Chip Inductors for Critical Applications AR312RAP

- Higher inductance values than other 0603 ceramic chip inductors
- 14 inductance values from 330 nH – 3.3 µH

Part number[1]	Inductance[2] ±5% (nH)	Q typ[3]	SRF typ[4] (MHz)	DCR max[5] (Ohms)	Irms[6] (mA)	Color code
AR312RAP331JPZ	330 @ 25 MHz	13 @ 25 MHz	420	0.970	330	Violet
AR312RAP391JPZ	390 @ 25 MHz	13 @ 25 MHz	400	1.05	330	Gray
AR312RAP471JPZ	470 @ 25 MHz	12 @ 25 MHz	200	1.15	300	White
AR312RAP511JPZ	510 @ 25 MHz	12 @ 25 MHz	340	1.20	300	Black
AR312RAP561JPZ	560 @ 25 MHz	12 @ 25 MHz	330	1.35	300	Brown
AR312RAP681JPZ	680 @ 25 MHz	12 @ 25 MHz	310	1.80	260	Red
AR312RAP821JPZ	820 @ 25 MHz	14 @ 25 MHz	290	2.45	190	Orange
AR312RAP102JPZ	1000 @ 25 MHz	14 @ 25 MHz	250	2.80	190	Yellow
AR312RAP122JPZ	1200 @ 25 MHz	14 @ 25 MHz	230	3.20	180	Green
AR312RAP152JPZ	1500 @ 25 MHz	15 @ 25 MHz	190	4.10	150	Blue
AR312RAP182JPZ	1800 @ 25 MHz	16 @ 25 MHz	180	5.30	140	Violet
AR312RAP222JPZ	2200 @ 25 MHz	16 @ 25 MHz	165	5.90	130	Gray
AR312RAP272JPZ	2700 @ 25 MHz	16 @ 25 MHz	150	7.00	120	White
AR312RAP332JPZ	3300 @ 25 MHz	18 @ 25 MHz	135	9.10	110	Black

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

AR312RAP332JPZ

Termination: **P** = Tin-lead (63/37) over tin over nickel over silver-platinum-glass frit.
Q = Tin-silver-copper (95.5/4/0.5) over tin over nickel over silver-platinum-glass frit.
A = Gold over nickel over moly-mag
C = Tin-lead (63/37) over gold over nickel over moly-mag
R = Matte tin over nickel over silver-platinum-glass frit

Testing: **Z** = Unscreened
H = Group A screening per Coilcraft CP-SA-10001
T = Screening per MIL-STD-981
U = Screening per EEE-INST-002
F = Screening per ESCC 3201
All screening performed to the document's latest revision
Custom screening also available

2. Inductance measured at 0.1 Vrms, using a Coilcraft SMD-A fixture in Agilent/HP 4287A impedance analyzer or equivalent with Coilcraft-provided correlation pieces.
3. Q measured using an Agilent/HP 16197A fixture in Agilent/HP 4291 impedance analyzer or equivalents.
4. SRF measured using Agilent/HP 8753D network analyzer or equivalent with a Coilcraft CCF1232 test fixture.
5. DCR measured on a Keithley 580 micro-ohmmeter or equivalent and a Coilcraft CCF1010 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.

Core material Ceramic

Terminations Tin-lead (63/37) over tin over nickel over silver-platinum-glass frit. Other terminations available at an additional cost.

Weight 3.2 – 4.4 mg

Ambient temperature –65°C to +125°C with Imax current

Maximum part temperature +155°C (ambient + temp rise)

Storage temperature Component: –65°C to +155°C.
Tape & reel packaging: –55°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) +50 to +150 ppm/°C

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

Packaging 2000 per 7″ reel. Plastic tape: 8 mm wide, 0.23 mm thick, 4 mm pocket spacing, 1.0 mm pocket depth

Coilcraft CPS
CRITICAL PRODUCTS & SERVICES

1102 Silver Lake Road
Cary, IL 60013
Phone 800-981-0363

Fax 847-639-1508
Email cps@coilcraft.com
www.coilcraft-cps.com

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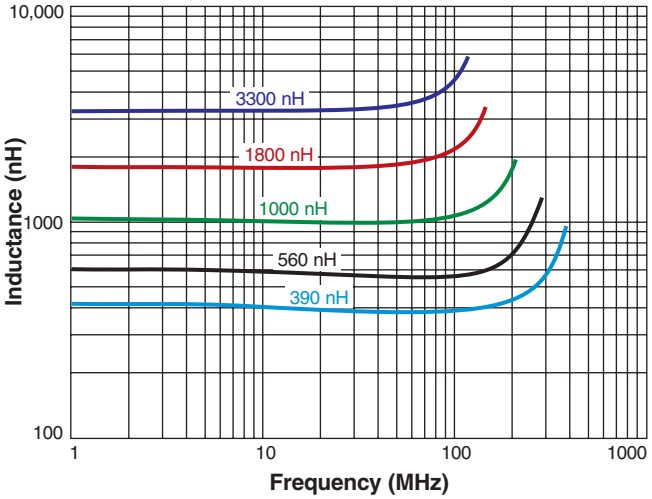
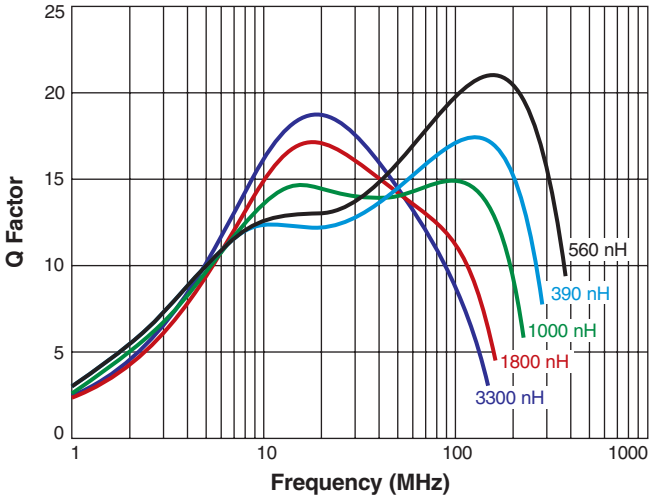
Chip Inductors – AR312RAP

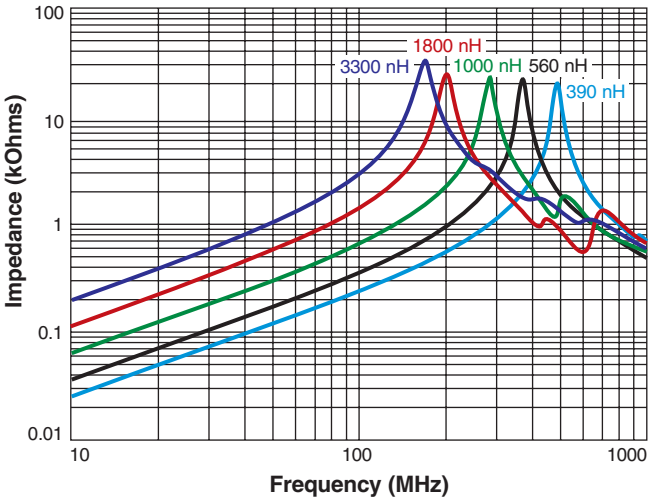
Typical L vs Frequency

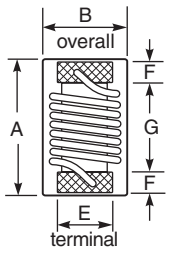


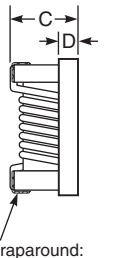
Typical Q vs Frequency

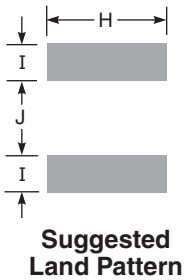


Typical Impedance vs Frequency









Suggested Land Pattern

A max	B max	C max	D	E	F	G	H	I	J	
0.071	0.047	0.037	0.010	0.030	0.011	0.038	0.040	0.025	0.025	inches
1,80	1,19	0,94	0,25	0,76	0,28	0,97	1,02	0,64	0,64	mm

Note: Dimensions are before optional solder application. For maximum overall dimensions including solder, add 0.0025 in / 0,064 mm to **B** and 0.006 in / 0,15 mm to **A** and **C**.

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www.coilcraft-cps.com

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