

Chip Inductors for Critical Applications AR312RAP

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

Part number ^{1,7}	Inductance at 25 MHz ² $\pm 5\%$ (nH)	Q at 25 MHz ³		SRF (MHz) ⁴		DCR max ⁵ (Ohms)	Irms ⁶ (mA)
		min	typ	min	typ		
AR312RAP331JPZ	330	10	13	330	420	0.970	330
AR312RAP391JPZ	390	10	13	320	400	1.05	330
AR312RAP471JPZ	470	9.0	12	160	200	1.15	300
AR312RAP511JPZ	510	9.0	12	270	340	1.20	300
AR312RAP561JPZ	560	9.0	12	260	330	1.35	300
AR312RAP681JPZ	680	9.0	12	240	310	1.80	260
AR312RAP821JPZ	820	11	14	230	290	2.45	190
AR312RAP102JPZ	1000	11	14	200	250	2.80	190
AR312RAP122JPZ	1200	11	14	180	230	3.20	180
AR312RAP152JPZ	1500	12	15	150	190	4.10	150
AR312RAP182JPZ	1800	12	16	140	180	5.30	140
AR312RAP222JPZ	2200	12	16	130	165	5.90	130
AR312RAP272JPZ	2700	12	16	120	150	7.00	120
AR312RAP332JPZ	3300	14	18	100	135	9.10	110

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 IEEE-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 at 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. Parts are not compliant with MIL-STD-981 Family 50, Class S due to wire gauge
8. 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 I_{max} 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



CRITICAL PRODUCTS & SERVICES

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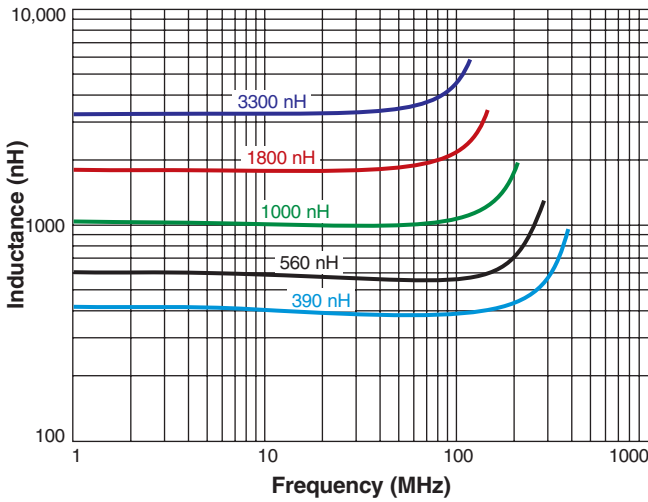
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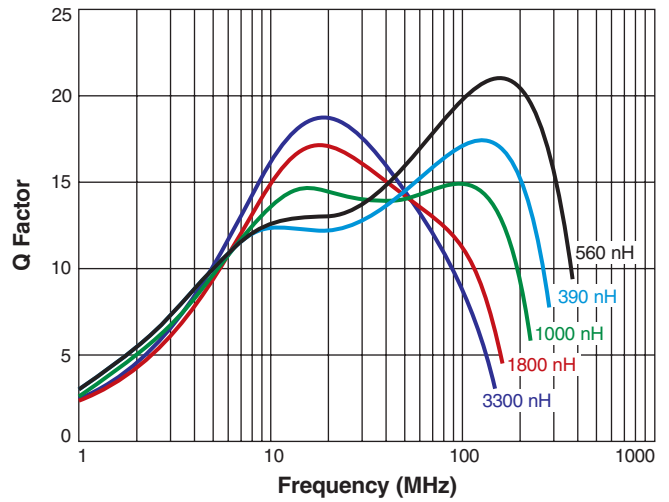
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Chip Inductors – AR312RAP

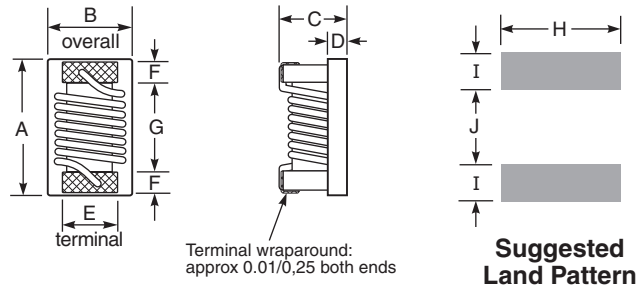
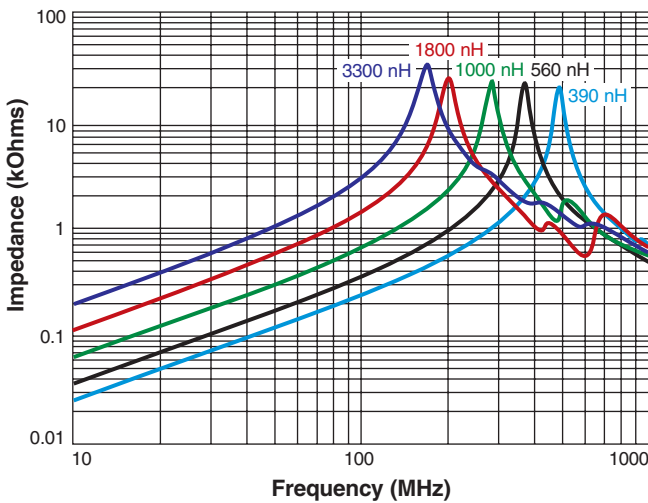
Typical L vs Frequency



Typical Q vs Frequency



Typical Impedance vs Frequency



A	B	C	D	E	F	G	H	I	J
max	max	max							
0,071	0,047	0,037	0,010	0,030	0,011	0,038	0,040	0,025	0,025
1,80	1,19	0,94	0,25	0,76	0,28	0,97	1,02	0,64	0,64

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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