

Chip Inductors - 0302CS (0805)



- 0302 size – 20% smaller than our 0402CS inductors
- 35 inductance values from 0.67 to 34 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-N67XKL_ | 0.67 | 10 | 0.66 | 42 | 0.66 | 56 | 0.67 | 70 | >26 | 0.021 | 1600 |
| 0302CS-1N7XJL_ | 1.7 | 5 | 1.7 | 57 | 1.7 | 78 | 1.7 | 95 | 16.14 | 0.038 | 1140 |
| 0302CS-1N9XJL_ | 1.9 | 5 | 1.9 | 42 | 1.9 | 65 | 1.9 | 83 | 16.06 | 0.065 | 910 |
| 0302CS-2N1XJL_ | 2.1 | 5 | 2.1 | 38 | 2.1 | 57 | 2.1 | 72 | 15.94 | 0.082 | 830 |
| 0302CS-3N0XJL_ | 3.0 | 5 | 3.0 | 56 | 3.0 | 92 | 3.0 | 131 | 15.10 | 0.060 | 950 |
| 0302CS-3N3XJL_ | 3.3 | 5 | 3.3 | 56 | 3.3 | 88 | 3.3 | 129 | 11.50 | 0.060 | 950 |
| 0302CS-3N5XJL_ | 3.5 | 5 | 3.5 | 60 | 3.5 | 84 | 3.5 | 110 | 11.53 | 0.070 | 870 |
| 0302CS-3N8XJL_ | 3.8 | 5 | 3.8 | 60 | 3.8 | 89 | 3.8 | 105 | 10.67 | 0.090 | 830 |
| 0302CS-4N0XJL_ | 4.0 | 5 | 4.0 | 52 | 4.0 | 80 | 4.1 | 98 | 11.21 | 0.100 | 760 |
| 0302CS-4N7XJL_ | 4.7 | 5 | 4.6 | 55 | 4.6 | 88 | 4.7 | 120 | 12.07 | 0.074 | 830 |
| 0302CS-5N1XJL_ | 5.1 | 5 | 5.1 | 62 | 5.1 | 92 | 5.2 | 118 | 9.65 | 0.074 | 830 |
| 0302CS-5N6XJL_ | 5.6 | 5 | 5.5 | 50 | 5.5 | 71 | 5.6 | 108 | 6.40 | 0.120 | 730 |
| 0302CS-6N0XJL_ | 6.0 | 5 | 6.0 | 58 | 6.0 | 82 | 6.2 | 105 | 8.60 | 0.140 | 700 |
| 0302CS-6N3XJL_ | 6.3 | 5 | 6.3 | 56 | 6.3 | 80 | 6.5 | 100 | 9.34 | 0.155 | 620 |
| 0302CS-6N5XJL_ | 6.5 | 5 | 6.5 | 56 | 6.5 | 80 | 6.8 | 100 | 8.19 | 0.200 | 620 |
| 0302CS-7N0XJL_ | 7.0 | 5 | 7.0 | 62 | 7.1 | 84 | 7.2 | 112 | 8.50 | 0.103 | 760 |
| 0302CS-7N2XJL_ | 7.2 | 5 | 7.2 | 60 | 7.2 | 82 | 7.4 | 110 | 9.12 | 0.112 | 690 |
| 0302CS-7N4XJL_ | 7.4 | 5 | 7.3 | 60 | 7.4 | 82 | 7.6 | 110 | 7.98 | 0.112 | 690 |
| 0302CS-8N3XJL_ | 8.3 | 5 | 8.2 | 58 | 8.3 | 80 | 8.5 | 104 | 8.19 | 0.150 | 590 |
| 0302CS-9N2XJL_ | 9.2 | 5 | 8.9 | 58 | 9.0 | 83 | 9.2 | 120 | 7.92 | 0.115 | 690 |
| 0302CS-10NXJL_ | 10.0 | 5 | 10.0 | 58 | 10.1 | 91 | 10.2 | 119 | 7.45 | 0.140 | 620 |
| 0302CS-11NXJL_ | 11.0 | 5 | 11.0 | 57 | 11.2 | 83 | 11.6 | 105 | 6.85 | 0.210 | 590 |
| 0302CS-12NXJL_ | 12.0 | 5 | 12.0 | 59 | 12.6 | 88 | 12.7 | 110 | 6.86 | 0.170 | 560 |
| 0302CS-13NXJL_ | 13.0 | 5 | 13.0 | 53 | 13.3 | 83 | 13.8 | 104 | 6.94 | 0.230 | 480 |
| 0302CS-15NXJL_ | 15.0 | 5 | 15.0 | 55 | 15.4 | 84 | 15.9 | 106 | 6.20 | 0.174 | 560 |
| 0302CS-16NXJL_ | 16.0 | 5 | 16.0 | 54 | 16.4 | 85 | 17.0 | 102 | 6.13 | 0.210 | 480 |
| 0302CS-17NXJL_ | 17.0 | 5 | 16.9 | 52 | 17.4 | 82 | 18.2 | 118 | 6.26 | 0.280 | 440 |
| 0302CS-18NXJL_ | 18.0 | 5 | 17.9 | 55 | 18.5 | 80 | 19.3 | 111 | 6.03 | 0.350 | 390 |
| 0302CS-19NXJL_ | 19.0 | 5 | 18.9 | 53 | 19.6 | 85 | 20.5 | 104 | 5.79 | 0.260 | 480 |
| 0302CS-20NXJL_ | 20.0 | 5 | 19.9 | 56 | 20.2 | 88 | 20.8 | 112 | 5.68 | 0.300 | 430 |
| 0302CS-21NXJL_ | 21.0 | 5 | 20.9 | 53 | 22.0 | 82 | 24.1 | 95 | 5.16 | 0.370 | 370 |
| 0302CS-22NXJL_ | 22.0 | 5 | 22.0 | 52 | 23.1 | 79 | 25.2 | 94 | 4.95 | 0.420 | 340 |
| 0302CS-23NXJL_ | 23.5 | 5 | 23.5 | 54 | 24.6 | 84 | 27.4 | 92 | 5.18 | 0.400 | 430 |
| 0302CS-29NXJL_ | 29.0 | 5 | 29.0 | 51 | 30.5 | 75 | 33.0 | 90 | 4.83 | 0.470 | 330 |
| 0302CS-34NXJL_ | 34.0 | 5 | 34.0 | 55 | 35.5 | 78 | 38.1 | 94 | 4.45 | 0.530 | 310 |

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

0302CS-34NXJLW

- Termination:** L = RoHS compliant silver-platinum-glass frit.
E = Halogen free component. RoHS compliant silver-platinum-glass frit terminations.
- 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.

- Inductance measured at 250 MHz using a Coilcraft SMD-F fixture in an Agilent/HP 4286 impedance analyzer with Coilcraft-provided correlation pieces.
 - Q measured using an Agilent/HP 4287A with an Agilent/HP 16193 test fixture.
 - SRF measured using an Agilent/HP 8722ES network analyzer and a test fixture with a 0.017" air gap.
 - DCR measured on a micro-ohmmeter and a Coilcraft CCF858 test fixture.
 - Current that causes a 30°C temperature rise from 25°C ambient.
 - Electrical specifications at 25°C.
- Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



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0302CS Series (0805)

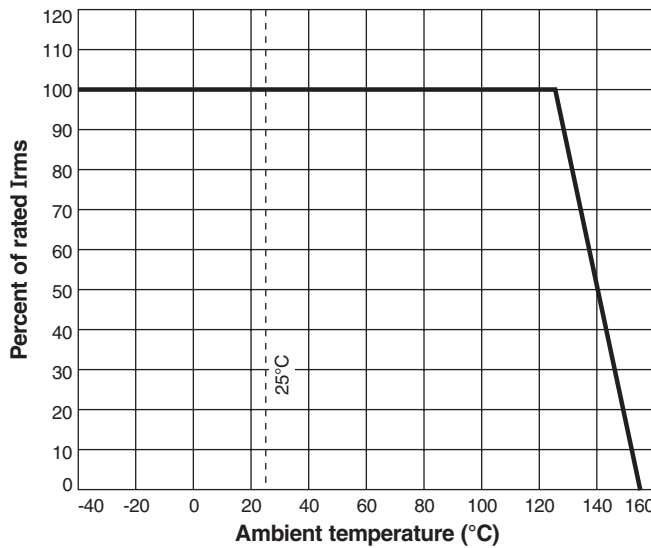
Typical L vs Frequency



Typical Q vs Frequency



Irms Derating



Designer's Kit C370 contains 20 each of all values

Core material Ceramic

Environmental RoHS compliant, halogen free optional

Terminations RoHS compliant silver-platinum-glass frit.

Weight 0.4 – 0.5 mg

Ambient temperature -40°C to +125°C with Irms current, +125°C to +155°C with derated current

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)

Failures in Time (FIT) / Mean Time Between Failures (MTBF)

One per billion hours / one billion hours, calculated per Telcordia SR-332

Packaging 2000 per 7" reel. Paper tape: 8 mm wide, 0.5 mm thick, 2 mm pocket spacing

PCB washing Tested with pure water or alcohol only. For other solvents, see Doc787_PCB_Washing.pdf.



| Amax | Bmax | Cmax | D | E | F | G | H |
|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.034 | 0.021 | 0.018 | 0.006 | 0.015 | 0.010 | 0.014 | 0.021 |
| 0,86 | 0,53 | 0,45 | 0,20 | 0,38 | 0,25 | 0,36 | 0,53 |



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