

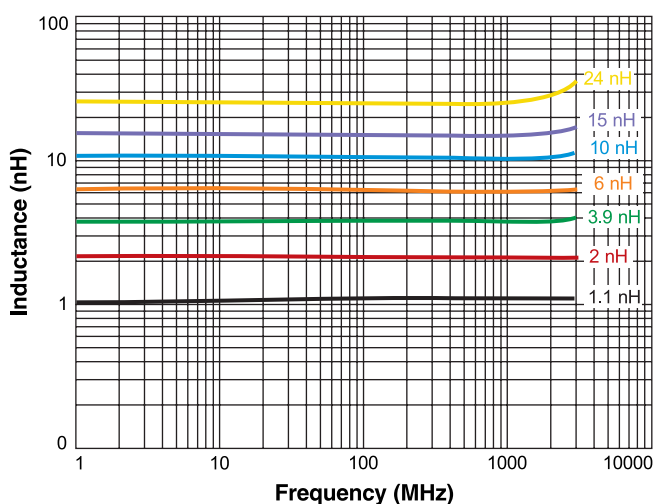
NEW!

Chip Inductors for Critical Applications ST124RAA

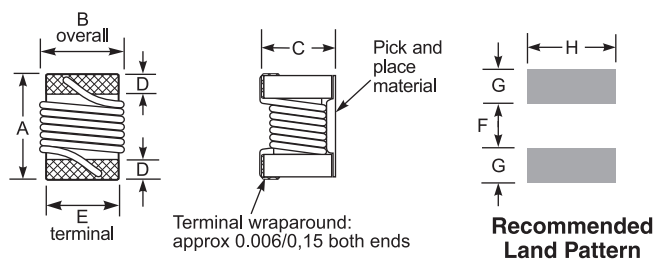
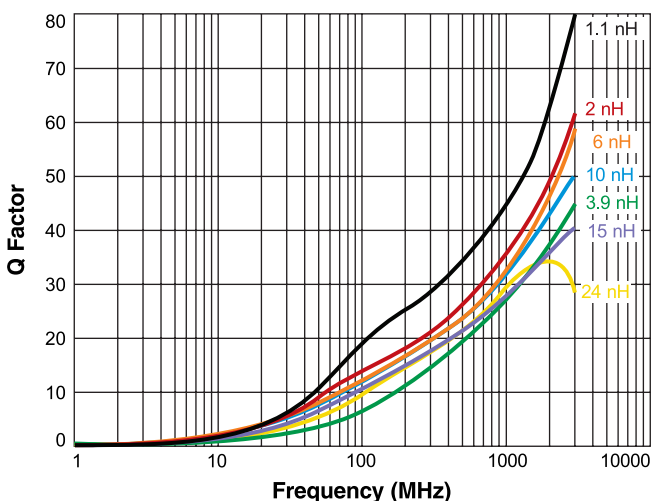
- World's smallest high-frequency-wirewound chip inductor
- First performance-optimized 01005 size (metric 0402, 0.4 x 0.2 mm)
- Extremely high Q, the highest in the market – higher than all thin film type

- Exceptionally low DCR – lower than all thin film type
- 36 inductance values from 0.45 nH to 24 nH

Typical L vs Frequency



Typical Q vs Frequency



Amax	Bmax	Cmax	Dref	Eref	Fref	Gref	Href	
0.019	0.011	0.0138	0.0035	0.008	0.006	0.009	0.012	inches
0.47	0.28	0.35	0.09	0.20	0.15	0.23	0.30	mm

Note: Dimensions are before solder application. For maximum overall dimensions including solder, add 0.0025 in / 0.064 mm to E and 0.006 in / 0.15 mm to A and C.

Core material Ceramic

Terminations Matte tin over copper over nickel over molybdenum-manganese

Weight 0.10 – 0.16 mg

Ambient temperature –40°C to +125°C with Irms 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 +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, 0.42 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 CPS
CRITICAL PRODUCTS & SERVICES

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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.

Chip Inductors – ST124RAA Series

Part number ¹	L ² (nH)	Percent tolerance	250 MHz Q min	Q typ ³			SRF min ⁴ (GHz)	DCR max ⁵ (mOhms)	I _{max} (mA) 125°C ⁶
				900 MHz	1.7 GHz	2.4 GHz			
ST124RAAN45KRZ	0.45	10	18	38	48	59	>5	60	140
ST124RAAN50KRZ	0.50	10	15	31	40	48	>5	75	90
ST124RAA1N1KRZ	1.1	10	14	32	50	62	>5	95	140
ST124RAA1N2KRZ	1.2	10	16	36	45	56	>5	130	90
ST124RAA1N3KRZ	1.3	10	12	27	37	46	>5	200	50
ST124RAA2N0JRZ	2.0	5	16	34	45	55	>5	125	140
ST124RAA2N2JRZ	2.2	5	15	33	45	54	>5	180	90
ST124RAA2N3JRZ	2.3	5	11	25	36	46	>5	160	100
ST124RAA2N4JRZ	2.4	5	11	27	36	43	>5	260	50
ST124RAA2N5JRZ	2.5	5	10	25	35	44	>5	205	90
ST124RAA3N3JRZ	3.3	5	15	34	45	52	>5	150	140
ST124RAA3N6JRZ	3.6	5	13	31	42	48	>5	230	90
ST124RAA3N8JRZ	3.8	5	12	27	36	42	>5	345	50
ST124RAA3N9JRZ	3.9	5	10	27	37	42	>5	230	100
ST124RAA4N3JRZ	4.3	5	14	32	42	48	>5	190	140
ST124RAA4N7JRZ	4.7	5	16	34	47	57	>5	275	90
ST124RAA5N1JRZ	5.1	5	14	31	42	50	>5	325	70
ST124RAA5N3JRZ	5.3	5	12	29	40	47	>5	430	50
ST124RAA5N6JRZ	5.6	5	12	28	39	47	>5	275	100
ST124RAA5N8JRZ	5.8	5	16	35	48	58	>5	315	100
ST124RAA6N0JRZ	6.0	5	14	31	42	51	>5	340	90
ST124RAA6N2JRZ	6.2	5	14	33	44	53	>5	385	70
ST124RAA6N8JRZ	6.8	5	13	31	42	48	>5	310	100
ST124RAA6N9JRZ	6.9	5	12	30	40	46	>5	510	50
ST124RAA7N5JRZ	7.5	5	12	28	37	43	>5	320	100
ST124RAA7N8JRZ	7.8	5	14	31	42	49	>5	380	90
ST124RAA8N2JRZ	8.2	5	14	30	40	46	>5	445	70
ST124RAA8N8JRZ	8.8	5	13	30	39	44	>5	600	50
ST124RAA9N5JRZ	9.5	5	12	28	37	44	>5	575	70
ST124RAA10NJRZ	10	5	14	31	40	46	>5	520	70
ST124RAA12NJRZ	12	5	12	27	37	42	>5	640	70
ST124RAA13NJRZ	13	5	13	30	38	43	>5	730	50
ST124RAA15NJRZ	15	5	12	27	35	38	>5	820	50
ST124RAA18NJRZ	18	5	12	27	37	42	4.5	1020	40
ST124RAA20NJRZ	20	5	12	28	35	37	4.3	1300	40
ST124RAA24NJRZ	24	5	12	28	33	33	4.0	1550	40

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

ST124RAA24NJRZ

Tolerance: J = 5% K = 10%

(Table shows stock values and tolerances in bold.)

Termination: R = Matte tin over copper over nickel over molybdenum-manganese

P = Tin-lead (63/37) over tin over copper over nickel over molybdenum-manganese

Q = Tin-silver-copper (95.5/4/0.5) over tin over copper over nickel over molybdenum-manganese

Screening: Z = Unscreened

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

- Screening performed to the document's latest revision.
- Custom testing also available.
- Country of origin restrictions available; prefix option G.

2. Inductance measured at 250 MHz using an Agilent 4286A (or equivalent) with a Coilcraft CCF1426 test fixture using the listed correlation.

3. Q is measured at 250 MHz on an Agilent 4991 (or equivalent) with a Coilcraft CCF1481 test fixture.

4. SRF is measured on an Agilent 8753ES (or equivalent) with a Coilcraft CCF1406 test fixture.

5. DCR is measured on a Keithley 580 Micro-ohmmeter (or equivalent) with a Coilcraft CCF1099 test fixture.

6. Maximum current that can be applied at 125°C.

7. Electrical specifications at 25°C.

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



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