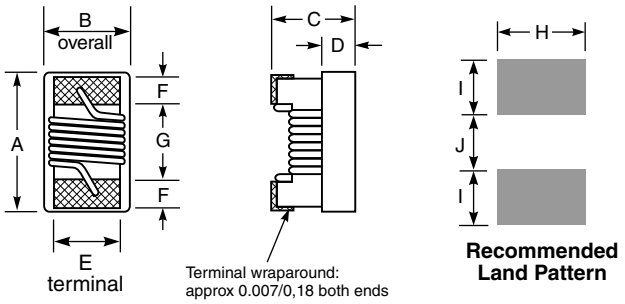
Chip Inductors - 0402CS Series (1005)

Continuing in our long tradition of innovation and leadership, Coilcraft introduced the industry's first 0402 wirewound inductor.

This series shares all of the characteristics of Coilcraft's other ceramic inductors: exceptionally high Q factors, especially at use frequencies; outstanding self-resonant frequency; tight inductance tolerance; and excellent batch-to-batch consistency.

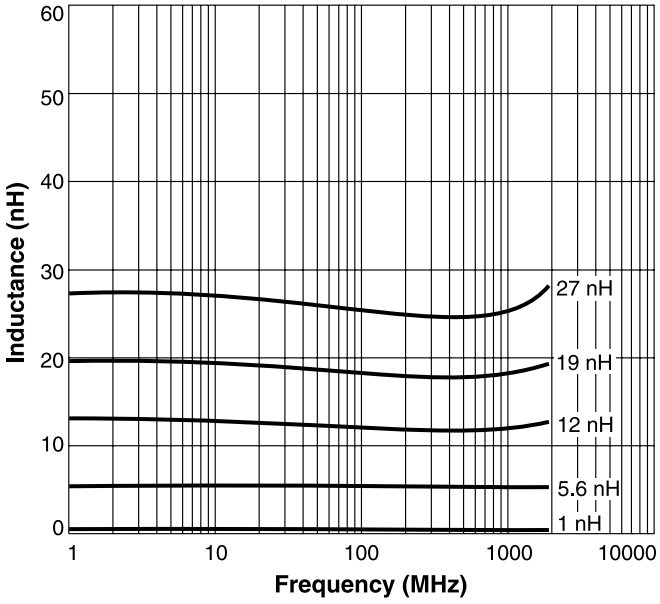
Coilcraft **Designer's Kits C128A** and **C128B** contain samples of 5% inductance tolerance parts. Kits with 2% tolerance are also available. To order, contact Coilcraft or visit **http://order.coilcraft.com.**



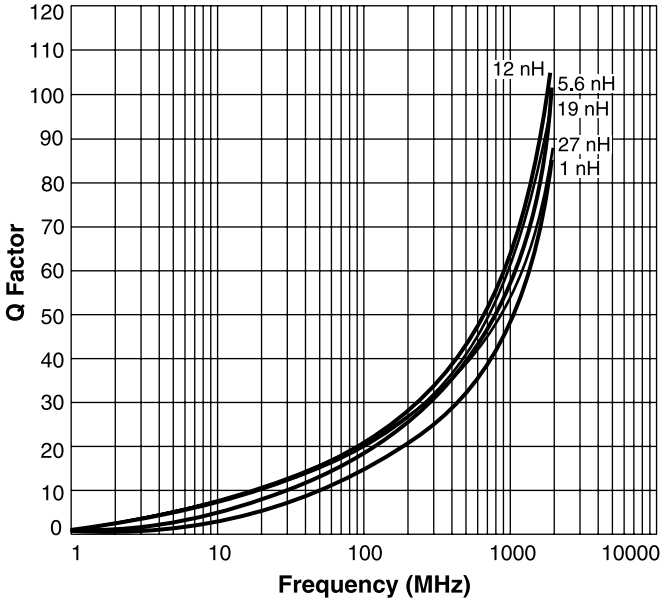
A max	B max	C max	D ref	E	F	G	H	I	J
0.047	0.025	0.026	0.010	0.020	0.009	0.022	0.026	0.014	0.018
1,19	0,64	0,66	0,25	0,51	0,23	0,56	0,66	0,36	0,46

Weight: 0.8 – 1.0 mg
Terminations: Silver-palladium-platinum
Tape and reel: 2000/7″ reel 8 mm tape width
For packaging data see Tape and Reel Specifications section.

Typical L vs Frequency



Typical Q vs Frequency



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S-Parameter files
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SPICE models
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0402CS Series (1005)

Part number[1]	Inductance[2] (nH)	Percent tolerance[3]	900 MHz L typ	900 MHz Q typ[4]	1.7 GHz L typ	1.7 GHz Q typ[4]	SRF min[5] (GHz)	DCR max[6] (Ohms)	Irms[7] (mA)
0402CS-1N0X_B_	1.0	**5**	1.02	77	1.02	69	12.70	0.045	1360
0402CS-1N9X_B_	1.9	**5**	1.72	68	1.74	82	11.30	0.070	1040
0402CS-2N0X_B_	2.0	**5**	1.93	54	1.93	75	11.10	0.070	1040
0402CS-2N2X_B_	2.2	**5**	2.19	59	2.23	100	10.80	0.070	960
0402CS-2N4X_B_	2.4	**5**	2.24	51	2.27	68	10.50	0.068	790
0402CS-2N7X_B_	2.7	**5**	2.58	42	2.60	61	10.40	0.120	640
0402CS-3N3X_B_	3.3	**5,2**	3.10	65	3.12	87	7.00	0.066	840
0402CS-3N6X_B_	3.6	**5,2**	3.56	45	3.62	71	6.80	0.066	840
0402CS-3N9X_B_	3.9	**5,2**	3.89	50	4.00	75	6.00	0.066	840
0402CS-4N3X_B_	4.3	**5,2**	4.19	47	4.30	71	6.00	0.091	700
0402CS-4N7X_B_	4.7	**5,2**	4.55	48	4.68	68	4.77	0.130	640
0402CS-5N1X_B_	5.1	**5,2**	5.15	56	5.25	82	4.80	0.083	800
0402CS-5N6X_B_	5.6	**5,2**	5.16	54	5.28	81	4.80	0.083	760
0402CS-6N2X_B_	6.2	**5,2**	6.16	52	6.37	76	4.80	0.083	760
0402CS-6N8X_B_	6.8	**5,2**	6.56	63	6.93	78	4.80	0.083	680
0402CS-7N5X_B_	7.5	**5,2**	7.91	60	8.22	88	4.80	0.10	680
0402CS-8N2X_B_	8.2	**5,2**	8.50	57	8.85	84	4.40	0.10	680
0402CS-8N7X_B_	8.7	**5,2**	8.78	54	9.21	73	4.10	0.20	480
0402CS-9N0X_B_	9.0	**5,2**	9.07	62	9.53	78	4.16	0.10	680
0402CS-9N5X_B_	9.5	**5,2**	9.42	54	9.98	69	4.00	0.20	480
0402CS-10NX_B_	10.0	**5,2**	9.8	50	10.10	67	3.90	0.20	480
0402CS-11NX_B_	11.0	**5,2**	10.7	52	11.20	78	3.68	0.12	640
0402CS-12NX_B_	12.0	**5,2**	11.9	53	12.70	71	3.60	0.12	640
0402CS-13NX_B_	13.0	**5,2**	13.4	51	14.63	57	3.45	0.21	440
0402CS-15NX_B_	15.0	**5,2**	14.6	55	15.50	77	3.28	0.17	560
0402CS-16NX_B_	16.0	**5,2**	16.6	46	18.86	47	3.10	0.22	560
0402CS-18NX_B_	18.0	**5,2**	18.3	57	20.28	62	3.10	0.23	420
0402CS-19NX_B_	19.0	**5,2**	19.1	50	21.10	67	3.04	0.20	480
0402CS-20NX_B_	20.0	**5,2**	20.7	52	23.66	53	3.00	0.25	420
0402CS-22NX_B_	22.0	**5,2**	23.2	53	26.75	53	2.80	0.30	400
0402CS-23NX_B_	23.0	**5,2**	23.8	49	26.90	64	2.72	0.30	400
0402CS-24NX_B_	24.0	**5,2**	25.1	51	29.50	50	2.70	0.30	400
0402CS-27NX_B_	27.0	**5,2**	28.7	49	33.50	63	2.48	0.30	400
0402CS-30NX_B_	30.0	**5,2**	31.1	46	38.50	39	2.35	0.30	400
0402CS-33NX_B_	33.0	**5,2**	34.9	31	41.74	32	2.35	0.30	400
0402CS-36NX_B_	36.0	**5,2**	39.5	44	48.40	53	2.32	0.44	320
0402CS-39NX_B_	39.0	**5,2**	41.7	47	50.23	45	2.10	0.55	200
0402CS-40NX_B_	40.0	**5,2**	39.0	44	47.40	33	2.24	0.44	320
0402CS-43NX_B_	43.0	**5,2**	45.8	46	61.55	34	2.03	0.81	100
0402CS-47NX_B_	47.0	**5,2**	50.0	38	–	–	2.10	0.83	150
0402CS-51NX_B_	51.0	**5,2**	56.6	40	–	–	1.75	0.82	100
0402CS-56NX_B_	56.0	**5,2**	62.8	42	–	–	1.76	0.97	100
0402CS-68NX_B_	68.0	**5,2**	78.2	36	–	–	1.62	1.12	100
0402CS-82NX_B_	82.0	**5,2**	–	–	–	–	1.26	1.55	50
0402CS-R10X_B_	100.0	**5,2**	–	–	–	–	1.16	2.00	30

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

0402CS-68NX J B W

Tolerance: **G** = 2% **J** = 5% (Table shows stock tolerances in bold.)

Packaging: **W** = 7″ machine-ready reel. EIA-481 punched paper tape (2000 parts per full reel).

U = Less than full reel. In tape, but not machine ready. To have a leader and trailer added ($25 charge), use code letter W instead.

2. Inductance measured at 250 MHz using a Coilcraft SMD-F test fixture and Coilcraft-provided correlation pieces with an Agilent/HP 4286 impedance analyzer.
3. Tolerances in bold are stocked for immediate shipment.
4. Q measured using Agilent/HP 4291A with Agilent/HP 16193 test fixture.
5. For SRF >6 GHz, measured using Agilent/HP 8722ES network analyzer and Coilcraft SMD-D test fixture. For SRF ≤6 GHz, measured using Agilent/HP 8753D network analyzer and Coilcraft SMD-D test fixture.
6. DCR measured on micro-ohmmeter.
7. Average current for a 15°C rise above 25°C ambient.
8. Operating temperature range -40°C to +125°C.
9. Electrical specifications at 25°C.

See Qualification Standards section for environmental and test data.

Coilcraft®

Specifications subject to change without notice.
Please check our website for latest information. Document 198-2 Revised 12/20/04

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