



# Chip Inductors – 1206CS Series (3216)

- High SRF and excellent Q values
- Tight tolerances, many values at 1%
- 31 inductance values from 3.3 to 1200 nH

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 <sup>3</sup> | Q min <sup>4</sup> | SRF min <sup>5</sup><br>(MHz) | DCR max <sup>6</sup><br>(Ohms) | Irms <sup>7</sup><br>(mA) |
|--------------------------|---------------------------------|-----------------------------------|--------------------|-------------------------------|--------------------------------|---------------------------|
| 1206CS-030X_L_           | 3.3 @ 100 MHz                   | <b>5</b>                          | 30 @ 300 MHz       | 6200                          | 0.050                          | 1000                      |
| 1206CS-060X_L_           | 6.8 @ 100 MHz                   | <b>5</b>                          | 30 @ 300 MHz       | 5500                          | 0.070                          | 1000                      |
| 1206CS-100X_L_           | 10 @ 100 MHz                    | <b>5</b>                          | 40 @ 300 MHz       | 4000                          | 0.080                          | 1000                      |
| 1206CS-120X_L_           | 12 @ 100 MHz                    | <b>5,2</b>                        | 40 @ 300 MHz       | 3200                          | 0.080                          | 1000                      |
| 1206CS-150X_L_           | 15 @ 100 MHz                    | <b>5,2</b>                        | 40 @ 300 MHz       | 3200                          | 0.100                          | 1000                      |
| 1206CS-180X_L_           | 18 @ 100 MHz                    | <b>5,2</b>                        | 50 @ 300 MHz       | 2800                          | 0.100                          | 1000                      |
| 1206CS-220X_L_           | 22 @ 100 MHz                    | <b>5,2</b>                        | 50 @ 300 MHz       | 2200                          | 0.100                          | 1000                      |
| 1206CS-270X_L_           | 27 @ 100 MHz                    | <b>5,2</b>                        | 50 @ 300 MHz       | 1800                          | 0.110                          | 1000                      |
| 1206CS-330X_L_           | 33 @ 100 MHz                    | <b>5,2</b>                        | 55 @ 300 MHz       | 1800                          | 0.110                          | 1000                      |
| 1206CS-390X_L_           | 39 @ 100 MHz                    | <b>5,2</b>                        | 55 @ 300 MHz       | 1800                          | 0.120                          | 1000                      |
| 1206CS-470X_L_           | 47 @ 100 MHz                    | <b>5,2</b>                        | 55 @ 300 MHz       | 1500                          | 0.130                          | 1000                      |
| 1206CS-560X_L_           | 56 @ 100 MHz                    | <b>5,2,1</b>                      | 55 @ 300 MHz       | 1450                          | 0.140                          | 1000                      |
| 1206CS-680X_L_           | 68 @ 100 MHz                    | <b>5,2,1</b>                      | 55 @ 300 MHz       | 1200                          | 0.260                          | 900                       |
| 1206CS-820X_L_           | 82 @ 100 MHz                    | <b>5,2,1</b>                      | 55 @ 300 MHz       | 1200                          | 0.210                          | 900                       |
| 1206CS-101X_L_           | 100 @ 100 MHz                   | <b>5,2,1</b>                      | 55 @ 300 MHz       | 1100                          | 0.260                          | 850                       |
| 1206CS-121X_L_           | 120 @ 100 MHz                   | <b>5,2,1</b>                      | 60 @ 300 MHz       | 1100                          | 0.260                          | 800                       |
| 1206CS-151X_L_           | 150 @ 100 MHz                   | <b>5,2,1</b>                      | 60 @ 300 MHz       | 950                           | 0.310                          | 750                       |
| 1206CS-181X_L_           | 180 @ 50 MHz                    | <b>5,2,1</b>                      | 60 @ 300 MHz       | 900                           | 0.430                          | 700                       |
| 1206CS-221X_L_           | 220 @ 50 MHz                    | <b>5,2,1</b>                      | 60 @ 300 MHz       | 760                           | 0.500                          | 670                       |
| 1206CS-271X_L_           | 270 @ 50 MHz                    | <b>5,2,1</b>                      | 55 @ 300 MHz       | 730                           | 0.560                          | 630                       |
| 1206CS-331X_L_           | 330 @ 50 MHz                    | <b>5,2,1</b>                      | 45 @ 150 MHz       | 650                           | 0.620                          | 590                       |
| 1206CS-391X_L_           | 390 @ 50 MHz                    | <b>5,2,1</b>                      | 45 @ 150 MHz       | 600                           | 0.750                          | 530                       |
| 1206CS-471X_L_           | 470 @ 50 MHz                    | <b>5,2,1</b>                      | 45 @ 150 MHz       | 550                           | 1.30                           | 490                       |
| 1206CS-561X_L_           | 560 @ 35 MHz                    | <b>5,2,1</b>                      | 45 @ 150 MHz       | 470                           | 1.34                           | 460                       |
| 1206CS-621X_L_           | 620 @ 35 MHz                    | <b>5,2,1</b>                      | 45 @ 150 MHz       | 470                           | 1.58                           | 460                       |
| 1206CS-681X_L_           | 680 @ 35 MHz                    | <b>5,2,1</b>                      | 45 @ 150 MHz       | 450                           | 1.58                           | 430                       |
| 1206CS-751X_L_           | 750 @ 35 MHz                    | <b>5,2,1</b>                      | 45 @ 150 MHz       | 440                           | 2.25                           | 320                       |
| 1206CS-821X_L_           | 820 @ 35 MHz                    | <b>5,2,1</b>                      | 45 @ 150 MHz       | 420                           | 1.82                           | 400                       |
| 1206CS-911X_L_           | 910 @ 35 MHz                    | <b>5,2,1</b>                      | 45 @ 150 MHz       | 410                           | 2.95                           | 310                       |
| 1206CS-102X_L_           | 1000 @ 35 MHz                   | <b>5,2,1</b>                      | 45 @ 150 MHz       | 400                           | 2.80                           | 320                       |
| 1206CS-122X_L_           | 1200 @ 35 MHz                   | <b>5,2,1</b>                      | 45 @ 150 MHz       | 380                           | 3.20                           | 300                       |

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

**1206CS-122XJLC**

**Tolerance:** F = 1% G = 2% J = 5%

(Table shows stock tolerances in bold.)

**Termination:** L = RoHS compliant silver-palladium-platinum-glass frit.

E = Halogen free component. RoHS compliant silver-palladium-platinum-glass frit terminations.  
Special order: T = RoHS tin-silver-copper (95.5/4/0.5) or S = non-RoHS tin-lead (63/37).

**Packaging:** C = 7" machine-ready reel. EIA-481 embossed plastic tape (2000 parts per full reel).

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

D = 13" machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (7500 parts per full reel).

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

3. Tolerances in bold are stocked for immediate shipment.

4. Q measured using an Agilent/HP 4291A with an Agilent/HP 16193 test fixture.

5. SRF measured using an Agilent/HP 8720D network analyzer and a Coilcraft SMD-D test fixture.

6. DCR measured on a Cambridge Technology Micro-ohmmeter and a Coilcraft CCF840 fixture.

7. Current that causes a 15°C temperature rise from 25°C ambient.

8. Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.  
Refer to Doc 174 "Color Coding" for the explanation of color dots.

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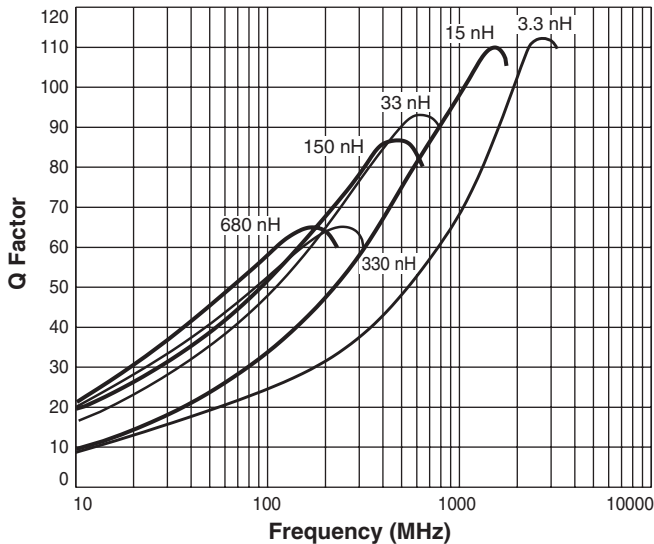
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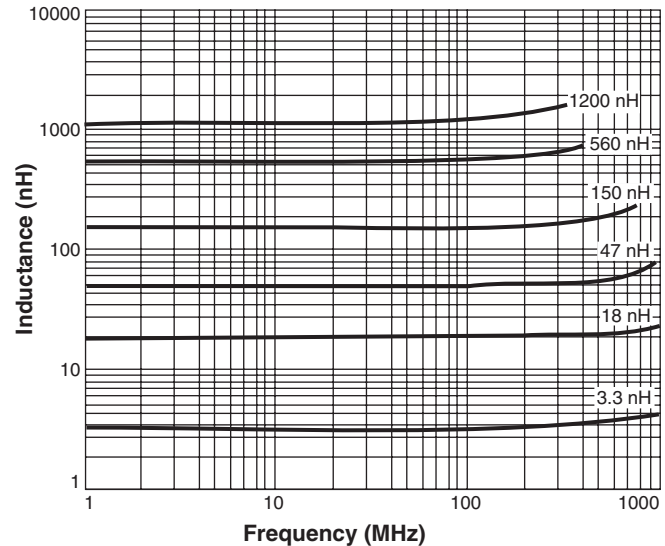


# 1206CS Series (3216)

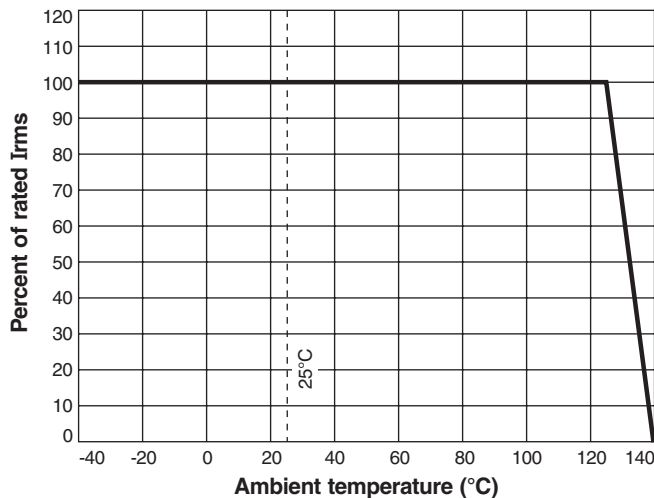
## Typical Q vs Frequency



## Typical L vs Frequency



## Irms Derating



**Designer's Kit C320** contains 10 each of all 5% values

**Core material** Ceramic

**Environmental** RoHS compliant, halogen free optional

**Terminations** RoHS compliant silver-palladium-platinum-glass frit. Other terminations available at additional cost.

**Weight** 19.5 – 23.0 mg

**Ambient temperature** –40°C to +125°C with Irms current, +125°C to +140°C with derated current

**Storage temperature** Component: –40°C to +140°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

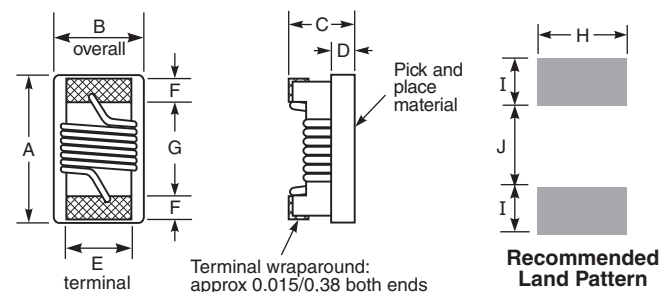
**Moisture Sensitivity Level (MSL)** 1 (unlimited floor life at <30°C / 85% relative humidity)

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

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

**Packaging** 2000/7" reel; 7500/13" reel. Plastic tape: 8 mm wide, 0.3 mm thick, 4 mm pocket spacing, 1.6 mm pocket depth

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



| Amax  | Bmax  | Cmax  | Dref  | E     | F     | G     | H     | I     | J     |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.140 | 0.085 | 0.060 | 0.020 | 0.056 | 0.020 | 0.080 | 0.076 | 0.040 | 0.070 |
| 3,56  | 2,16  | 1,52  | 0,51  | 1,42  | 0,51  | 2,03  | 1,93  | 1,02  | 1,78  |

**Note:** Height dimension (C) is before optional solder application. For maximum height dimension including solder, add 0.006 in / 0,152 mm.

## Данный компонент на территории Российской Федерации

**Вы можете приобрести в компании MosChip.**

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

### Офис по работе с юридическими лицами:

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