

# 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.

- 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.



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

**US** +1-847-639-6400 [sales@coilcraft.com](mailto:sales@coilcraft.com)  
**UK** +44-1236-730595 [sales@coilcraft-europe.com](mailto:sales@coilcraft-europe.com)  
**Taiwan** +886-2-2264 3646 [sales@coilcraft.com.tw](mailto:sales@coilcraft.com.tw)  
**China** +86-21-6218 8074 [sales@coilcraft.com.cn](mailto:sales@coilcraft.com.cn)  
**Singapore** + 65-6484 8412 [sales@coilcraft.com.sg](mailto:sales@coilcraft.com.sg)

Document 302-1 Revised 11/01/12

© Coilcraft Inc. 2013

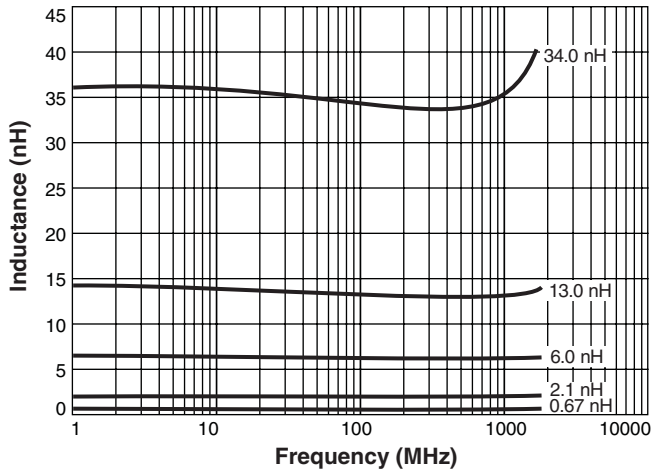
This product may not be used in medical or high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check web site for latest information.

**COILCRAFT** ACCURATE  
**PRECISION** REPEATABLE  
 MEASUREMENTS  
 SEE WEB SITE **TEST FIXTURES**

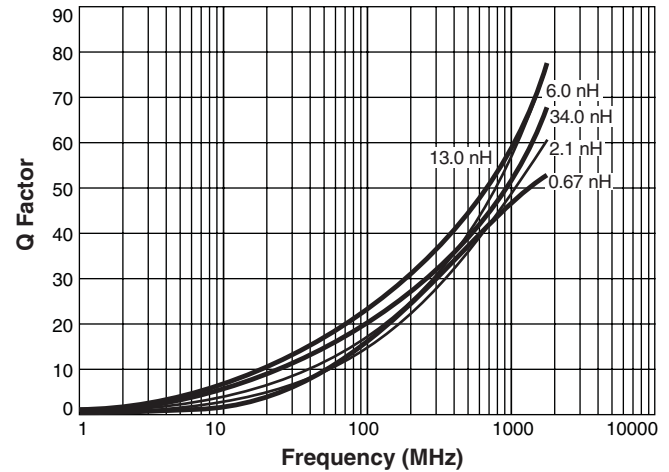


# 0302CS Series (0805)

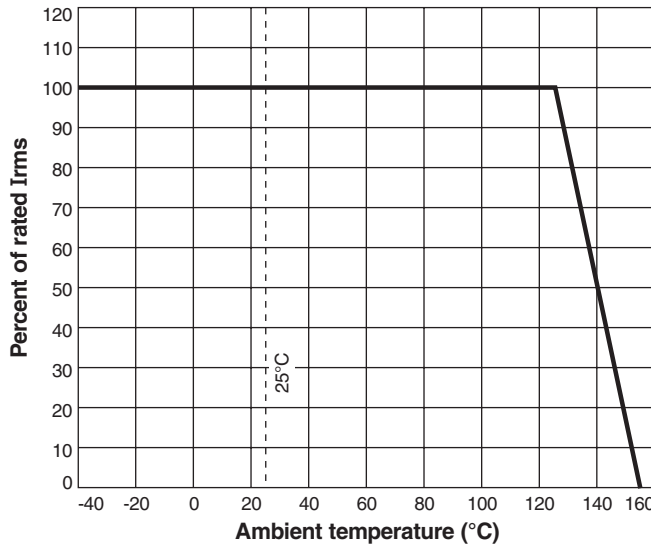
## Typical L vs Frequency



## 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

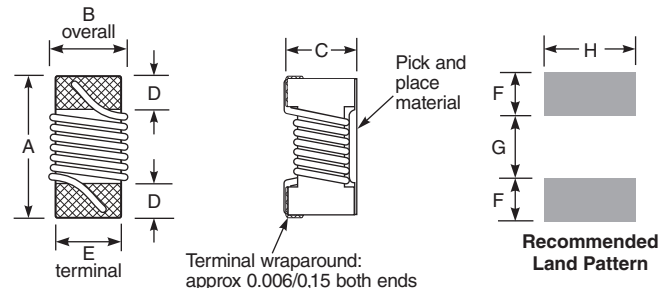
**Moisture Sensitivity Level (MSL)** 1 (unlimited floor life at <30°C / 85% relative humidity)

**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 inches |
| 0,86  | 0,53  | 0,45  | 0,20  | 0,38  | 0,25  | 0,36  | 0,53 mm      |



**US** +1-847-639-6400 sales@coilcraft.com  
**UK** +44-1236-730595 sales@coilcraft-europe.com  
**Taiwan** +886-2-2264 3646 sales@coilcraft.com.tw  
**China** +86-21-6218 8074 sales@coilcraft.com.cn  
**Singapore** + 65-6484 8412 sales@coilcraft.com.sg

Document 302-2 Revised 11/01/12  
 © Coilcraft Inc. 2013  
 This product may not be used in medical or high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check web site for latest information.



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.