

NEW!

Chip Inductors for Critical Applications AR312RAB

- Higher inductance values than other 0603 inductors
- Ferrite construction for high current handling
- Inductance values: 47 nH–22 μ H; 5% and 2% tolerance
- High temperature materials allow operation in ambient temperatures up to 155°C.
- Standard tin-lead (Sn-Pb) terminations ensures the best possible board adhesion. Note: Nickel barrier termination (tin-lead over tin over nickel over silver-platinum-glass frit, termination code P) is recommended for hand soldering applications.

Core material Ceramic/Ferrite

Terminations Tin-lead (63/37) over tin over nickel over silver-platinum-glass frit.

Weight 4.8 – 6.2 mg

Ambient temperature –55°C to +125°C with Irms current

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

Storage temperature Component: –55°C to +155°C.

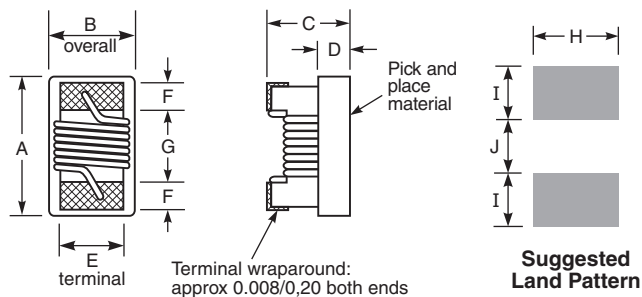
Tape and reel packaging: –55°C to +80°C

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, 1.17 mm pocket depth

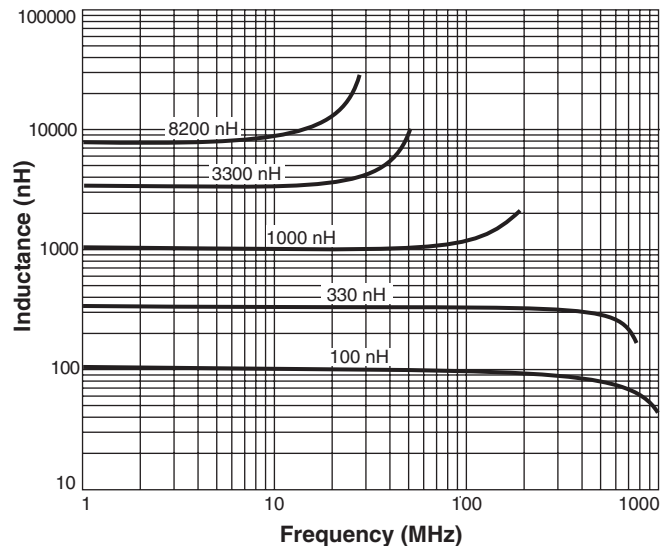


A		C	D						
max	B	max	ref	E	F	G	H	I	J
0.071	See note 2	0.044	0.015	0.030	0.013	0.034	0.040	0.025	0.025 inches
1.80		1.12	0.38	0.76	0.33	0.86	1.02	0.64	0.64 mm

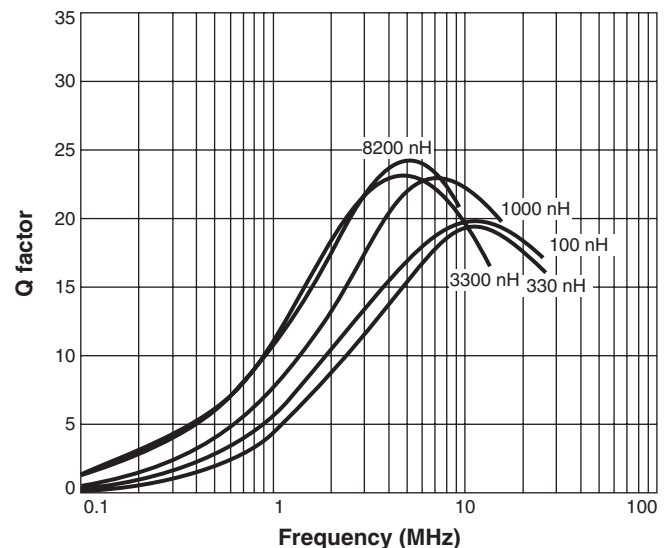
Notes:

- 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**.
- B1 = 0.040 $\pm$ 0.004 in / 1.016 $\pm$ 0.102 mm
B2 = 0.046 $\pm$ 0.004 in / 1.169 $\pm$ 0.102 mm

Typical L vs Frequency



Typical Q vs Frequency



AR312RAB Series (0603)

S-Parameter files

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SPICE models

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Part number ¹	Inductance ² (nH)	Percent tolerance	Q min ³	SRF min ⁴ (MHz)	DCR max ⁵ (Ohms)	I _{max} (mA)	Overall width
AR312RAB47N_PZ	47 @ 7.9 MHz	5,2	12 @ 7.9 MHz	1500	0.090	700	B1
AR312RAB51N_PZ	51 @ 7.9 MHz	5,2	12 @ 7.9 MHz	1400	0.090	700	B1
AR312RAB72N_PZ	72 @ 7.9 MHz	5,2	11 @ 7.9 MHz	1320	0.100	700	B1
AR312RAB101_PZ	100 @ 7.9 MHz	5,2	7 @ 7.9 MHz	1150	0.125	700	B1
AR312RAB121_PZ	120 @ 7.9 MHz	5,2	7 @ 7.9 MHz	1050	0.135	660	B1
AR312RAB151_PZ	150 @ 7.9 MHz	5,2	9 @ 7.9 MHz	950	0.135	690	B1
AR312RAB181_PZ	180 @ 7.9 MHz	5,2	9 @ 7.9 MHz	950	0.145	670	B1
AR312RAB241_PZ	240 @ 7.9 MHz	5,2	11 @ 7.9 MHz	750	0.150	630	B1
AR312RAB271_PZ	270 @ 7.9 MHz	5,2	6 @ 7.9 MHz	700	0.315	410	B1
AR312RAB331_PZ	330 @ 7.9 MHz	5,2	5 @ 7.9 MHz	620	0.425	350	B1
AR312RAB391_PZ	390 @ 7.9 MHz	5,2	6 @ 7.9 MHz	580	0.480	340	B1
AR312RAB471_PZ	470 @ 7.9 MHz	5,2	5 @ 7.9 MHz	540	0.640	290	B1
AR312RAB561_PZ	560 @ 7.9 MHz	5,2	11 @ 7.9 MHz	525	0.410	380	B1
AR312RAB681_PZ	680 @ 7.9 MHz	5,2	10 @ 7.9 MHz	260	0.520	320	B2
AR312RAB781_PZ	780 @ 7.9 MHz	5,2	7 @ 7.9 MHz	440	0.840	250	B1
AR312RAB821_PZ	820 @ 7.9 MHz	5,2	10 @ 7.9 MHz	360	0.740	290	B1
AR312RAB102_PZ	1000 @ 7.9 MHz	5,2	10 @ 7.9 MHz	260	0.760	270	B2
AR312RAB122_PZ	1200 @ 7.9 MHz	5,2	11 @ 7.9 MHz	190	0.840	250	B2
AR312RAB152_PZ	1500 @ 7.9 MHz	5,2	12 @ 7.9 MHz	115	0.960	230	B2
AR312RAB182_PZ	1800 @ 7.9 MHz	5,2	13 @ 7.9 MHz	85	1.00	220	B2
AR312RAB222_PZ	2200 @ 7.9 MHz	5,2	13 @ 7.9 MHz	78	1.14	210	B2
AR312RAB272_PZ	2700 @ 7.9 MHz	5,2	13 @ 7.9 MHz	65	1.56	180	B2
AR312RAB332_PZ	3300 @ 7.9 MHz	5,2	15 @ 7.9 MHz	55	1.43	190	B2
AR312RAB392_PZ	3900 @ 7.9 MHz	5,2	17 @ 7.9 MHz	44	1.56	180	B2
AR312RAB472_PZ	4700 @ 7.9 MHz	5,2	17 @ 7.9 MHz	38	1.71	170	B2
AR312RAB562_PZ	5600 @ 7.9 MHz	5,2	15 @ 7.9 MHz	36	2.32	150	B2
AR312RAB682_PZ	6800 @ 7.9 MHz	5,2	15 @ 7.9 MHz	28	3.25	125	B2
AR312RAB782_PZ	7800 @ 7.9 MHz	5,2	16 @ 7.9 MHz	30	3.07	125	B2
AR312RAB822_PZ	8200 @ 7.9 MHz	5,2	16 @ 7.9 MHz	24	3.30	125	B2
AR312RAB103_PZ	10,000 @ 2.5 MHz	5,2	15 @ 2.5 MHz	28	4.75	100	B2
AR312RAB153_PZ	15,000 @ 2.5 MHz	5,2	15 @ 2.5 MHz	20	7.00	85	B2
AR312RAB183_PZ	18,000 @ 2.5 MHz	5,2	16 @ 2.5 MHz	20	7.35	80	B2
AR312RAB223_PZ	22,000 @ 2.5 MHz	5,2	17 @ 2.5 MHz	16	8.80	70	B2

1. When ordering, please specify **tolerance** and **screening** codes:**AR312RAB223JPZ****Tolerance:** G = 2% J = 5%**Termination:** P = Tin-lead (63/37) over tin over nickel over silver-platinum-glass frit.**Screening:** Z = Unscreened

H = Coilcraft CP-SA-10001 Group A

1 = EEE-INST-002 (Family 3) Level 1

2 = EEE-INST-002 (Family 3) Level 2

3 = EEE-INST-002 (Family 3) Level 3

4 = MIL-STD-981 (Family 50) Class B

5 = MIL-STD-981 (Family 50) Class S

F = ESCC3201 (F4 operational life performed at 90°C)

• Screening performed to the document's latest revision.

• Lot qualification (Group B) available.

• Custom testing also available.

• Country of origin restrictions available; prefix options G or F

2. Inductance measured using a Coilcraft SMD-A fixture in an Agilent/HP 4286A impedance analyzer or equivalent with Coilcraft-provided correlation pieces.

3. Q measured using an Agilent/HP 4291A with an Agilent/HP 16197A test fixture or equivalents.

4. SRF is measured on an Agilent 8753ES (or equivalent) with a Coilcraft CCF1236 test fixture.

5. DCR measured on a Keithley 580 micro-ohmmeter or equivalent and a Coilcraft CCF1010 test fixture.

6. Electrical specifications at 25°C.

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



CRITICAL PRODUCTS & SERVICES

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