

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.

- Inductance measured at 25 MHz using a Coilcraft SMD-F test fixture and Coilcraft-provided correlation pieces with an Agilent/HP 4286 impedance analyzer.
 - Q measured using a Coilcraft SMD-F fixture in Agilent/HP 4287A impedance analyzer or equivalent.
 - SRF measured using Agilent/HP 8753D network analyzer and Coilcraft SMD-D test fixture.
 - DCR measured on Cambridge Technology micro-ohmmeter and a Coilcraft CCF858 test fixture.
 - 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.
 - Electrical specifications at 25°C.
- Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

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

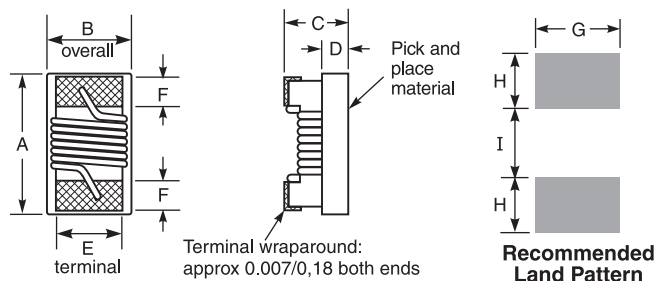
Moisture Sensitivity Level (MSL) 1 (unlimited floor life at <30°C / 85% relative humidity)

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](#).



Amax	Bmax	Cmax	D	E	F	G	H	I
0.048	0.031	0.022	0.010	0.018	0.008	0.026	0.014	0.025
1,22	0,79	0,56	0,25	0,46	0,20	0,66	0,36	0,64

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



Chip Inductors – 0402HL Series

L vs Frequency



Typical Q vs Frequency



Typical Impedance vs Frequency



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Document 913-2 Revised 01/18/12

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