



# Chip Inductors - 0402PA Series (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 <sup>1</sup>	Inductance <sup>2</sup> (nH)	Percent tolerance <sup>3</sup>	900 MHz		1.7 GHz		SRF typ <sup>5</sup> (MHz)	DCR typ <sup>6</sup> (Ohms)	I <sub>rms</sub> <sup>7</sup> (mA)
			L typ	Q typ <sup>4</sup>	L typ	Q typ <sup>4</sup>			
0402PA-0N8X_L_	0.78	<b>5</b>	0.79	35	0.76	55	15200	0.018	1860
0402PA-1N9X_L_	1.9	<b>5,2</b>	1.83	50	1.81	73	12500	0.022	1700
0402PA-3N4X_L_	3.4	<b>5,2</b>	3.36	51	3.33	93	7200	0.030	1500
0402PA-3N5X_L_	3.5	<b>5,2</b>	3.51	58	3.55	82	8750	0.040	1400
0402PA-5N8X_L_	5.8	<b>5,2</b>	5.76	56	5.70	83	5450	0.045	1300
0402PA-6N2X_L_	6.2	<b>5,2</b>	6.17	57	6.28	81	4950	0.055	1150
0402PA-8N2X_L_	8.2	<b>5,2</b>	8.15	58	8.19	82	4650	0.060	1100

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

0402PA-8N2X J L W

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

**Termination:** L = RoHS compliant silver-palladium-platinum-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).

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 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.
- Electrical specifications at 25°C.

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

**Core material** Ceramic

**Terminations** RoHS compliant silver-palladium-platinum-glass frit.  
Other terminations available at additional cost.

**Weight** 0.9 – 1.1 mg

**Ambient temperature** -40°C to +125°C with I<sub>rms</sub> current, +125°C to +140°C with derated current

**Storage temperature** Component: -40°C to +140°C.  
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)**

One per billion hours / one billion 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** Only pure water or alcohol recommended

**COILCRAFT** ACCURATE  
**PRECISION** REPEATABLE  
MEASUREMENTS  
SEE INDEX **TEST FIXTURES**

**Coilcraft**<sup>®</sup>

Specifications subject to change without notice.  
Please check our website for latest information.

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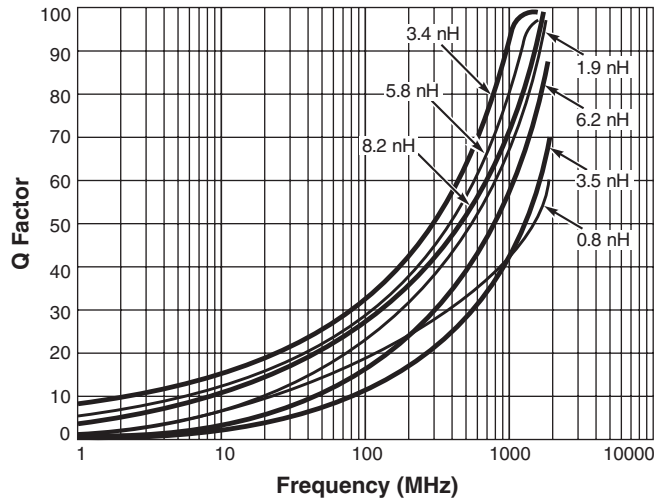
E-mail [info@coilcraft.com](mailto:info@coilcraft.com) Web <http://www.coilcraft.com>



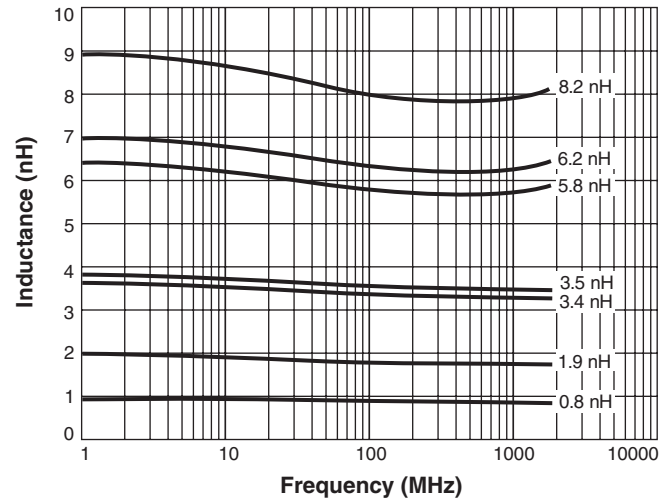
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**S-Parameter files**  
ON OUR WEB SITE OR CD  
**SPICE models**  
ON OUR WEB SITE OR CD

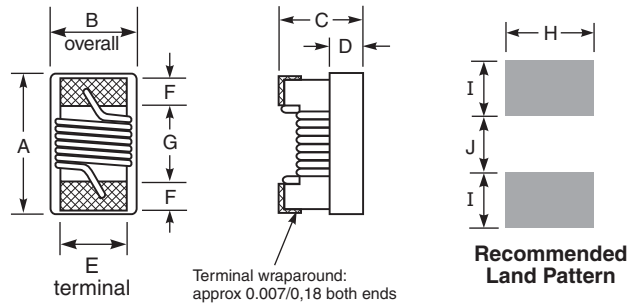
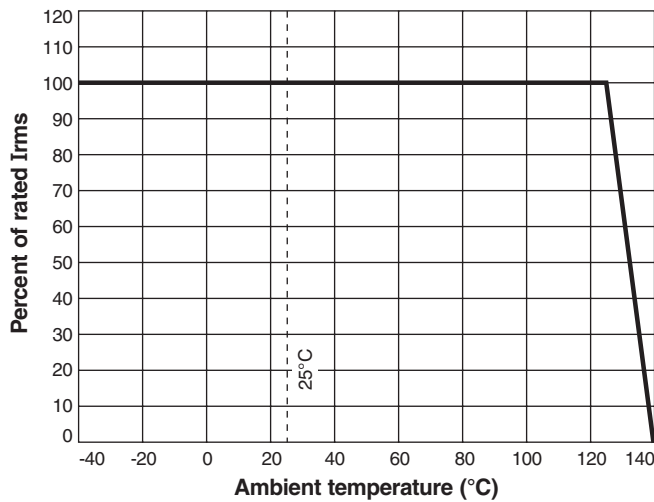
## Typical Q vs Frequency



## Typical L vs Frequency



## Irms Derating



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



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