



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

**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. [Click for temperature derating information.](#)

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

**Maximum part temperature** +100°C (ambient + temp rise) [Derating.](#)

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

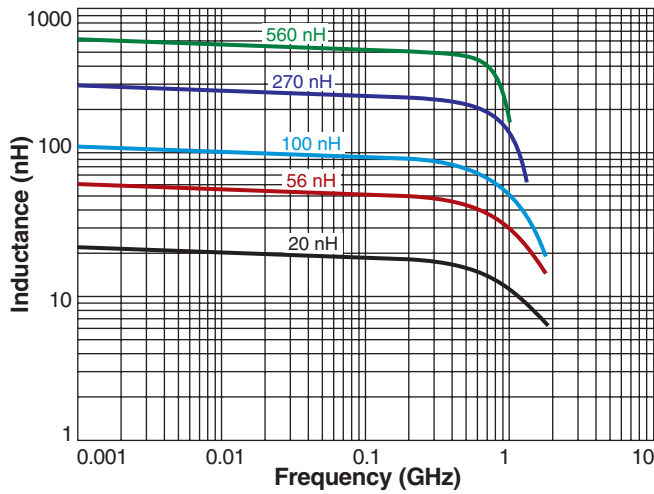
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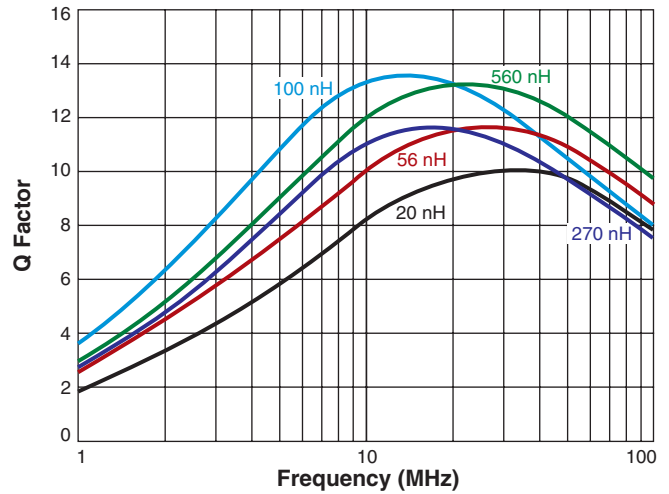
# Chip Inductors – 0402AF Series

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

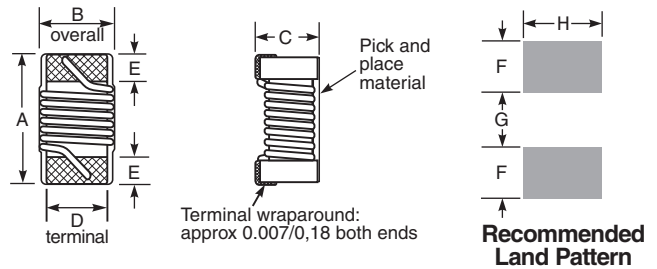
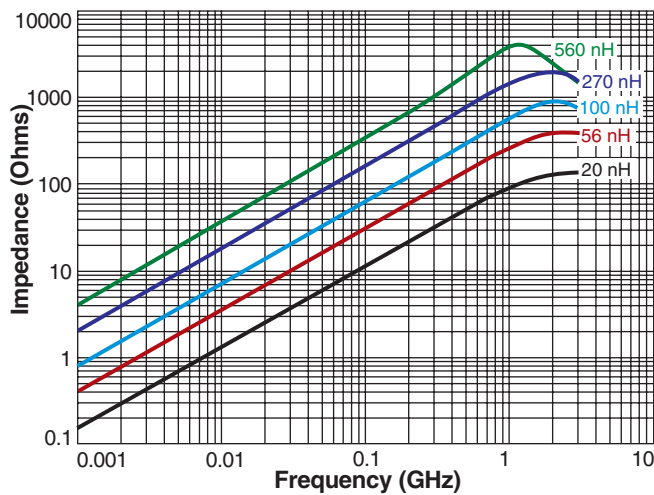
## Typical L vs Frequency



## Typical Q vs Frequency



## Typical Impedance vs Frequency



A	B	C	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

- 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.



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