

# Chip Inductors for Critical Applications ST235RAP

- Higher inductance values than other 0402 ceramic chip inductors
- 28 inductance values from 43 nH to 820 nH

Part number <sup>1</sup>	Inductance <sup>2</sup> ±5% (nH)	Q min <sup>3</sup>	SRF min <sup>4</sup> (MHz)	DCR max <sup>5</sup> (Ohms)	I <sub>max</sub> (mA)
ST235RAP430JRZ	43	21 @ 250 MHz	2900	0.75	250
ST235RAP510JRZ	51	21 @ 250 MHz	2700	0.85	240
ST235RAP560JRZ	56	21 @ 250 MHz	2600	0.90	240
ST235RAP680JRZ	68	11 @ 100 MHz	760	0.85	230
ST235RAP720JRZ	72	12 @ 100 MHz	720	0.90	210
ST235RAP750JRZ	75	11 @ 100 MHz	700	0.90	210
ST235RAP820JRZ	82	11 @ 100 MHz	680	0.95	210
ST235RAP900JRZ	90	11 @ 100 MHz	560	1.00	210
ST235RAP910JRZ	91	10 @ 100 MHz	560	1.00	200
ST235RAP101JRZ	100	10 @ 100 MHz	680	1.05	200
ST235RAP111JRZ	110	10 @ 100 MHz	670	1.10	190
ST235RAP121JRZ	120	11 @ 100 MHz	530	1.15	190
ST235RAP151JRZ	150	10 @ 100 MHz	640	1.35	180
ST235RAP181JRZ	180	9 @ 100 MHz	510	1.45	170
ST235RAP201JRZ	200	9 @ 100 MHz	510	1.55	170
ST235RAP221JRZ	220	9 @ 100 MHz	540	1.70	170
ST235RAP271JRZ	270	8 @ 25 MHz	470	1.95	160
ST235RAP301JRZ	300	8 @ 25 MHz	480	2.15	160
ST235RAP331JRZ	330	8 @ 25 MHz	410	2.23	150
ST235RAP361JRZ	360	8 @ 25 MHz	388	2.36	140
ST235RAP391JRZ	390	8 @ 25 MHz	208	2.35	140
ST235RAP471JRZ	470	8 @ 25 MHz	176	2.67	130
ST235RAP511JRZ	510	9 @ 25 MHz	360	3.50	110
ST235RAP561JRZ	560	9 @ 25 MHz	336	3.70	110
ST235RAP601JRZ	600	9 @ 25 MHz	352	3.78	100
ST235RAP681JRZ	680	10 @ 25 MHz	304	5.15	90
ST235RAP741JRZ	740	9 @ 25 MHz	132	5.45	80
ST235RAP821JRZ	820	10 @ 25 MHz	308	5.85	70

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

ST235RAP821JRZ

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

Special order:

Q= Tin-silver-copper (95.5/4/0.5) or

P= Tin-lead (63/37)

**Screening:** Z=Unscreened

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

2. Inductance measured using a Coilcraft SMD-F test fixture and Coilcraft-provided correlation pieces with an Agilent/HP 4286A impedance analyzer or equivalent.
  3. Q measured using an Agilent/HP 4291A with an Agilent/HP 16197A test fixture or equivalents.
  4. SRF measured using an Agilent/HP 8753ES network analyzer and a Coilcraft CCF1232 test fixture.
  5. DCR measured on Keithley 580 micro-ohmmeter and 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** Matte tin over nickel over silver-platinum-glass frit. Other terminations available at additional cost.

**Weight** 0.7 – 1.3 mg

**Ambient temperature** -40°C to +125°C with Irms current,

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

Tape and reel packaging: -55°C to +80°C

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

**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 +150 ppm/°C

**Moisture Sensitivity Level (MSL)** 1 (unlimited floor life at <30°C / 85% relative humidity)

**Packaging** 2000 per 7" reel. Paper tape: 8 mm wide, 0.66 mm thick, 2 mm pocket spacing

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PRECISION REPEATABLE  
MEASUREMENTS  
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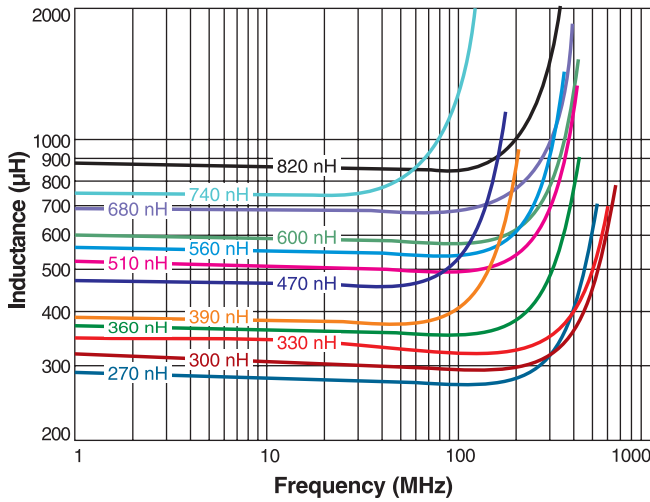
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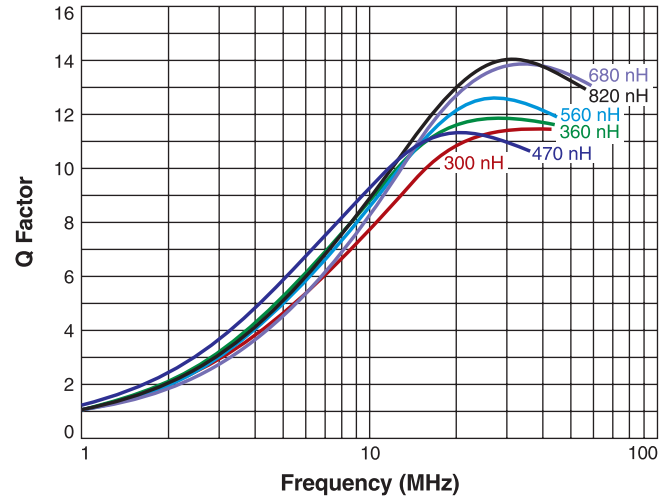
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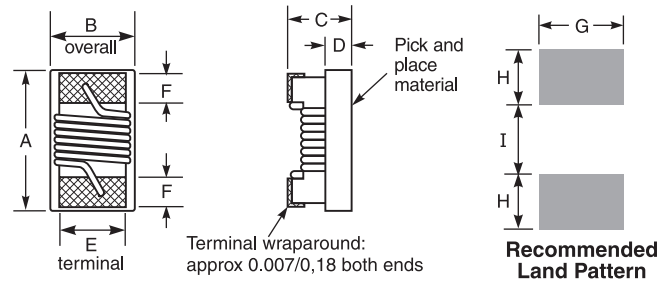
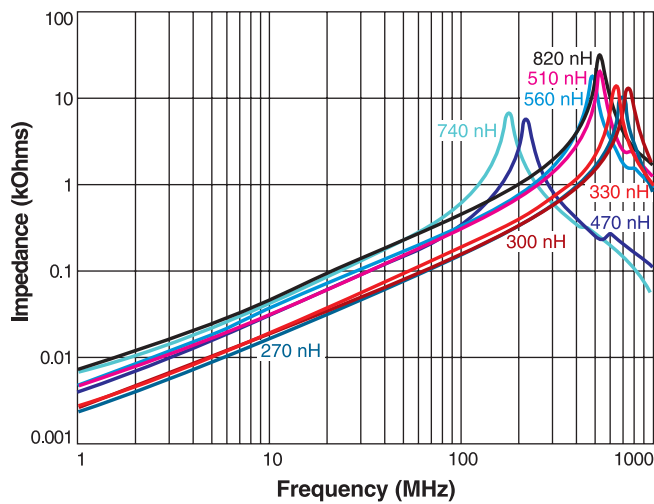
## L vs Frequency



## Typical Q vs Frequency



## Typical Impedance vs Frequency



Amax	Bmax	Cmax	D	E	F	G	H	I
0.048	0.031	0.022	0.010	0.018	0.008	0.026	0.014	0.025
1,22	0,79	0,56	0,25	0,46	0,20	0,66	0,36	0,64

**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.



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