



# 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](http://www.coilcraft.com).

| Part number <sup>1</sup> | Inductance <sup>2</sup><br>(nH) | Percent<br>tolerance | 900 MHz |                    | 1.7 GHz |                    | 2.4 GHz |                    | SRF<br>typ <sup>4</sup><br>(GHz) | DCR<br>max <sup>5</sup><br>(Ohms) | Irms <sup>6</sup><br>(mA) |
|--------------------------|---------------------------------|----------------------|---------|--------------------|---------|--------------------|---------|--------------------|----------------------------------|-----------------------------------|---------------------------|
|                          |                                 |                      | L typ   | Q typ <sup>3</sup> | L typ   | Q typ <sup>3</sup> | L typ   | Q typ <sup>3</sup> |                                  |                                   |                           |
| 0302CS-N67XKL_           | 0.67                            | <b>10</b>            | 0.66    | 42                 | 0.66    | 56                 | 0.67    | 70                 | >26                              | 0.021                             | 1600                      |
| 0302CS-1N7XJL_           | 1.7                             | <b>5</b>             | 1.7     | 57                 | 1.7     | 78                 | 1.7     | 95                 | 16.14                            | 0.038                             | 1140                      |
| 0302CS-1N9XJL_           | 1.9                             | <b>5</b>             | 1.9     | 42                 | 1.9     | 65                 | 1.9     | 83                 | 16.06                            | 0.065                             | 910                       |
| 0302CS-2N1XJL_           | 2.1                             | <b>5</b>             | 2.1     | 38                 | 2.1     | 57                 | 2.1     | 72                 | 15.94                            | 0.082                             | 830                       |
| 0302CS-3N0XJL_           | 3.0                             | <b>5</b>             | 3.0     | 56                 | 3.0     | 92                 | 3.0     | 131                | 15.10                            | 0.060                             | 950                       |
| 0302CS-3N3XJL_           | 3.3                             | <b>5</b>             | 3.3     | 56                 | 3.3     | 88                 | 3.3     | 129                | 11.50                            | 0.060                             | 950                       |
| 0302CS-3N5XJL_           | 3.5                             | <b>5</b>             | 3.5     | 60                 | 3.5     | 84                 | 3.5     | 110                | 11.53                            | 0.070                             | 870                       |
| 0302CS-3N8XJL_           | 3.8                             | <b>5</b>             | 3.8     | 60                 | 3.8     | 89                 | 3.8     | 105                | 10.67                            | 0.090                             | 830                       |
| 0302CS-4N0XJL_           | 4.0                             | <b>5</b>             | 4.0     | 52                 | 4.0     | 80                 | 4.1     | 98                 | 11.21                            | 0.100                             | 760                       |
| 0302CS-4N7XJL_           | 4.7                             | <b>5</b>             | 4.6     | 55                 | 4.6     | 88                 | 4.7     | 120                | 12.07                            | 0.074                             | 830                       |
| 0302CS-5N1XJL_           | 5.1                             | <b>5</b>             | 5.1     | 62                 | 5.1     | 92                 | 5.2     | 118                | 9.65                             | 0.074                             | 830                       |
| 0302CS-5N6XJL_           | 5.6                             | <b>5</b>             | 5.5     | 50                 | 5.5     | 71                 | 5.6     | 108                | 6.40                             | 0.120                             | 730                       |
| 0302CS-6N0XJL_           | 6.0                             | <b>5</b>             | 6.0     | 58                 | 6.0     | 82                 | 6.2     | 105                | 8.60                             | 0.140                             | 700                       |
| 0302CS-6N3XJL_           | 6.3                             | <b>5</b>             | 6.3     | 56                 | 6.3     | 80                 | 6.5     | 100                | 9.34                             | 0.155                             | 620                       |
| 0302CS-6N5XJL_           | 6.5                             | <b>5</b>             | 6.5     | 56                 | 6.5     | 80                 | 6.8     | 100                | 8.19                             | 0.200                             | 620                       |
| 0302CS-7N0XJL_           | 7.0                             | <b>5</b>             | 7.0     | 62                 | 7.1     | 84                 | 7.2     | 112                | 8.50                             | 0.103                             | 760                       |
| 0302CS-7N2XJL_           | 7.2                             | <b>5</b>             | 7.2     | 60                 | 7.2     | 82                 | 7.4     | 110                | 9.12                             | 0.112                             | 690                       |
| 0302CS-7N4XJL_           | 7.4                             | <b>5</b>             | 7.3     | 60                 | 7.4     | 82                 | 7.6     | 110                | 7.98                             | 0.112                             | 690                       |
| 0302CS-8N3XJL_           | 8.3                             | <b>5</b>             | 8.2     | 58                 | 8.3     | 80                 | 8.5     | 104                | 8.19                             | 0.150                             | 590                       |
| 0302CS-9N2XJL_           | 9.2                             | <b>5</b>             | 8.9     | 58                 | 9.0     | 83                 | 9.2     | 120                | 7.92                             | 0.115                             | 690                       |
| 0302CS-10NXJL_           | 10.0                            | <b>5</b>             | 10.0    | 58                 | 10.1    | 91                 | 10.2    | 119                | 7.45                             | 0.140                             | 620                       |
| 0302CS-11NXJL_           | 11.0                            | <b>5</b>             | 11.0    | 57                 | 11.2    | 83                 | 11.6    | 105                | 6.85                             | 0.210                             | 590                       |
| 0302CS-12NXJL_           | 12.0                            | <b>5</b>             | 12.0    | 59                 | 12.6    | 88                 | 12.7    | 110                | 6.86                             | 0.170                             | 560                       |
| 0302CS-13NXJL_           | 13.0                            | <b>5</b>             | 13.0    | 53                 | 13.3    | 83                 | 13.8    | 104                | 6.94                             | 0.230                             | 480                       |
| 0302CS-15NXJL_           | 15.0                            | <b>5</b>             | 15.0    | 55                 | 15.4    | 84                 | 15.9    | 106                | 6.20                             | 0.174                             | 560                       |
| 0302CS-16NXJL_           | 16.0                            | <b>5</b>             | 16.0    | 54                 | 16.4    | 85                 | 17.0    | 102                | 6.13                             | 0.210                             | 480                       |
| 0302CS-17NXJL_           | 17.0                            | <b>5</b>             | 16.9    | 52                 | 17.4    | 82                 | 18.2    | 118                | 6.26                             | 0.280                             | 440                       |
| 0302CS-18NXJL_           | 18.0                            | <b>5</b>             | 17.9    | 55                 | 18.5    | 80                 | 19.3    | 111                | 6.03                             | 0.350                             | 390                       |
| 0302CS-19NXJL_           | 19.0                            | <b>5</b>             | 18.9    | 53                 | 19.6    | 85                 | 20.5    | 104                | 5.79                             | 0.260                             | 480                       |
| 0302CS-20NXJL_           | 20.0                            | <b>5</b>             | 19.9    | 56                 | 20.2    | 88                 | 20.8    | 112                | 5.68                             | 0.300                             | 430                       |
| 0302CS-21NXJL_           | 21.0                            | <b>5</b>             | 20.9    | 53                 | 22.0    | 82                 | 24.1    | 95                 | 5.16                             | 0.370                             | 370                       |
| 0302CS-22NXJL_           | 22.0                            | <b>5</b>             | 22.0    | 52                 | 23.1    | 79                 | 25.2    | 94                 | 4.95                             | 0.420                             | 340                       |
| 0302CS-23NXJL_           | 23.5                            | <b>5</b>             | 23.5    | 54                 | 24.6    | 84                 | 27.4    | 92                 | 5.18                             | 0.400                             | 430                       |
| 0302CS-29NXJL_           | 29.0                            | <b>5</b>             | 29.0    | 51                 | 30.5    | 75                 | 33.0    | 90                 | 4.83                             | 0.470                             | 330                       |
| 0302CS-34NXJL_           | 34.0                            | <b>5</b>             | 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.

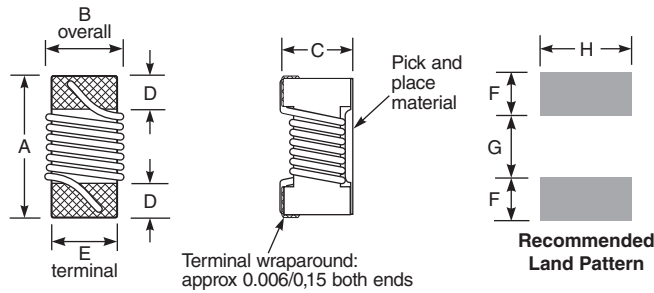
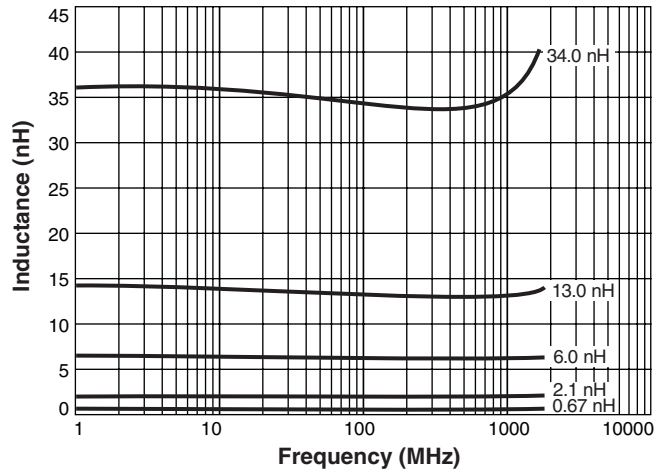
2. Inductance measured at 250 MHz using a Coilcraft SMD-F fixture in an Agilent/HP 4286 impedance analyzer with Coilcraft-provided correlation pieces.

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.



# 0302CS Series (0805)

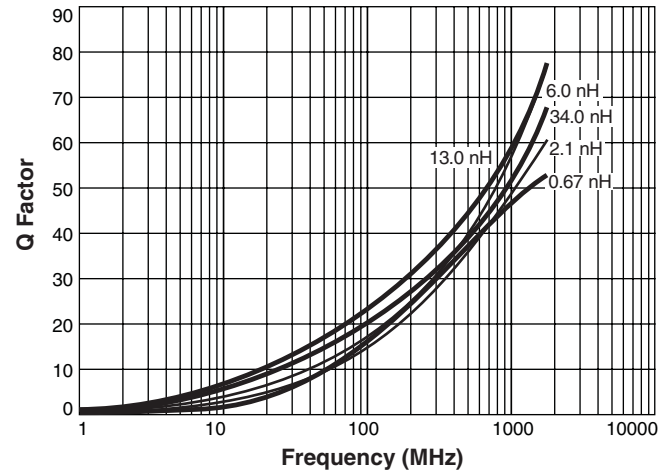
## Typical L vs Frequency



| 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  |

**S-Parameter files**  
ON OUR WEB SITE  
**SPICE models**  
ON OUR WEB SITE

## Typical Q vs Frequency



**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

**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)

**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 to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787\\_PCB\\_Washing.pdf](#).