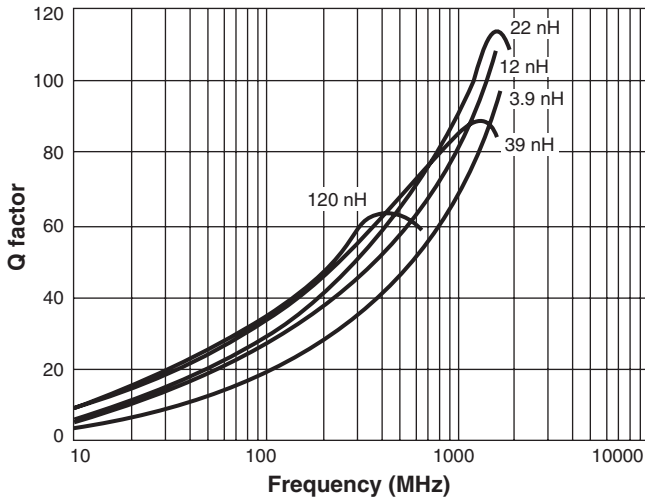
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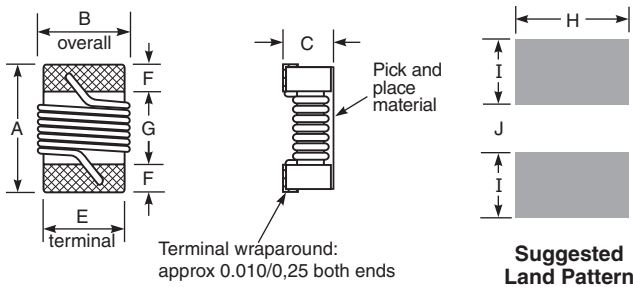
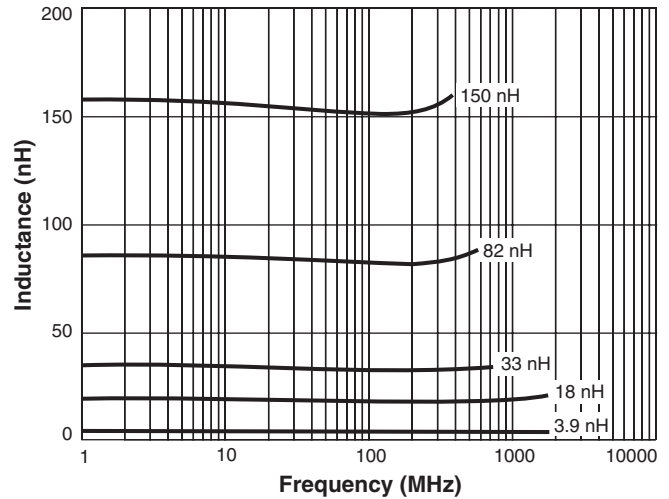
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# ST336RAF Series (0805)

## Typical Q vs Frequency



## Typical L vs Frequency



A	B	C	E	F	G	H	I	J	
max	max	max							inches
0,085	0,060	0,035	0,050	0,017	0,045	0,070	0,040	0,030	
2,16	1,52	0,89	1,27	0,43	1,14	1,78	1,02	0,76	mm

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.

**Core material** Ceramic

**Terminations** Matte tin over nickel over silver-platinum glass frit. Other terminations available at additional cost.

**Ambient temperature** -40°C to +125°C with I<sub>max</sub> current

**Maximum part temperature** +140°C (ambient + temp rise)

**Storage temperature** Component: -55°C to +140°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, 0.9 mm pocket depth

**COILCRAFT** ACCURATE  
**PRECISION** REPEATABLE  
MEASUREMENTS  
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