

# Chip Inductors - 0603CS Series (1608)

Ultra-small size, exceptional Q and high SRFs make these inductors ideal for high frequency applications where size is at a premium. They also have excellent DCR and current carrying characteristics.

Coilcraft Designer's Kit C124 contains samples of all 5% tolerance parts. A kit with 2% tolerance is also available. To order, contact Coilcraft or visit <http://order.coilcraft.com> to order on-line.

Part Number <sup>1</sup>	Inductance <sup>2</sup> (nH)	Percent Tolerance <sup>3</sup>	Q Min <sup>4</sup>	SRF Min <sup>5</sup> (MHz)	DCR Max <sup>6</sup> (Ohms)	I <sub>DC</sub> Max <sup>7</sup> (mA)	900 MHz		1.7 GHz		Color Code
							L Typ	Q Typ	L Typ	Q Typ	
0603CS-1N6X_B	1.6 @ 250 MHz	10, <b>5</b>	24	12500	.030	700	1.67	49	1.65	63	Red
0603CS-1N8X_B	1.8 @ 250 MHz	10, <b>5</b>	16	12500	.045	700	1.63	35	1.66	50	Black
0603CS-3N6X_B	3.6 @ 250 MHz	10, <b>5,2</b>	22	5900	.063	700	3.72	53	3.71	65	Red
0603CS-3N9X_B	3.9 @ 250 MHz	10, <b>5,2</b>	22	6900	.080	700	3.95	49	3.96	67	Brown
0603CS-4N3X_B	4.3 @ 250 MHz	10, <b>5,2</b>	22	5900	.063	700	4.32	50	4.33	70	Orange
0603CS-4N7X_B	4.7 @ 250 MHz	10, <b>5,2</b>	20	5800	.116	700	4.72	47	4.75	57	Violet
0603CS-5N1X_B	5.1 @ 250 MHz	10, <b>5,2</b>	20	5700	.140	700	4.93	47	4.95	56	Green
0603CS-6N8X_B	6.8 @ 250 MHz	10, <b>5,2</b>	27	5800	.110	700	6.75	60	7.10	81	Red
0603CS-7N5X_B	7.5 @ 250 MHz	10, <b>5,2</b>	28	4800	.106	700	7.70	60	7.82	65	Brown
0603CS-8N7X_B	8.7 @ 250 MHz	<b>5,2</b>	28	4600	.109	700	8.86	62	9.32	58	Yellow
0603CS-9N5X_B	9.5 @ 250 MHz	<b>5,2</b>	28	5400	.135	700	9.7	59	9.92	61	Blue
0603CS-10NX_B	10 @ 250 MHz	<b>5,2</b>	31	4800	.130	700	10.0	66	10.6	83	Orange
0603CS-11NX_B	11 @ 250 MHz	<b>5,2</b>	33	4000	.086	700	11.0	53	11.5	56	Gray
0603CS-12NX_B	12 @ 250 MHz	<b>5,2</b>	35	4000	.130	700	12.3	72	13.5	83	Yellow
0603CS-15NX_B	15 @ 250 MHz	<b>5,2</b>	35	4000	.170	700	15.4	64	16.8	89	Green
0603CS-16NX_B	16 @ 250 MHz	<b>5,2</b>	34	3300	.104	700	16.2	55	17.3	52	White
0603CS-18NX_B	18 @ 250 MHz	<b>5,2</b>	35	3100	.170	700	18.7	70	21.4	69	Blue
0603CS-22NX_B	22 @ 250 MHz	<b>5,2</b>	38	3000	.190	700	22.8	73	26.1	71	Violet
0603CS-24NX_B	24 @ 250 MHz	<b>5,2</b>	37	2650	.135	700	24.5	45	28.7	39	Black
0603CS-27NX_B	27 @ 250 MHz	<b>5,2</b>	40	2800	.220	600	29.2	74	34.6	65	Gray
0603CS-30NX_B	30 @ 250 MHz	<b>5,2</b>	37	2250	.144	600	31.4	47	39.9	28	Brown
0603CS-33NX_B	33 @ 250 MHz	<b>5,2</b>	40	2300	.220	600	36.0	67	49.5	42	White
0603CS-36NX_B	36 @ 250 MHz	<b>5,2</b>	38	2080	.250	600	39.4	47	52.7	24	Red
0603CS-39NX_B	39 @ 250 MHz	<b>5,2</b>	40	2200	.250	600	42.7	60	60.2	40	Black
0603CS-43NX_B	43 @ 250 MHz	<b>5,2</b>	39	2000	.280	600	47.0	44	64.9	21	Orange
0603CS-47NX_B	47 @ 200 MHz	<b>5,2</b>	38	2000	.280	600	52.2	62	77.2	35	Brown
0603CS-56NX_B	56 @ 200 MHz	<b>5,2</b>	38	1900	.310	600	62.5	56	97.0	26	Red
0603CS-68NX_B	68 @ 200 MHz	<b>5,2</b>	37	1700	.340	600	80.5	54	168	21	Orange
0603CS-72NX_B	72 @ 150 MHz	<b>5,2</b>	34	1700	.490	400	82.0	53	135	20	Yellow
0603CS-82NX_B	82 @ 150 MHz	<b>5,2</b>	34	1700	.540	400	96.2	54	177	21	Green
0603CS-R10X_B	100 @ 150 MHz	<b>5,2</b>	34	1400	.580	400	124	49	—	—	Blue
0603CS-R11X_B	110 @ 150 MHz	<b>5,2</b>	32	1350	.610	300	138	43	—	—	Violet
0603CS-R12X_B	120 @ 150 MHz	<b>5,2</b>	32	1300	.650	300	166	39	—	—	Gray
0603CS-R15X_B	150 @ 150 MHz	<b>5,2</b>	28	990	.920	280	250	25	—	—	White
0603CS-R18X_B	180 @ 100 MHz	<b>5,2</b>	25	990	1.25	240	305	22	—	—	Black
0603CS-R22X_B	220 @ 100 MHz	<b>5,2</b>	25	900	2.10	200	480	8	—	—	Brown
0603CS-R27X_B	270 @ 100 MHz	<b>5,2</b>	24	900	2.30	170	980	4	—	—	Red

1. When ordering, please specify tolerance and packaging codes:

**Inductance tolerance code:**

Table above shows stock tolerances in bold.  
G= ±2%, J= ±5%, K= ±10%

0603CS-R27X\_B

**Packaging code:**

**W** = 7" machine-ready reel EIA RS-481 punched paper tape. 2000 per reel.

**U** = Less than full reel Not machine-ready. The carrier tape may not be a single continuous length. To have a leader and trailer added (\$25 charge), use code letter C instead.

2. Inductance measured using Coilcraft SMD-A fixture in Agilent/HP4286 impedance analyzer with Coilcraft-provided correlation pieces. For recommended test procedures, contact Coilcraft.

3. Tolerances in bold are stocked for immediate shipment.

4. Q measured using Agilent/HP4291A with Agilent/HP16193 test fixture and on Agilent/HP8753D with Coilcraft SMD-D test fixture.

5. SRF measured using Agilent/HP8720D network analyzer and Coilcraft SMD-D test fixture.

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

7. For 15° C rise.

8. Operating temperature range -40° C to +125° C.

9. Electrical specifications at 25° C.

10. For environmental data, see "Product Specifications" page (Doc. 121).

**COILCRAFT** ACCURATE  
**PRECISION** REPEATABLE  
MEASUREMENTS  
SEE INDEX **TEST FIXTURES**

*Coilcraft*

Specifications subject to change without notice. Document 195-1 Revised 4/19/01

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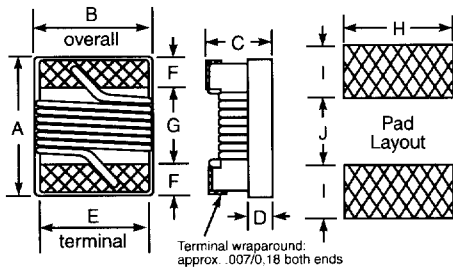
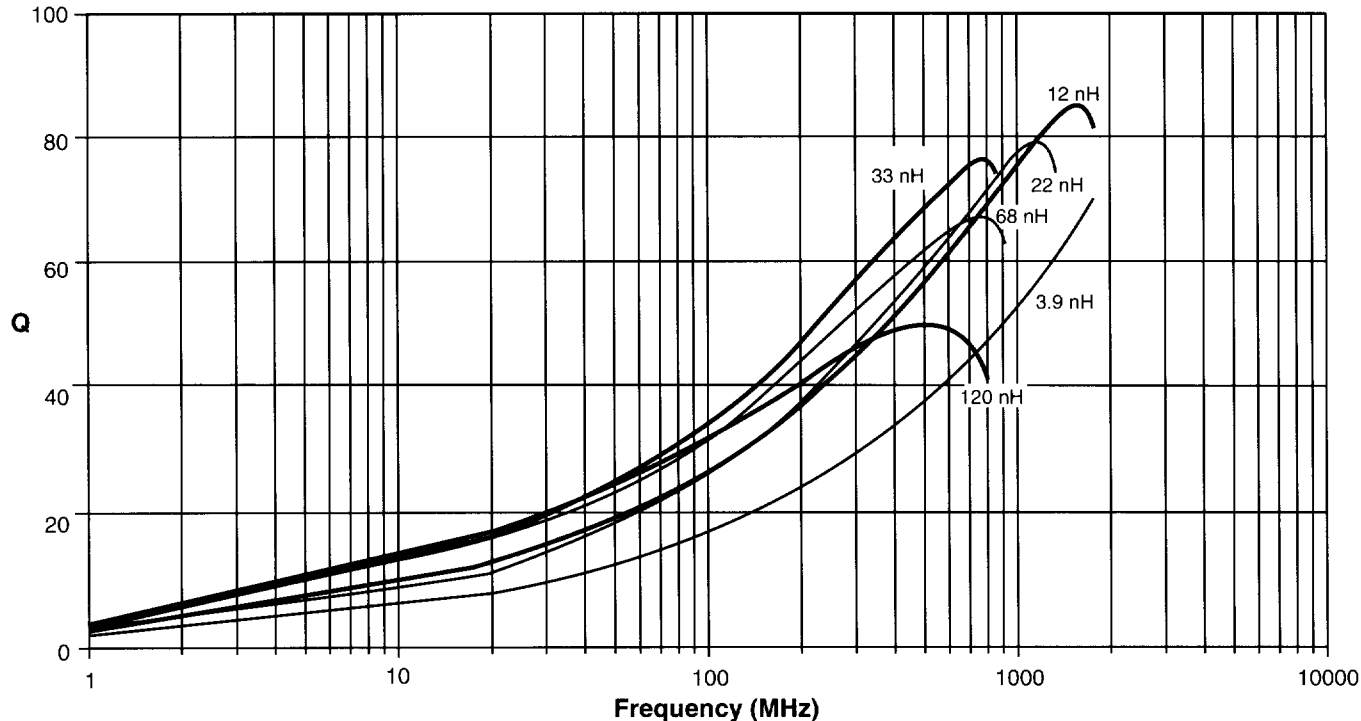
## TYPICAL Q vs FREQUENCY

**S-Parameter files**

ON OUR WEB SITE OR CD

**PSpice models**

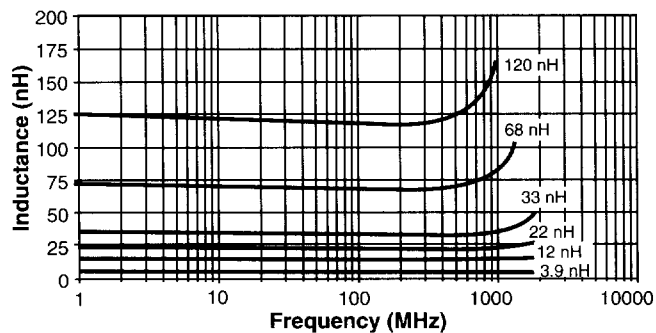
SEE CATALOG, WEB SITE OR CD



A	B	C	D	E	F	G	H	I	J
Max.	Max.	Max.	Ref.						
.071	.044	.040	.015	.030	.013	.034	.040	.025	.025
1.80	1.12	1.02	0.38	0.76	0.33	0.86	1.02	0.64	0.64

Parts/reel: 7" 2,000 Tape width: 8 mm  
For packaging data, see "Tape and Reel Specifications" (Document 173).

## L vs FREQUENCY



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