



Chip Inductors - 0402PA (1005)

With current ratings as high as 1.8 A, Coilcraft's 0402PA wirewound chip inductors are ideal for power amplifiers in TDMA, CDMA, GSM and other wireless applications.

Compared to our standard 0402CS Series, they can handle up to 65% more current and have half the DC resistance. These inductors are perfect for use as an RF choke for the power supply, the LC tank between ampli-

fier and antenna and in the amplifier bias circuit. Like our other ceramic chip inductors, they feature outstanding self-resonant frequencies and excellent Q values. Most values are available in 2% inductance tolerance.

Coilcraft **Designer's Kit C373** contains samples of all 5% inductance tolerance parts. To order, contact Coilcraft or visit <http://order.coilcraft.com>.

Part number ¹	Inductance ² (nH)	Percent tolerance ³	900 MHz		1.7 GHz		SRF typ ⁵ (MHz)	DCR typ ⁶ (Ohms)	Irms ⁷ (mA)
			L typ	Q typ ⁴	L typ	Q typ ⁴			
0402PA-0N8XJR_	0.78	5	0.79	35	0.76	55	15200	0.018	1860
0402PA-1N9X_R_	1.9	5,2	1.83	50	1.81	73	12500	0.022	1700
0402PA-3N4X_R_	3.4	5,2	3.36	51	3.33	93	7200	0.030	1500
0402PA-3N5X_R_	3.5	5,2	3.51	58	3.55	82	8750	0.040	1400
0402PA-5N8X_R_	5.8	5,2	5.76	56	5.70	83	5450	0.045	1300
0402PA-6N2X_R_	6.2	5,2	6.17	57	6.28	81	4950	0.055	1150
0402PA-8N2X_R_	8.2	5,2	8.15	58	8.19	82	4650	0.060	1100

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

0402PA-8N2XJRW

Tolerance: G = 2% J = 5%

Termination: R = RoHS matte Sn over Ni over Ag-Pt-glass frit.

RoHS compliance expiring. Last order June 2021:
E = Ag/Pd/Pt-glass frit. Not for new designs.
L = Not halogen-free. Ag/Pd/Pt-glass frit. Not for new designs.

Special order:
T = RoHS Sn/Ag/Cu (95.5/4.0/0.5)
S = Not RoHS Sn/Pb (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).

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.

- Inductance measured at 250 MHz using a Coilcraft SMD-F test fixture and Coilcraft-provided correlation pieces with an Agilent/HP 4286 impedance analyzer.
- Tolerances in bold are stocked for immediate shipment.
- Q measured using an Agilent/HP 4291A with an Agilent/HP 16193 test fixture.
- For SRF >6 GHz, measured using an Agilent/HP 8722ES network analyzer and a Coilcraft SMD-D test fixture. For SRF ≤6 GHz, measured using an Agilent/HP 8753D network analyzer and a Coilcraft SMD-D test fixture.
- DCR measured on a micro-ohmmeter.
- 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, halogen free

Terminations RoHS matte Sn over Ni over Ag-Pt-glass frit. Other terminations available at additional cost.

Weight 0.9 – 1.1 mg

Ambient temperature -40°C to +125°C with Irms current

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

Storage temperature Component: -40°C to +140°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 +125 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)
0.22 per billion hours / 4.55E+09 hours, calculated per Telcordia SR-332

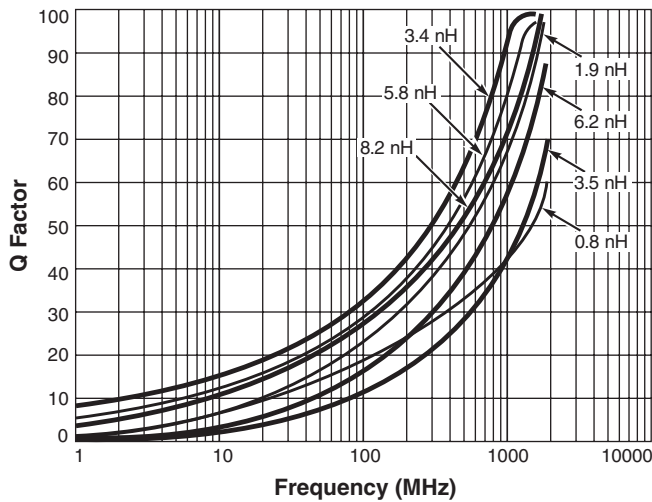
Packaging 2000 per 7" reel. Paper tape: 8 mm wide, 0.68 mm thick, 2 mm pocket spacing

PCB washing Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787_PCB_Washing.pdf](#).

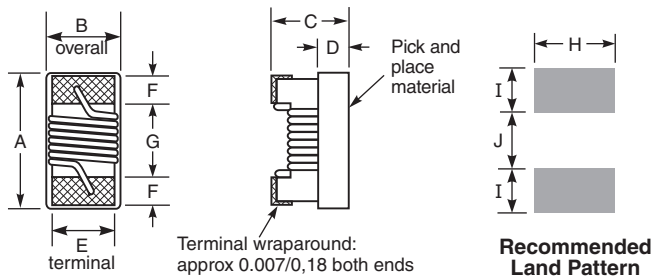
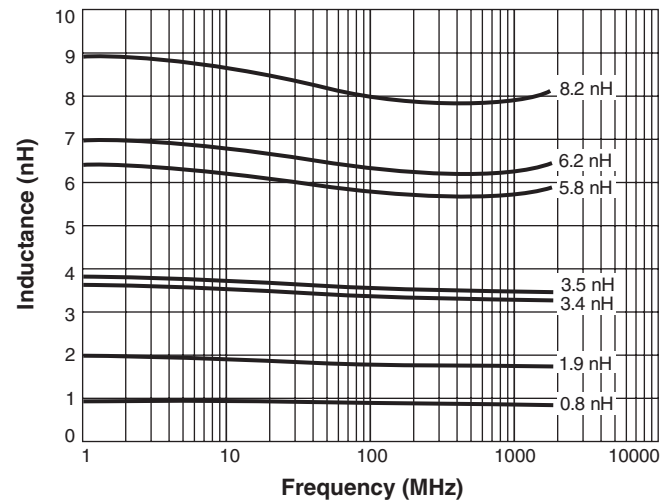


0402PA Series (1005)

Typical Q vs Frequency



Typical L vs Frequency



A	B	C	D	E	F	G	H	I	J
max	max	max	ref						
0.047	0.025	0.026	0.010	0.020	0.009	0.022	0.026	0.014	0.018
1,19	0,64	0,66	0,25	0,51	0,23	0,56	0,66	0,36	0,46

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

S-Parameter files
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SPICE models
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