# Chip Inductors – 0402HL (1005)

- Higher inductance values than other 0402 ceramic chip inductors
- 12 inductance values from 270 nH to 820 nH

| Part number[1] | Inductance[2] ±5% (nH) | Q typ[3] | SRF typ[4] (MHz) | DCR max[5] (Ohms) | Irms[6] (mA) |
|---|---|---|---|---|---|
| 0402HL-271XJR_ | 270 | 11 @ 25 MHz | 590 | 1.95 | 190 |
| 0402HL-301XJR_ | 300 | 11 @ 25 MHz | 600 | 2.15 | 190 |
| 0402HL-331XJR_ | 330 | 11 @ 25 MHz | 513 | 2.23 | 170 |
| 0402HL-361XJR_ | 360 | 11 @ 25 MHz | 485 | 2.36 | 170 |
| 0402HL-391XJR_ | 390 | 11 @ 25 MHz | 260 | 2.35 | 170 |
| 0402HL-471XJR_ | 470 | 11 @ 25 MHz | 220 | 2.67 | 160 |
| 0402HL-511XJR_ | 510 | 12 @ 25 MHz | 450 | 3.50 | 150 |
| 0402HL-561XJR_ | 560 | 12 @ 25 MHz | 420 | 3.70 | 140 |
| 0402HL-601XJR_ | 600 | 12 @ 25 MHz | 440 | 3.78 | 130 |
| 0402HL-681XJR_ | 680 | 13 @ 25 MHz | 380 | 5.15 | 120 |
| 0402HL-741XJR_ | 740 | 12 @ 25 MHz | 165 | 5.45 | 110 |
| 0402HL-821XJR_ | 820 | 13 @ 25 MHz | 385 | 5.85 | 90 |

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

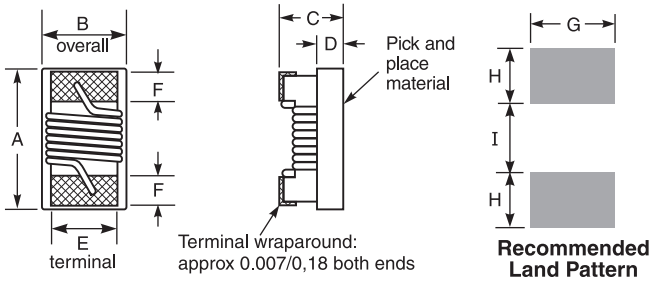
**0402HL-821XJRW**

**Termination:** **R** = RoHS compliant matte tin over nickel over silver-platinum-glass frit.
Special order: **Q** = RoHS tin-silver-copper (95.5/4/0.5) or **P** = non-RoHS tin-lead (63/37).

**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.

2. Inductance measured at 25 MHz using a Coilcraft SMD-F test fixture and Coilcraft-provided correlation pieces with an Agilent/HP 4286 impedance analyzer.
3. Q measured using a Coilcraft SMD-F fixture in Agilent/HP 4287A impedance analyzer or equivalent.
4. SRF measured using Agilent/HP 8753D network analyzer and Coilcraft SMD-D test fixture.
5. DCR measured on Cambridge Technology micro-ohmmeter and a Coilcraft CCF858 test fixture.
6. Current that causes a 15°C temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.
7. Electrical specifications at 25°C.

Refer to Doc 362 “Soldering Surface Mount Components” before soldering.




| A max | B max | C max | D | E | F | G | H | I | |
|---|---|---|---|---|---|---|---|---|---|
| 0.048 | 0.031 | 0.022 | 0.010 | 0.018 | 0.008 | 0.026 | 0.014 | 0.025 | inches |
| 1,22 | 0,79 | 0,56 | 0,25 | 0,46 | 0,20 | 0,66 | 0,36 | 0,64 | mm |

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

**Core material** Ceramic

**Environmental** RoHS compliant without exemption, halogen free

**Terminations** RoHS compliant matte tin over nickel over silver-platinum-glass frit. Other terminations available at additional cost.

**Weight** 0.7 – 1.3 mg

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

**Storage temperature** Component: –40°C to +140°C.
Tape and reel packaging: –40°C to +80°C

**Maximum part temperature** +140°C (ambient + temp rise).

**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 per 7″ reel. Paper tape: 8 mm wide, 0.66 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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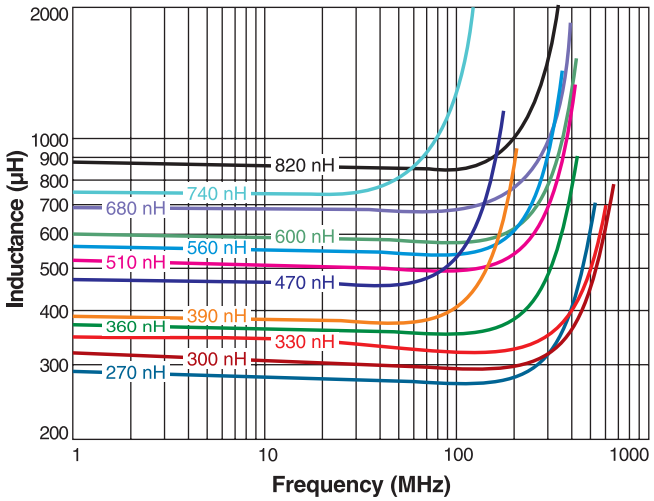
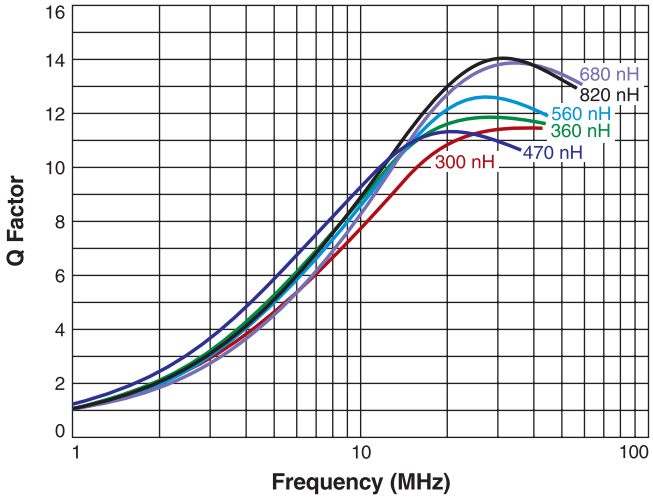
# Chip Inductors – 0402HL Series

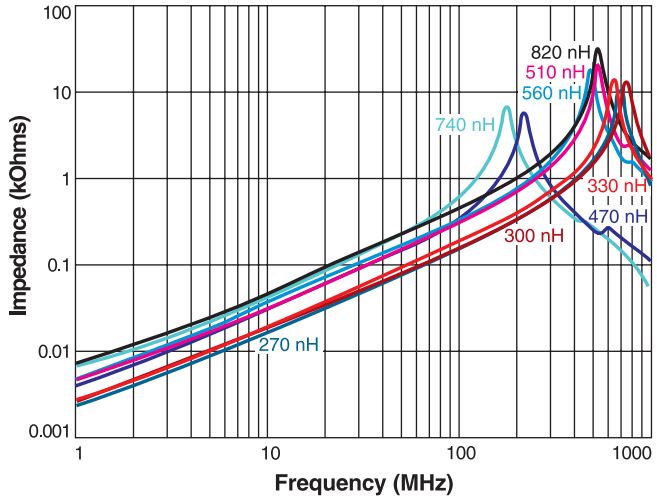
## L vs Frequency




## Typical Q vs Frequency




## Typical Impedance vs Frequency

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