



# Chip Inductors – 0402AF Series (1005)

- Higher inductance values than other 0402 inductors
- Ferrite construction for high current handling
- 23 inductance values from 20 nH to 560 nH

| Part number <sup>1</sup> | Inductance <sup>2</sup><br>±5% (nH) | Impedance typ (Ohms) |         | SRF typ <sup>3</sup><br>(MHz) | DCR max <sup>4</sup><br>(Ohms) | Irms <sup>5</sup><br>(mA) |
|--------------------------|-------------------------------------|----------------------|---------|-------------------------------|--------------------------------|---------------------------|
|                          |                                     | 900 MHz              | 1.7 GHz |                               |                                |                           |
| 0402AF-200XJL_           | 20                                  | 83                   | 118     | 2600                          | 0.050                          | 1600                      |
| 0402AF-220XJL_           | 22                                  | 96                   | 146     | 2500                          | 0.065                          | 1300                      |
| 0402AF-330XJL_           | 33                                  | 142                  | 207     | 2300                          | 0.060                          | 1400                      |
| 0402AF-360XJL_           | 36                                  | 157                  | 249     | 2300                          | 0.075                          | 1300                      |
| 0402AF-390XJL_           | 39                                  | 173                  | 263     | 2200                          | 0.115                          | 830                       |
| 0402AF-510XJL_           | 51                                  | 218                  | 330     | 1930                          | 0.070                          | 1100                      |
| 0402AF-560XJL_           | 56                                  | 239                  | 360     | 1900                          | 0.095                          | 1000                      |
| 0402AF-720XJL_           | 72                                  | 311                  | 453     | 1650                          | 0.100                          | 1000                      |
| 0402AF-780XJL_           | 78                                  | 344                  | 522     | 1600                          | 0.130                          | 970                       |
| 0402AF-101XJL_           | 100                                 | 513                  | 850     | 1400                          | 0.160                          | 900                       |
| 0402AF-141XJL_           | 140                                 | 629                  | 949     | 1220                          | 0.260                          | 630                       |
| 0402AF-181XJL_           | 180                                 | 832                  | 1270    | 1150                          | 0.280                          | 560                       |
| 0402AF-201XJL_           | 200                                 | 1110                 | 1890    | 1000                          | 0.440                          | 400                       |
| 0402AF-221XJL_           | 220                                 | 1050                 | 1560    | 1150                          | 0.530                          | 380                       |
| 0402AF-251XJL_           | 250                                 | 1230                 | 1940    | 900                           | 0.360                          | 520                       |
| 0402AF-271XJL_           | 270                                 | 1320                 | 1960    | 860                           | 0.550                          | 360                       |
| 0402AF-301XJL_           | 300                                 | 1550                 | 2230    | 860                           | 0.410                          | 420                       |
| 0402AF-331XJL_           | 330                                 | 1850                 | 2880    | 820                           | 0.560                          | 350                       |
| 0402AF-361XJL_           | 360                                 | 1920                 | 2640    | 810                           | 0.575                          | 360                       |
| 0402AF-391XJL_           | 390                                 | 2350                 | 2970    | 760                           | 0.750                          | 300                       |
| 0402AF-421XJL_           | 420                                 | 2270                 | 2800    | 700                           | 0.700                          | 340                       |
| 0402AF-471XJL_           | 470                                 | 2680                 | 3010    | 650                           | 0.730                          | 310                       |
| 0402AF-561XJL_           | 560                                 | 3620                 | 3110    | 600                           | 0.920                          | 200                       |

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

**0402AF-561XJLW**

**Termination:** **L** = RoHS compliant gold over nickel over silver-palladium-glass frit.  
Special order: **T** = RoHS tin-silver-copper (95.5/4/0.5) or **S** = non-RoHS tin-lead (63/37).

**Packaging:** **W** = 7" machine-ready reel, EIA-481 punched paper tape (2000 parts per full reel).

**Q** = 7" machine-ready reel, EIA-481 punched paper tape (5000 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 7.9 MHz, 0.1 Vrms, using an Agilent/HP 4286A LCR meter or equivalent with a Coilcraft SMD-F test fixture and Coilcraft-provided correlation pieces.

3. SRF measured using Agilent/HP 8753D network analyzer and Coilcraft SMD-D test fixture.

4. DCR measured on Cambridge Technology micro-ohmmeter and a Coilcraft CCF858 test fixture.

5. Current that causes a 15°C temperature rise from 25°C ambient. Because of their open construction, these parts will not saturate. Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

**Designer's Kit C397** contains 20 each of all values

**Core material** Ferrite

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

**Weight** 0.9 – 1.1 mg

**Ambient temperature** –40°C to +85°C with Irms current, +85°C to +100°C with derated current

**Storage temperature** Component: –40°C to +100°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 +150 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 or 5000 per 7" reel. Paper tape: 8 mm wide, 0.68 mm thick, 2 mm pocket spacing

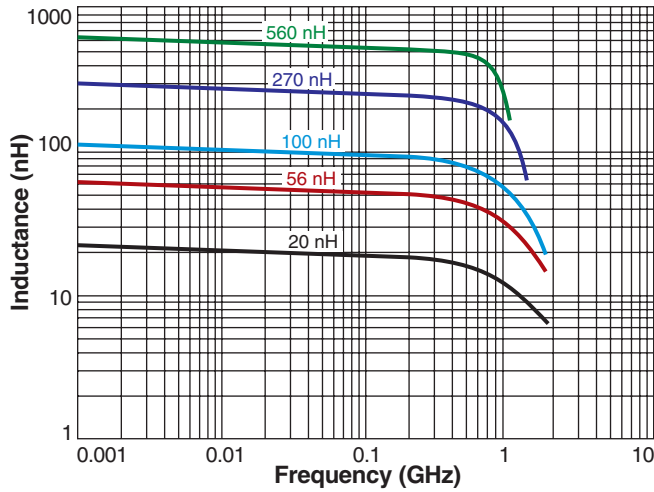
**PCB washing** Tested with pure water or alcohol only. For other solvents, see Doc787\_PCB\_Washing.pdf.



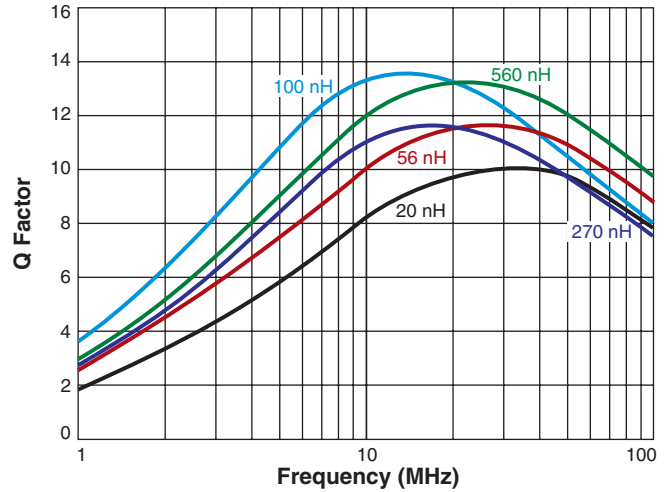
# Chip Inductors – 0402AF Series

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

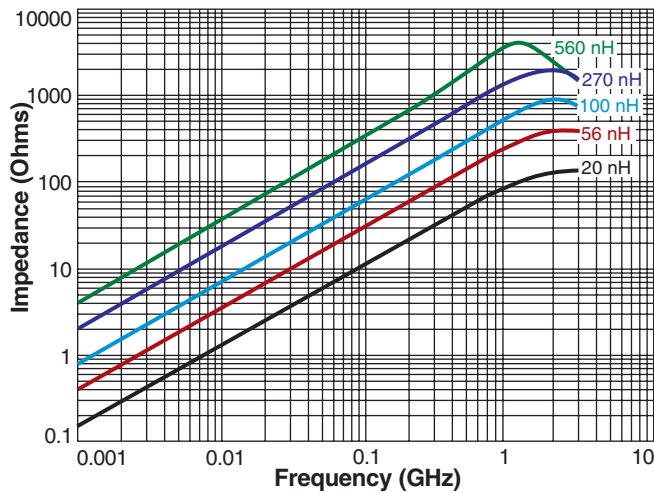
## Typical L vs Frequency



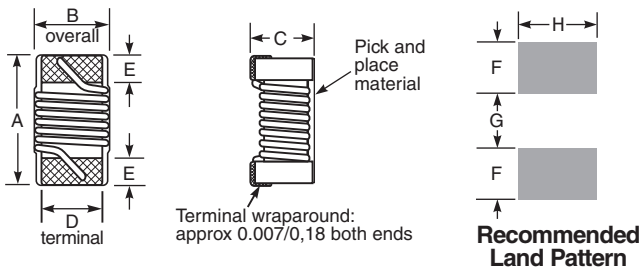
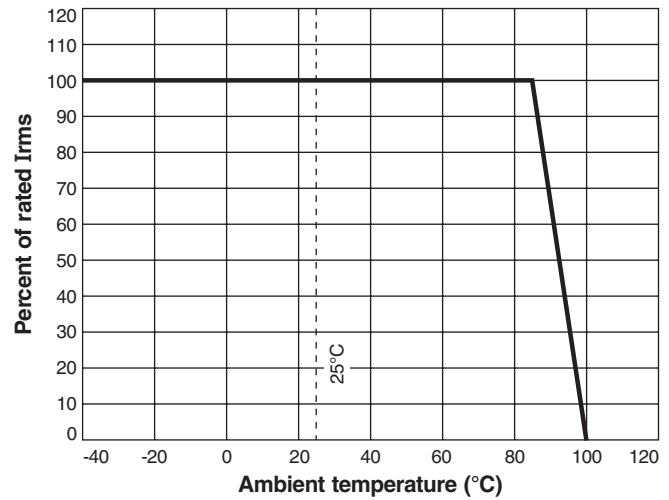
## Typical Q vs Frequency



## Typical Impedance vs Frequency



## Irms Derating



| Amax  | Bmax  | Cmax  | D     | E     | F     | G     | H     |
|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.044 | 0.026 | 0.026 | 0.020 | 0.009 | 0.017 | 0.018 | 0.026 |
| 1,12  | 0,66  | 0,66  | 0,51  | 0,23  | 0,43  | 0,46  | 0,66  |

**Note:** Height dimension (C) is before optional solder application. For maximum height dimension including solder, add 0.006 in / 0,152 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 422-2 Revised 12/17/12  
 © 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.

## 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:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: [info@moschip.ru](mailto:info@moschip.ru)

Skype отдела продаж:

moschip.ru

moschip.ru\_4

moschip.ru\_6

moschip.ru\_9