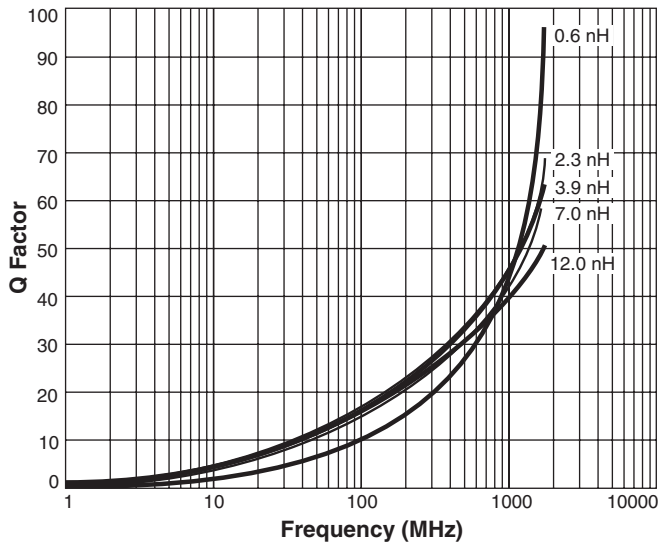


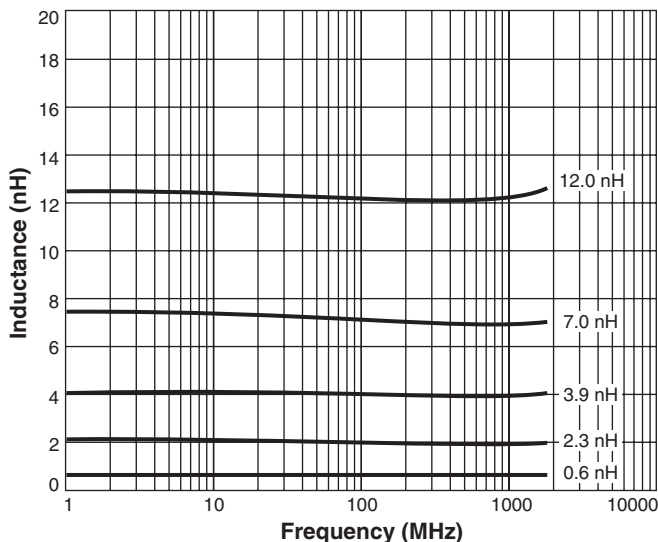
Chip Inductors for Critical Applications ST145RAN

- 0201 size; world's smallest wirewound inductor
- 52 inductance values from 0.5 to 14 nH

Typical Q vs Frequency



Typical L vs Frequency



Core material Ceramic

Terminations Matte tin over nickel over silver.

Weight 0.14 – 0.23 mg

Ambient temperature -40°C to $+125^{\circ}\text{C}$ with I_{max} current

Maximum part temperature $+140^{\circ}\text{C}$ (ambient + temp rise)

Storage temperature Component: -55°C to $+140^{\circ}\text{C}$.

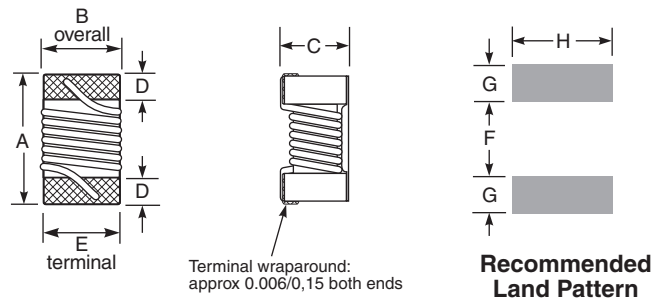
Packaging: -40°C to $+80^{\circ}\text{C}$

Resistance to soldering heat Max three 40 second reflows at $+260^{\circ}\text{C}$, parts cooled to room temperature between cycles

Temperature Coefficient of Inductance (TCL) $+25$ to $+125$ ppm/ $^{\circ}\text{C}$

Moisture Sensitivity Level (MSL) 1 (unlimited floor life at $<30^{\circ}\text{C}$ / 85% relative humidity)

Packaging 2000 per 7" reel. Paper tape: 8 mm wide, 0.6 mm thick, 2 mm pocket spacing



Amax	Bmax	Cmax	D	E	F	G	H	
0.023	0.018	0.0177	0.004	0.015	0.009	0.007	0.018	inches
0,58	0,46	0,45	0,10	0,38	0,23	0,18	0,46	mm

ST145RAN Series (0201)

Part number ¹	Inductance ² (nH)	Percent tolerance	Q min ³	900 MHz		1.7 GHz		SRF min ⁴ (MHz)	DCR max ⁵ (Ohms)	Imax (mA)
				L typ	Q typ ³	L typ	Q typ ³			
ST145RAN0N5KRZ	0.5	10	14	0.5	29	0.49	43	>5000	0.025	500
ST145RAN0N6KRZ	0.6	10	10	0.58	31	0.58	51	>5000	0.03	500
ST145RAN1N2JRZ	1.2	5	12	1.16	42	1.16	60	>5000	0.042	500
ST145RAN1N3JRZ	1.3	5	12	1.24	38	1.24	57	>5000	0.055	500
ST145RAN1N4JRZ	1.4	5	9	1.35	27	1.34	37	>5000	0.095	375
ST145RAN1N5JRZ	1.5	5	9	1.47	28	1.47	40	>5000	0.12	300
ST145RAN2N2JRZ	2.2	5	15	2.23	32	2.23	32	>5000	0.07	500
ST145RAN2N3JRZ	2.3	5	14	2.28	45	2.28	64	>5000	0.07	500
ST145RAN2N4JRZ	2.4	5	13	2.36	35	2.36	53	>5000	0.09	490
ST145RAN2N5JRZ	2.5	5	11	2.5	31	2.49	44	>5000	0.165	220
ST145RAN3N3JRZ	3.3	5	15	3.31	42	3.32	62	>5000	0.08	500
ST145RAN3N4JRZ	3.4	5	15	3.38	42	3.42	62	>5000	0.08	500
ST145RAN3N5JRZ	3.5	5	14	3.41	44	3.45	64	>5000	0.08	500
ST145RAN3N6JRZ	3.6	5	14	3.53	40	3.57	61	>5000	0.105	495
ST145RAN3N7JRZ	3.7	5	15	3.65	39	3.66	58	>5000	0.105	495
ST145RAN3N8JRZ	3.8	5	13	3.81	38	3.81	60	>5000	0.18	290
ST145RAN3N9JRZ	3.9	5	11	3.89	35	3.89	50	>5000	0.24	180
ST145RAN4N8JRZ	4.8	5	15	4.83	34	4.83	50	>5000	0.096	500
ST145RAN4N9JRZ	4.9	5	12	4.72	33	4.71	52	>5000	0.13	450
ST145RAN5N0JRZ	5	5	13	4.9	34	4.9	54	>5000	0.13	450
ST145RAN5N1JRZ	5.1	5	15	4.96	35	4.96	54	>5000	0.13	450
ST145RAN5N2JRZ	5.2	5	15	5.21	36	5.21	55	>5000	0.17	300
ST145RAN5N3JRZ	5.3	5	15	5.15	36	5.15	57	>5000	0.13	450
ST145RAN5N4JRZ	5.4	5	15	5.3	36	5.31	56	>5000	0.13	450
ST145RAN5N5JRZ	5.5	5	13	5.49	35	5.49	50	>5000	0.285	165
ST145RAN6N7JRZ	6.7	5	15	6.71	40	6.72	59	>5000	0.15	410
ST145RAN6N8JRZ	6.8	5	15	6.52	35	6.52	52	>5000	0.15	410
ST145RAN6N9JRZ	6.9	5	15	6.7	36	6.73	54	>5000	0.15	410
ST145RAN7N0JRZ	7	5	15	6.97	39	6.97	60	>5000	0.21	270
ST145RAN7N1JRZ	7.1	5	15	6.91	36	6.9	54	>5000	0.25	270

Continued on next page

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

ST145RAN7N1JRZ

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 option G.

2. Inductance measured at 25 MHz using a Coilcraft SMD-F fixture in an Agilent/HP 4286 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 is measured on an Agilent 8753ES (or equivalent) with a Coilcraft CCF1235 test fixture.

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

ST145RAN Series (0201)

Part number ¹	Inductance ² (nH)	Percent tolerance	Q min ³	900 MHz		1.7 GHz		SRF min ⁴ (MHz)	DCR max ⁵ (Ohms)	I _{max} (mA)
				L typ	Q typ ³	L typ	Q typ ³			
ST145RAN7N2JRZ	7.2	5	15	6.97	36	6.97	55	>5000	0.25	270
ST145RAN7N3JRZ	7.3	5	15	7.05	37	7.04	56	>5000	0.25	270
ST145RAN7N4JRZ	7.4	5	18	7.29	40	7.3	61	>5000	0.25	270
ST145RAN7N5JRZ	7.5	5	15	7.44	36	7.46	50	>5000	0.34	150
ST145RAN7N6JRZ	7.6	5	16	7.32	39	7.31	59	>5000	0.3	200
ST145RAN7N7JRZ	7.7	5	17	7.38	39	7.37	60	>5000	0.3	200
ST145RAN7N8JRZ	7.8	5	16	7.49	38	7.49	58	>5000	0.3	200
ST145RAN7N9JRZ	7.9	5	16	7.56	38	7.56	58	>5000	0.3	200
ST145RAN8N0JRZ	8	5	15	7.65	35	7.68	53	>5000	0.3	200
ST145RAN8N1JRZ	8.1	5	15	7.74	37	7.75	59	>5000	0.3	200
ST145RAN8N2JRZ	8.2	5	17	8.14	37	8.22	53	>5000	0.27	200
ST145RAN8N3JRZ	8.3	5	15	7.93	36	7.95	57	>5000	0.3	200
ST145RAN8N4JRZ	8.4	5	15	8.03	35	8.04	55	>5000	0.35	150
ST145RAN8N5JRZ	8.5	5	15	8.11	35	8.13	55	>5000	0.35	150
ST145RAN8N7JRZ	8.7	5	15	8.68	38	8.74	59	>5000	0.35	150
ST145RAN9N0JRZ	9	5	14	9.02	42	9.04	63	>5000	0.35	150
ST145RAN9N4JRZ	9.4	5	14	9.38	36	9.39	51	>5000	0.4	140
ST145RAN9N6JRZ	9.6	5	14	9.62	38	9.64	53	>5000	0.4	140
ST145RAN11NJRZ	11	5	14	11.11	40	11.15	62	>5000	0.4	140
ST145RAN12NJRZ	12	5	15	12.15	39	12.2	56	>5000	0.36	165
ST145RAN13NJRZ	13	5	15	13.12	38	13.22	52	>5000	0.44	135
ST145RAN14NJRZ	14	5	15	14.13	37	14.37	51	4500	0.44	135

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

ST145RAN14NJRZ

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

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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.
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2. Inductance measured at 25 MHz using a Coilcraft SMD-F fixture in an Agilent/HP 4286 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 is measured on an Agilent 8753ES (or equivalent) with a Coilcraft CCF1235 test fixture.

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

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



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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.