Chip Inductors - 0302CS (0805)

RoHS/ REACH COMPLIANT

Halogen Free

- 0302 size – 20% smaller than our 0402CS inductors
- 45 inductance values from 0.67 to 100 nH
- High Q values – up to 131 at 2.4 GHz!

Request free evaluation samples by contacting Coilcraft or visiting **www.coilcraft.com.**

Part number[1]	Inductance[2] (nH)	Percent tolerance	900 MHz		1.7 GHz		2.4 GHz		SRF typ[4] (GHz)	DCR max[5] (Ohms)	Irms[6] (mA)
			L typ	Q typ[3]	L typ	Q typ[3]	L typ	Q typ[3]			
0302CS-N67XKR_	0.67	**10**	0.66	42	0.66	56	0.67	70	>26	0.021	1600
0302CS-1N7XJR_	1.7	**5**	1.7	57	1.7	78	1.7	95	16.14	0.038	1140
0302CS-1N9XJR_	1.9	**5**	1.9	42	1.9	65	1.9	83	16.06	0.065	910
0302CS-2N1XJR_	2.1	**5**	2.1	38	2.1	57	2.1	72	15.94	0.082	830
0302CS-3N0XJR_	3.0	**5**	3.0	56	3.0	92	3.0	131	15.10	0.060	950
0302CS-3N3XJR_	3.3	**5**	3.3	56	3.3	88	3.3	129	11.50	0.060	950
0302CS-3N5XJR_	3.5	**5**	3.5	60	3.5	84	3.5	110	11.53	0.070	870
0302CS-3N8XJR_	3.8	**5**	3.8	60	3.8	89	3.8	105	10.67	0.090	830
0302CS-4N0XJR_	4.0	**5**	4.0	52	4.0	80	4.1	98	11.21	0.100	760
0302CS-4N7XJR_	4.7	**5**	4.6	55	4.6	88	4.7	120	12.07	0.074	830
0302CS-5N1XJR_	5.1	**5**	5.1	62	5.1	92	5.2	118	9.65	0.074	830
0302CS-5N6XJR_	5.6	**5**	5.5	50	5.5	71	5.6	108	6.40	0.120	730
0302CS-6N0XJR_	6.0	**5**	6.0	58	6.0	82	6.2	105	8.60	0.140	700
0302CS-6N3XJR_	6.3	**5**	6.3	56	6.3	80	6.5	100	9.34	0.155	620
0302CS-6N5XJR_	6.5	**5**	6.5	56	6.5	80	6.8	100	8.19	0.200	620
0302CS-7N0XJR_	7.0	**5**	7.0	62	7.1	84	7.2	112	8.50	0.103	760
0302CS-7N2XJR_	7.2	**5**	7.2	60	7.2	82	7.4	110	9.12	0.112	690
0302CS-7N4XJR_	7.4	**5**	7.3	60	7.4	82	7.6	110	7.98	0.112	690
0302CS-8N3XJR_	8.3	**5**	8.2	58	8.3	80	8.5	104	8.19	0.150	590
0302CS-9N2XJR_	9.2	**5**	8.9	58	9.0	83	9.2	120	7.92	0.115	690
0302CS-10NXJR_	10.0	**5**	10.0	58	10.1	91	10.2	119	7.45	0.140	620
0302CS-11NXJR_	11.0	**5**	11.0	57	11.2	83	11.6	105	6.85	0.210	590
0302CS-12NXJR_	12.0	**5**	12.0	59	12.6	88	12.7	110	6.86	0.170	560
0302CS-13NXJR_	13.0	**5**	13.0	53	13.3	83	13.8	104	6.94	0.230	480
0302CS-15NXJR_	15.0	**5**	15.0	55	15.4	84	15.9	106	6.20	0.174	560
0302CS-16NXJR_	16.0	**5**	16.0	54	16.4	85	17.0	102	6.13	0.210	480
0302CS-17NXJR_	17.0	**5**	16.9	52	17.4	82	18.2	118	6.26	0.280	440
0302CS-18NXJR_	18.0	**5**	17.9	55	18.5	80	19.3	111	6.03	0.350	390
0302CS-19NXJR_	19.0	**5**	18.9	53	19.6	85	20.5	104	5.79	0.260	480
0302CS-20NXJR_	20.0	**5**	19.9	56	20.2	88	20.8	112	5.68	0.300	430

Continued on next page

1. When ordering, please specify a **packaging** code:

0302CS-20NXJRW

Termination: R = RoHS matte Sn over Ni over Ag-Pt-glass frit.

Packaging: W = 7″ machine-ready reel. EIA-481 punched paper tape (2000 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer ($25 charge).

U = Less than full reel. In an effort to simplify our part numbering system, Coilcraft is eliminating the need for multiple packaging codes. When ordering, simply change the last letter of your part number from U to W.

2. Inductance measured at 250 MHz using a Coilcraft SMD-F fixture in an Agilent/HP 4286 impedance analyzer with Coilcraft-provided correlation pieces.
3. Q measured using an Agilent/HP 4287A with an Agilent/HP 16193 test fixture.
4. SRF measured using an Agilent/HP 8722ES network analyzer and a test fixture with a 0.017″ air gap.
5. DCR measured on a micro-ohmmeter and a Coilcraft CCF858 test fixture.
6. Current that causes a 30°C temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.
7. Electrical specifications at 25°C.

Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

COILCRAFT ACCURATE REPEATABLE PRECISION MEASUREMENTS SEE WEB SITE TEST FIXTURES

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RoHS/ REACH COMPLIANT

Halogen Free

0302CS Series (0805)

S-Parameter files
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SPICE models
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Part number[1]	Inductance[2] (nH)	Percent tolerance	900 MHz L typ	900 MHz Q typ[3]	1.7 GHz L typ	1.7 GHz Q typ[3]	2.4 GHz L typ	2.4 GHz Q typ[3]	SRF typ[4] (GHz)	DCR max[5] (Ohms)	Irms[6] (mA)
0302CS-21NXJR_	21.0	5	20.9	53	22.0	82	24.1	95	5.16	0.37	370
0302CS-22NXJR_	22.0	5	22.0	52	23.1	79	25.2	94	4.95	0.42	340
0302CS-23NXJR_	23.5	5	23.5	54	24.6	84	27.4	92	5.18	0.40	430
0302CS-29NXJR_	29.0	5	29.0	51	30.5	75	33.0	90	4.83	0.47	330
0302CS-34NXJR_	34.0	5	34.0	55	35.5	78	38.1	94	4.45	0.53	310
0302CS-36NXJR_	36.0	5	38.0	40	45	40	60	30	3.70	0.60	300
0302CS-39NXJR_	39.0	5	41.0	43	50	42	71	28	3.55	0.76	300
0302CS-43NXJR_	43.0	5	45.0	44	56	43	81	28	3.42	0.82	280
0302CS-51NXJR_	51.0	5	54.0	43	69	41	111	25	3.25	0.97	270
0302CS-56NXJR_	56.0	5	60.0	36	80	31	150	16	3.00	1.24	250
0302CS-62NXJR_	62.0	5	67.0	43	92	36	194	16	2.87	1.28	240
0302CS-75NXJR_	75.0	5	83.0	36	124	25	-	-	2.63	2.10	180
0302CS-82NXJR_	82.0	5	92.0	41	150	29	-	-	2.50	2.20	170
0302CS-91NXJR_	91.0	5	102.0	35	168	22	-	-	2.42	3.10	150
0302CS-101XJR_	100.0	5	116.0	42	214	25	-	-	2.30	3.26	140

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

0302CS-101XJRW

Termination: R = RoHS matte Sn over Ni over Ag-Pt-glass frit.

RoHS compliance expiring. Last order June 2021:
E = Ag/Pd/Pt-glass frit. Not for new designs.
L = Not halogen-free. Ag/Pd/Pt-glass frit. Not for new designs.

Packaging: W = 7″ machine-ready reel. EIA-481 punched paper tape (2000 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer ($25 charge).

U = Less than full reel. In an effort to simplify our part numbering system, Coilcraft is eliminating the need for multiple packaging codes. When ordering, simply change the last letter of your part number from U to W.

2. Inductance measured at 250 MHz using a Coilcraft SMD-F fixture in an Agilent/HP 4286 impedance analyzer with Coilcraft-provided correlation pieces.
3. Q measured using an Agilent/HP 4287A with an Agilent/HP 16193 test fixture.
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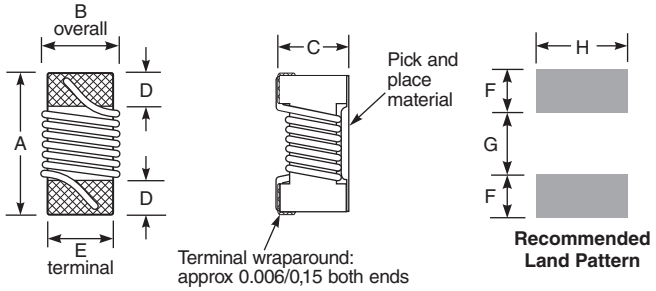
Refer to Doc 362 “Soldering Surface Mount Components” before soldering.



Amax	Bmax	Cmax	D	E	F	G	H	
0.034	0.021	0.018	0.006	0.015	0.010	0.014	0.021	inches
0,86	0,53	0,45	0,16	0,38	0,25	0,36	0,53	mm

Designer’s Kit C370 contains 20 each of all values

Core material Ceramic

Environmental RoHS compliant, halogen free

Terminations RoHS matte Sn over Ni over Ag-Pt-glass frit. Other terminations available at additional cost.

Weight 0.4 – 0.5 mg

Ambient temperature –40°C to +125°C with Irms current

Maximum part temperature +155°C (ambient + temp rise).

Storage temperature Component: –40°C to +155°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 +125 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, 0.5 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.

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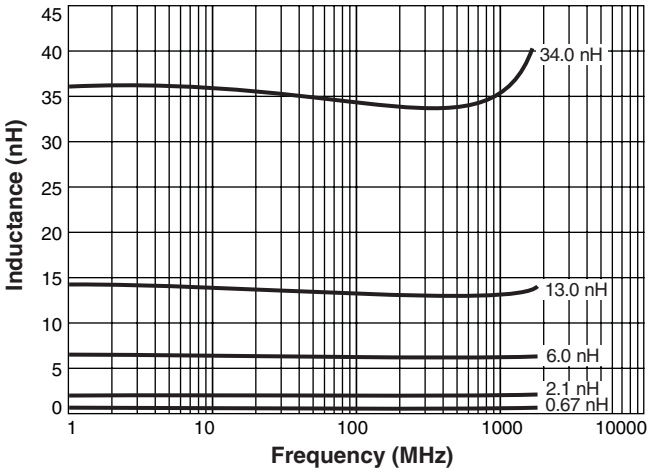
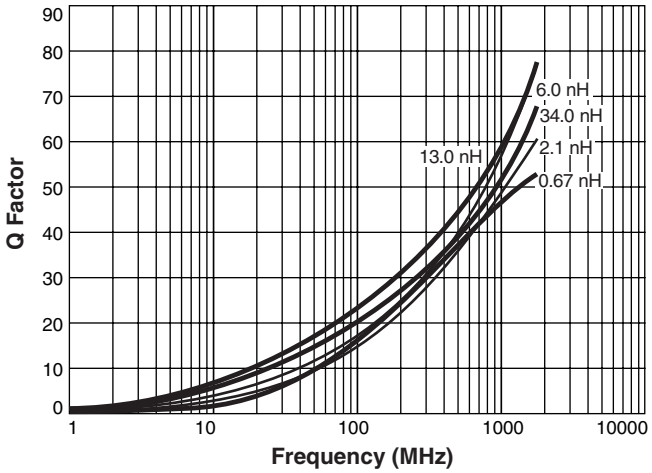
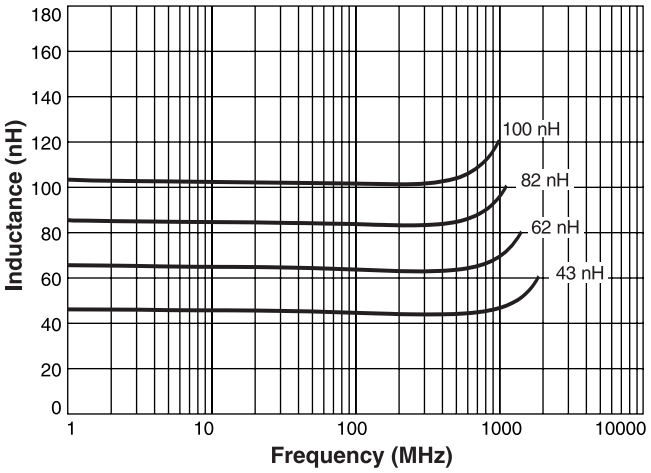
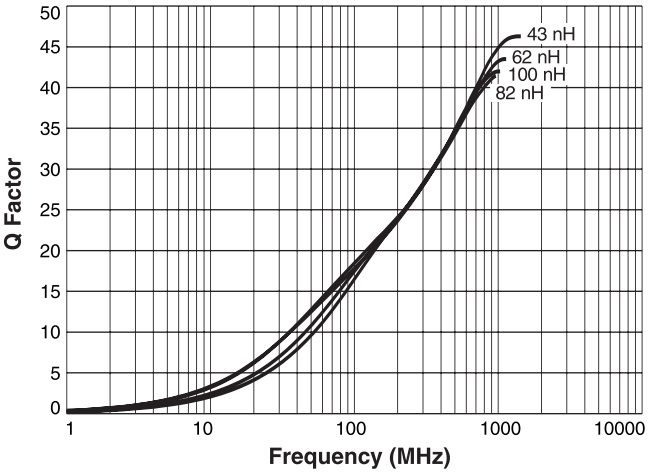
Typical L vs Frequency



Typical Q vs Frequency







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