

# High-Reliability Chip Inductors ST235RAR

- Higher inductance values than other 0402 inductors
- Ferrite construction for high current handling
- 25 inductance values from 20 nH to 3.3  $\mu$ H
- Equally effective on-board or modular
- Can also be used for ground-to-ground isolation

Part number <sup>1</sup>	Inductance <sup>2</sup> $\pm 5\%$ (nH)	Impedance typ (Ohms)		SRF min <sup>3</sup> (MHz)	DCR max <sup>4</sup> (Ohms)	Imax <sup>5</sup> (mA)
		900 MHz	1.7 GHz			
ST235RAR200JRZ	20	90	150	2500	0.049	700
ST235RAR360JRZ	36	150	250	2040	0.055	700
ST235RAR560JRZ	56	250	480	1870	0.061	650
ST235RAR770JRZ	77	350	580	1740	0.072	590
ST235RAR900JRZ	90	400	600	1950	0.079	490
ST235RAR101JRZ	105	530	1000	1410	0.104	490
ST235RAR121JRZ	120	515	900	1700	0.090	520
ST235RAR141JRZ	140	650	1075	1230	0.141	420
ST235RAR151JRZ	150	700	1170	1530	0.130	440
ST235RAR181JRZ	180	850	1460	1430	0.172	380
ST235RAR221JRZ	220	1100	2050	1320	0.240	320
ST235RAR271JRZ	270	1300	2150	1260	0.265	310
ST235RAR301JRZ	300	1725	2630	1190	0.340	270
ST235RAR331JRZ	330	2100	2750	1140	0.435	240
ST235RAR361JRZ	360	2150	3100	1020	0.475	230
ST235RAR421JRZ	420	2175	3350	935	0.510	220
ST235RAR471JRZ	470	2550	3670	910	0.670	190
ST235RAR531JRZ	530	3950	3050	850	0.715	190
ST235RAR591JRZ	590	4770	3090	810	0.780	180
ST235RAR701JRZ	700	5750	1830	510	1.30	150
ST235RAR771JRZ	770	4900	1800	500	1.35	140
ST235RAR901JRZ	900	7130	4470	645	1.50	130
ST235RAR102JRZ	1000	280	180	200	1.05	150
ST235RAR222JRZ	2200	200	120	105	1.80	120
ST235RAR332JRZ	3300	160	80	68	2.20	110

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

**ST235RAR332JRZ**

**Termination:** R = Matte 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.

**Screening:** Z = Unscreened

H = Coilcraft CP-SA-10001 Group A

- 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 at 7.9 MHz using a Coilcraft SMD-F test fixture and Coilcraft-provided correlation pieces with an Agilent/HP 4286 impedance analyzer.

3. SRF measured using Agilent/HP 8753D network analyzer and Coilcraft SMD-D test fixture.

4. DCR measured on Cambridge Technology micro-ohmmeter and a Coilcraft CCF858 test fixture.

5. Current that causes a 15°C temperature rise from 125°C ambient. Because of their open construction, these parts will not saturate.

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

**Core material** Ferrite

**Terminations** Matte tin over nickel over silver-platinum-glass frit.

**Weight** 0.7 – 1.3 mg

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

**Maximum part temperature** +140°C (Ambient + temperature rise)

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

Tape and reel packaging: -40°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 +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, 0.68 mm thick, 2 mm pocket spacing

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787\\_PCB\\_Washing.pdf](#).

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

Document ST1069-1 12/21/22



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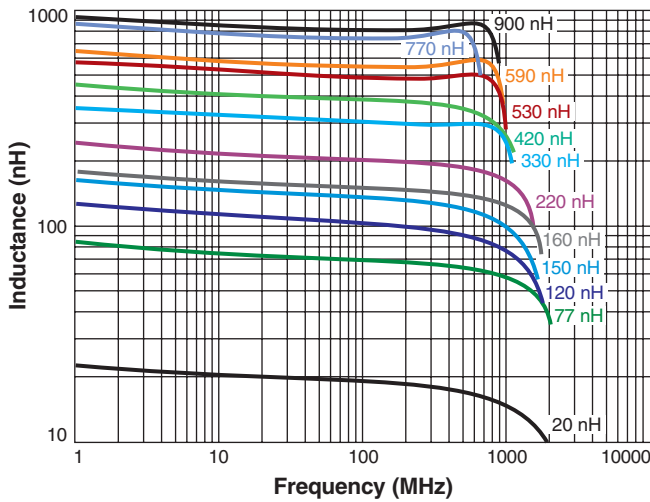
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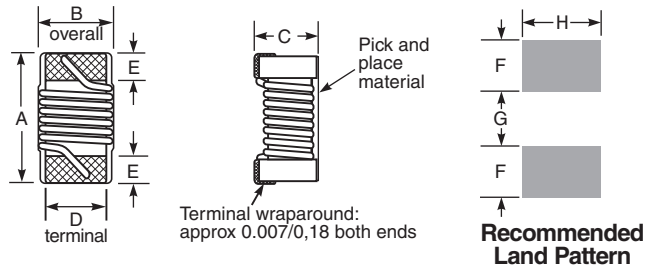
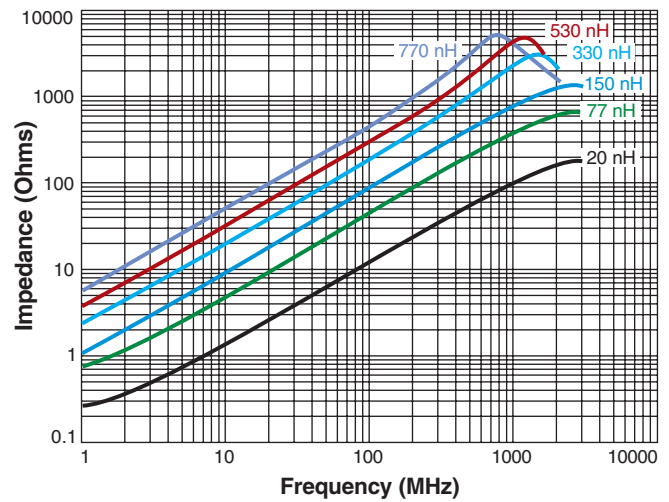
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# High-Reliability Chip Inductors – ST235RAR Series

## Typical L vs Frequency



## Typical Z vs Frequency



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.

Amax	Bmax	Cmax	D	E	F	G	H
0,044	0,026	0,026	0,018	0,008	0,014	0,025	0,026
1,11	0,66	0,66	0,46	0,20	0,36	0,635	0,66

**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.

