

# Chip Inductors for Critical Applications ST336RAA

The ST336RAA inductors provide exceptional Q values, even at high frequencies. They have a ceramic body and

wire wound construction to provide the highest SRFs available in 0805 size.

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)	Imax (mA)	Color code
ST336RAA020JLZ	2.8 @ 250 MHz	5	57 @ 1000 MHz	5000	0.06	800	Gray
ST336RAA3N0JLZ	3.0 @ 250 MHz	5	61 @ 1000 MHz	5000	0.06	800	White
ST336RAA030JLZ	3.3 @ 250 MHz	5	48 @ 1000 MHz	5000	0.08	600	Black
ST336RAA050JLZ	5.6 @ 250 MHz	5	75 @ 1000 MHz	4760	0.08	600	Orange
ST336RAA060JLZ	6.8 @ 250 MHz	5	54 @ 1000 MHz	4440	0.11	600	Brown
ST336RAA070JLZ	7.5 @ 250 MHz	5	56 @ 1000 MHz	3840	0.14	600	Green
ST336RAA080_LZ	8.2 @ 250 MHz	5,2	63 @ 1000 MHz	3560	0.12	600	Red
ST336RAA100_LZ	10 @ 250 MHz	5,2	57 @ 500 MHz	3460	0.10	600	Blue
ST336RAA120_LZ	12 @ 250 MHz	5,2	46 @ 500 MHz	3180	0.15	600	Orange
ST336RAA150_LZ	15 @ 250 MHz	5,2	41 @ 500 MHz	2560	0.17	600	Yellow
ST336RAA180_LZ	18 @ 250 MHz	5,2	48 @ 500 MHz	2480	0.20	600	Green
ST336RAA220_LZ	22 @ 250 MHz	5,2	59 @ 500 MHz	2080	0.22	500	Blue
ST336RAA240_LZ	24 @ 250 MHz	5,2	59 @ 500 MHz	1920	0.22	500	Gray
ST336RAA270_LZ	27 @ 250 MHz	5,2	56 @ 500 MHz	2060	0.25	500	Violet
ST336RAA330_LZ	33 @ 250 MHz	5,2,1	64 @ 500 MHz	1720	0.27	500	Gray
ST336RAA360_LZ	36 @ 250 MHz	5,2,1	57 @ 500 MHz	1520	0.27	500	Orange
ST336RAA390_LZ	39 @ 250 MHz	5,2,1	44 @ 250 MHz	1600	0.29	500	White
ST336RAA430_LZ	43 @ 200 MHz	5,2,1	45 @ 250 MHz	1440	0.34	500	Yellow
ST336RAA470_LZ	47 @ 200 MHz	5,2,1	44 @ 250 MHz	1360	0.31	470	Black
ST336RAA560_LZ	56 @ 200 MHz	5,2,1	49 @ 250 MHz	1280	0.34	460	Brown
ST336RAA680_LZ	68 @ 200 MHz	5,2,1	52 @ 250 MHz	1200	0.38	440	Red
ST336RAA820_LZ	82 @ 150 MHz	5,2,1	51 @ 250 MHz	1060	0.42	400	Orange
ST336RAA910_LZ	91 @ 150 MHz	5,2,1	49 @ 250 MHz	1060	0.48	390	Black
ST336RAA101_LZ	100 @ 150 MHz	5,2,1	54 @ 250 MHz	1000	0.46	390	Yellow
ST336RAA111_LZ	110 @ 150 MHz	5,2	38 @ 250 MHz	880	0.48	390	Brown
ST336RAA121_LZ	120 @ 150 MHz	5,2,1	52 @ 250 MHz	880	0.51	380	Green
ST336RAA151_LZ	150 @ 100 MHz	5,2,1	33 @ 100 MHz	730	0.56	340	Blue
ST336RAA181_LZ	180 @ 100 MHz	5,2,1	37 @ 100 MHz	730	0.64	340	Violet
ST336RAA221_LZ	220 @ 100 MHz	5,2	36 @ 100 MHz	650	0.70	330	Gray
ST336RAA241_LZ	240 @ 100 MHz	5,2	36 @ 100 MHz	610	1.00	270	Red
ST336RAA271_LZ	270 @ 100 MHz	5,2	36 @ 100 MHz	580	1.00	260	White
ST336RAA331_LZ	330 @ 100 MHz	5,2	36 @ 100 MHz	520	1.40	230	Black
ST336RAA391_LZ	390 @ 100 MHz	5,2	34 @ 100 MHz	480	1.50	210	Brown

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

ST336RAA821GLZ

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

**Termination:** L = RoHS compliant silver-palladium-platinum glass frit.

**Special order:**

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

**T** = Tin-silver-copper (95.5/4/0.5) 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 = COTS

H = Screening per Coilcraft CP-SA-10001

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 on an Agilent 8753ES or equivalent with a Coilcraft CCF1297 test fixture.

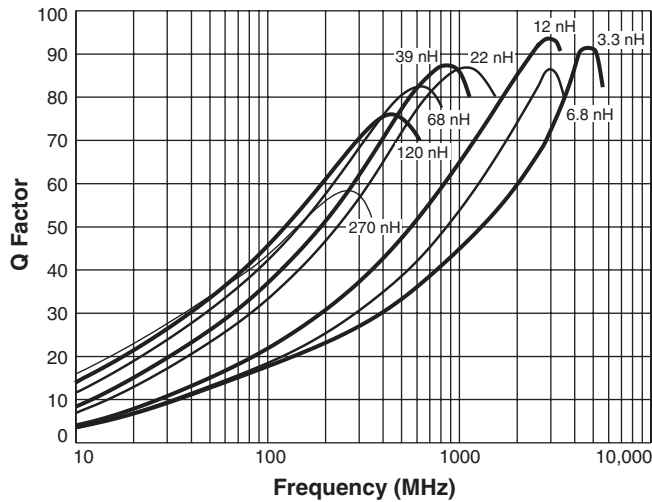
5. DCR measured on a Keithley micro-ohmmeter or equivalent and a Coilcraft CCF858 test fixture.

6. Electrical specifications at 25°C.

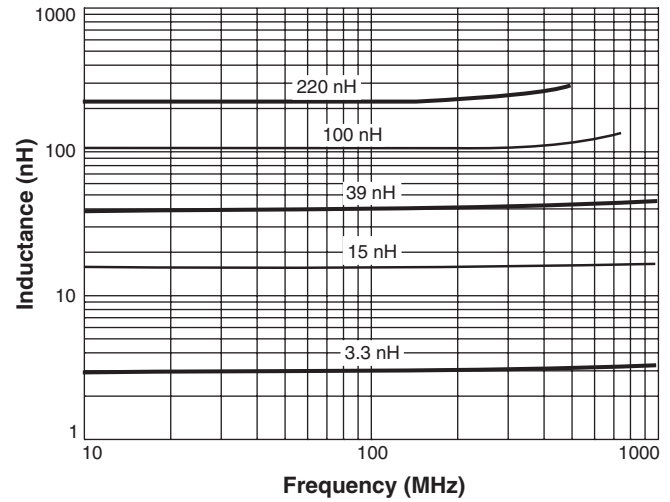
Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

# ST336RAA Series (0805)

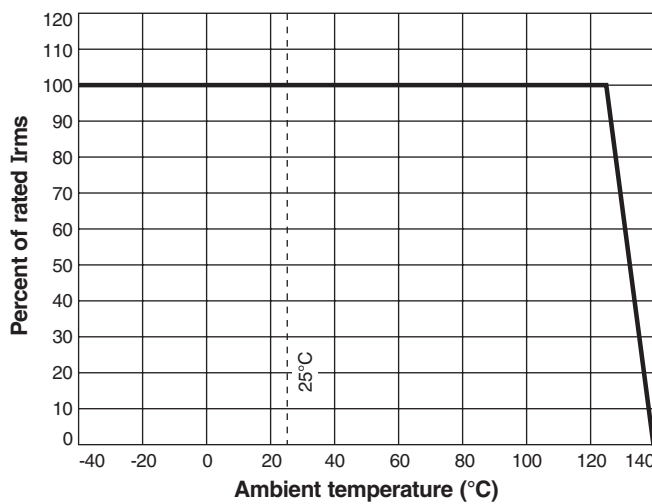
## Typical Q vs Frequency



## Typical L vs Frequency



## Current Derating



**Core material** Ceramic

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

**Ambient temperature** -40°C to +125°C with I<sub>max</sub> current, +125°C to +140°C with derated current

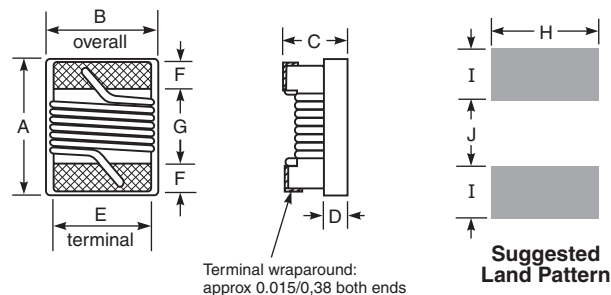
**Storage temperature** Component: -55°C to +140°C. Packaging: -55°C to +80°C

**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, 1.65 mm pocket depth



A max	B max	C max	D ref	E	F	G	H	I	J
0.090	0.068	0.060	0.020	0.050	0.020	0.040	0.070	0.040	0.030
2,29	1,73	1,52	0,51	1,27	0,51	1,02	1,78	1,02	0,76

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.

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