Chip Inductors for Critical Applications CP312RAB

- Higher inductance values than other 0603 inductors
- Ferrite construction for high current handling
- Inductance values: 47 nH – 22 µH; 5% and 2% tolerance

Core material Ceramic/Ferrite

Terminations Silver-palladium-platinum-glass frit.

Weight 4.8 – 6.2 mg

Ambient temperature –40°C to +85°C with Irms current

Maximum part temperature +100°C (ambient + temp rise).

Storage temperature Component: –65°C to +100°C. Tape and reel packaging: –55°C to +80°C

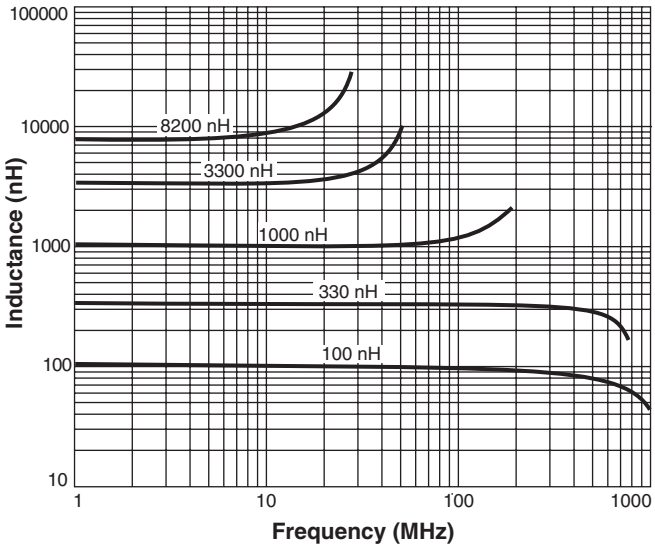
Resistance to soldering heat Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

Temperature Coefficient of Inductance (TCL) +50 to +150 ppm/°C

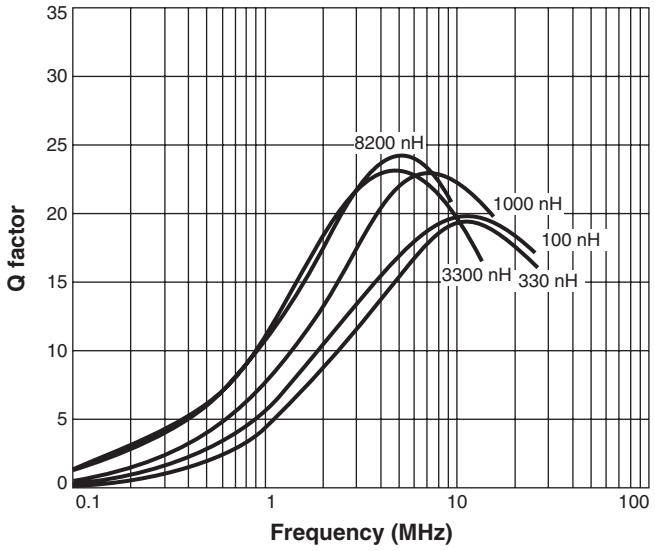
Moisture Sensitivity Level (MSL) 1 (unlimited floor life at <30°C / 85% relative humidity)

Packaging 2000 per 7″ reel. Plastic tape: 8 mm wide, 0.23 mm thick, 4 mm pocket spacing, 1.1 mm pocket depth

Typical L vs Frequency



Typical Q vs Frequency



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S-Parameter files
ON OUR WEB SITE

SPICE models
ON OUR WEB SITE

CP312RAB Series (0603)

Part number[1]	Inductance[2] (nH)	Percent tolerance	Q min[3]	SRF min[4] (MHz)	DCR max[5] (Ohms)	Imax (A)	Color code	Overall width
CP312RAB47N_LZ	47 @ 7.9 MHz	5,2	12 @ 7.9 MHz	1500	0.075	1.40	Black	B1
CP312RAB51N_LZ	51 @ 7.9 MHz	5,2	12 @ 7.9 MHz	1400	0.075	1.00	Violet	B1
CP312RAB72N_LZ	72 @ 7.9 MHz	5,2	12 @ 7.9 MHz	1400	0.12	1.40	Brown	B1
CP312RAB101_LZ	100 @ 7.9 MHz	5,2	12 @ 7.9 MHz	1150	0.13	1.40	Red	B1
CP312RAB121_LZ	120 @ 7.9 MHz	5,2	12 @ 7.9 MHz	1100	0.15	1.40	Orange	B1
CP312RAB151_LZ	150 @ 7.9 MHz	5,2	15 @ 7.9 MHz	1050	0.15	1.30	Yellow	B1
CP312RAB181_LZ	180 @ 7.9 MHz	5,2	15 @ 7.9 MHz	950	0.15	1.30	Green	B1
CP312RAB241_LZ	240 @ 7.9 MHz	5,2	15 @ 7.9 MHz	800	0.16	0.95	Violet	B1
CP312RAB271_LZ	270 @ 7.9 MHz	5,2	15 @ 7.9 MHz	775	0.30	0.71	Gray	B1
CP312RAB331_LZ	330 @ 7.9 MHz	5,2	15 @ 7.9 MHz	725	0.46	0.56	White	B1
CP312RAB391_LZ	390 @ 7.9 MHz	5,2	15 @ 7.9 MHz	620	0.51	0.50	Black	B1
CP312RAB471_LZ	470 @ 7.9 MHz	5,2	15 @ 7.9 MHz	540	0.62	0.42	Brown	B1
CP312RAB561_LZ	560 @ 7.9 MHz	5,2	15 @ 7.9 MHz	525	0.44	0.55	Red	B1
CP312RAB681_LZ	680 @ 7.9 MHz	5,2	15 @ 7.9 MHz	260	0.52	0.47	Orange	B2
CP312RAB781_LZ	780 @ 7.9 MHz	5,2	15 @ 7.9 MHz	460	0.83	0.39	Yellow	B1
CP312RAB821_LZ	820 @ 7.9 MHz	5,2	15 @ 7.9 MHz	410	0.69	0.40	Green	B2
CP312RAB102_LZ	1000 @ 7.9 MHz	5,2	15 @ 7.9 MHz	190	0.81	0.40	Blue	B2
CP312RAB122_LZ	1200 @ 7.9 MHz	5,2	15 @ 7.9 MHz	160	0.87	0.37	Violet	B2
CP312RAB152_LZ	1500 @ 7.9 MHz	5,2	15 @ 7.9 MHz	100	0.96	0.35	Gray	B2
CP312RAB182_LZ	1800 @ 7.9 MHz	5,2	15 @ 7.9 MHz	80	1.1	0.35	White	B2
CP312RAB222_LZ	2200 @ 7.9 MHz	5,2	15 @ 7.9 MHz	68	1.2	0.32	Black	B2
CP312RAB272_LZ	2700 @ 7.9 MHz	5,2	15 @ 7.9 MHz	60	1.5	0.28	Brown	B2
CP312RAB332_LZ	3300 @ 7.9 MHz	5,2	15 @ 7.9 MHz	42	1.5	0.28	Red	B2
CP312RAB392_LZ	3900 @ 7.9 MHz	5,2	15 @ 7.9 MHz	40	1.6	0.28	Orange	B2
CP312RAB472_LZ	4700 @ 7.9 MHz	5,2	15 @ 7.9 MHz	34	2.1	0.26	Yellow	B2
CP312RAB562_LZ	5600 @ 7.9 MHz	5,2	15 @ 7.9 MHz	32	2.6	0.24	Green	B2
CP312RAB682_LZ	6800 @ 7.9 MHz	5,2	15 @ 7.9 MHz	31	3.1	0.20	Black	B2
CP312RAB782_LZ	7800 @ 7.9 MHz	5,2	15 @ 7.9 MHz	28	3.5	0.20	Blue	B2
CP312RAB822_LZ	8200 @ 7.9 MHz	5,2	15 @ 7.9 MHz	26	3.6	0.19	Violet	B2
CP312RAB103_LZ	10,000 @ 2.5 MHz	5,2	12 @ 2.5 MHz	25	4.8	0.18	Gray	B2
CP312RAB153_LZ	15,000 @ 2.5 MHz	5,2	20 @ 2.5 MHz	23	7.1	0.17	White	B2
CP312RAB183_LZ	18,000 @ 2.5 MHz	5,2	20 @ 2.5 MHz	22	7.6	0.16	Brown	B2
CP312RAB223_LZ	22,000 @ 2.5 MHz	5,2	22 @ 2.5 MHz	19	8.81	0.13	Black	B2

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

CP312RAB822JLZ

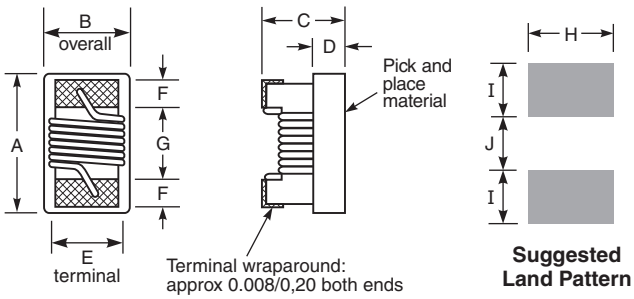
Tolerance: **G** = 2% **J** = 5%

Termination: **L** = Silver-palladium-platinum-glass frit.
Special order:
T = Tin-silver-copper (95.5/4/0.5) or
S = Tin-lead (63/37).

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 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 measured using an Agilent/HP 8753ES network analyzer or equivalent and a Coilcraft SMD-D 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.



A max	B	C max	D ref	E	F	G	H	I	J	
0.071	See	0.044	0.015	0.030	0.013	0.034	0.040	0.025	0.025	inches
1,80	note 2	1,12	0,38	0,76	0,33	0,86	1,02	0,64	0,64	mm

Notes:
1. 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**.
2. B1 = 0.040 ±0.004 in / 1,016 ±0,102 mm
B2 = 0.046 ±0.004 in / 1,169 ±0,102 mm

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