



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

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

0402AF-561XJLW

Tolerance: **G** = 2% **H** = 3% **J** = 5%

(Table shows stock values and tolerances in bold.)

Termination: **L** = 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). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer (\$25 charge).

Q = 7" machine-ready reel. EIA-481 punched paper tape (5000 parts per full reel).

Y = 7" machine-ready reel. EIA-481 punched paper tape. Factory order only, not stocked (10000 parts per full reel).

U = Less than full reel. In an effort to simplify our part numbering system, Coilcraft is eliminating the need for multiple packaging codes. When ordering, simply change the last letter of your part number from U to W.

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. This information is for reference only and does not represent absolute maximum ratings.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

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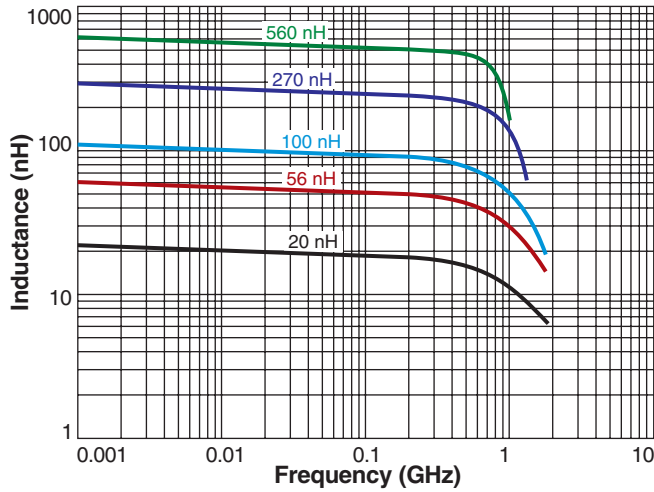
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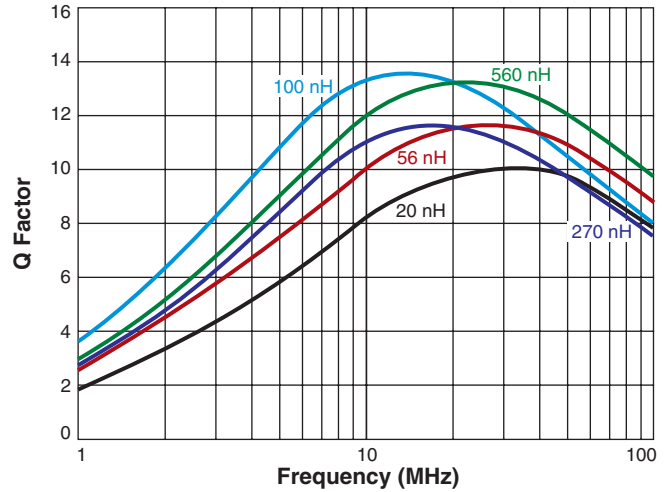
Chip Inductors – 0402AF Series

S-Parameter files
ON OUR WEB SITE
SPICE models
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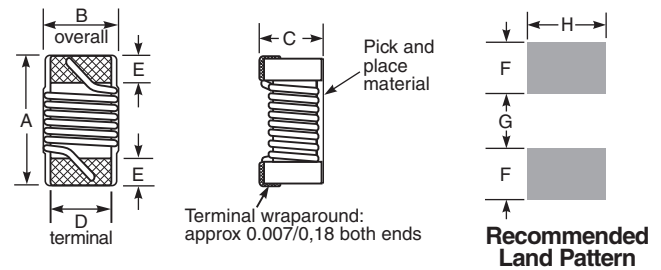
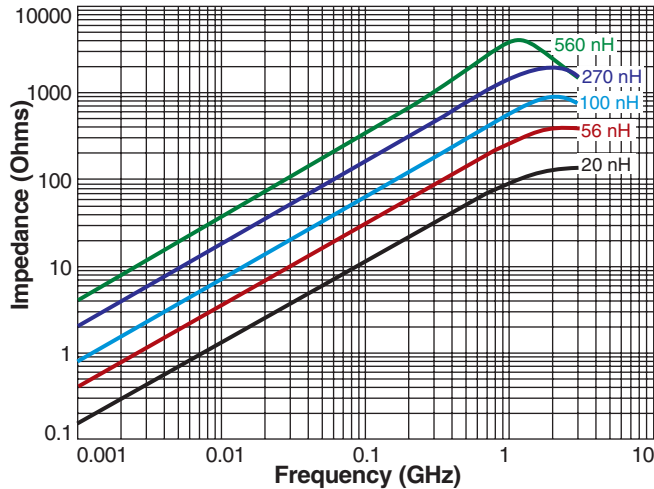
Typical L vs Frequency



Typical Q vs Frequency



Typical Impedance vs Frequency



| A | max ² | B | max | C | max ³ | 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 |

inches
mm

- Notes:**
1. Unless otherwise indicated, all dimensions are nominal.
 2. Length dimension (A) is before optional solder application. Maximum dimension including solder is 0.045 in / 1.143 mm.
 3. Height dimension (C) is before optional solder application. For maximum height dimension including solder, add 0.006 in / 0,152 mm.

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

Maximum part temperature +100°C (ambient + temp rise).

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)

Packaging 2000 or 5000 or 10000 per 7" reel.
Paper tape: 8 mm wide, 0.68 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](#).



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