

NEW!

Chip Inductors for Critical Applications AR312RAM

- Higher inductance values than ceramic 0603 inductors
- Heavier gauge wire for low DCR
- Ferrite construction for high current handling
- Inductance values from 15 nH to 10 μ H
- High temperature materials allow operation in ambient temperatures up to 140°C.
- Passes NASA low outgassing specifications
- Standard tin-lead (Sn-Pb) terminations ensures the best possible board adhesion.

Part number ¹	Inductance ² $\pm 5\%$ (nH)	Q min ³	Impedance typ (Ohms)		SRF min ⁴ (MHz)	DCR max ⁵ (Ohms)	I _{max} (A)
			100 MHz	500 MHz			
AR312RAM15NJPZ	15 @ 7.9MHz	10 @ 7.9MHz	10	42	2800	0.023	1.20
AR312RAM33NJPZ	33 @ 7.9MHz	10 @ 7.9MHz	19	90	1840	0.028	1.20
AR312RAM39NJPZ	39 @ 7.9MHz	10 @ 7.9MHz	23	113	1760	0.115	0.60
AR312RAM47NJPZ	47 @ 7.9MHz	12 @ 7.9MHz	42	210	1800	0.052	1.10
AR312RAM50NJPZ	50 @ 7.9MHz	12 @ 7.9MHz	31	149	1500	0.052	1.10
AR312RAM68NJPZ	68 @ 7.9MHz	12 @ 7.9MHz	39	193	1200	0.150	0.50
AR312RAM72NJPZ	72 @ 7.9MHz	12 @ 7.9MHz	60	385	1440	0.065	1.00
AR312RAM85NJPZ	85 @ 7.9MHz	12 @ 7.9MHz	51	256	1280	0.065	1.00
AR312RAM111JPZ	110 @ 7.9MHz	12 @ 7.9MHz	70	350	980	0.060	1.10
AR312RAM121JPZ	120 @ 7.9MHz	12 @ 7.9MHz	76	410	920	0.089	0.90
AR312RAM151JPZ	150 @ 7.9MHz	12 @ 7.9MHz	89	468	840	0.093	0.85
AR312RAM201JPZ	200 @ 7.9MHz	12 @ 7.9MHz	120	685	700	0.115	0.80
AR312RAM241JPZ	240 @ 7.9MHz	12 @ 7.9MHz	140	810	720	0.120	0.70
AR312RAM271JPZ	270 @ 7.9MHz	12 @ 7.9MHz	173	1023	600	0.220	0.55
AR312RAM361JPZ	360 @ 7.9MHz	12 @ 7.9MHz	210	1310	560	0.210	0.55
AR312RAM391JPZ	390 @ 7.9MHz	12 @ 7.9MHz	240	1565	560	0.300	0.50
AR312RAM421JPZ	420 @ 7.9MHz	12 @ 7.9MHz	250	1925	550	0.330	0.50
AR312RAM471JPZ	470 @ 7.9MHz	12 @ 7.9MHz	306	2253	460	0.370	0.48
AR312RAM561JPZ	560 @ 7.9MHz	12 @ 7.9MHz	371	3180	400	0.490	0.42
AR312RAM601JPZ	600 @ 7.9MHz	12 @ 7.9MHz	372	2778	430	0.550	0.36
AR312RAM681JPZ	680 @ 7.9MHz	12 @ 7.9MHz	420	3620	420	0.460	0.36
AR312RAM821JPZ	820 @ 7.9MHz	12 @ 7.9MHz	507	3300	260	0.580	0.34
AR312RAM102JPZ	1000 @ 7.9MHz	13 @ 7.9MHz	663	9823	320	0.840	0.32
AR312RAM152JPZ	1500 @ 7.9MHz	13 @ 7.9MHz	944	17,830	260	1.3	0.22
AR312RAM222JPZ	2200 @ 7.9MHz	12 @ 7.9MHz	5220	129	65	1.1	0.25
AR312RAM472JPZ	4700 @ 7.9MHz	12 @ 7.9MHz	2100	220	45	1.5	0.22
AR312RAM103JPZ	10000 @ 2.5MHz	9 @ 2.5MHz	1400	150	30	4.5	0.10

1. When ordering, please specify **screening** code:

AR312RAM103JPZ

- Screening:** Z = Unscreened
H = Coilcraft CP-SA-10001 Group A
F = ESCC3201 (F4 operational life performed at 90°C)
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
- 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 at the same frequency as inductance 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 CCF1232 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.

Coilcraft CPS
CRITICAL PRODUCTS & SERVICES

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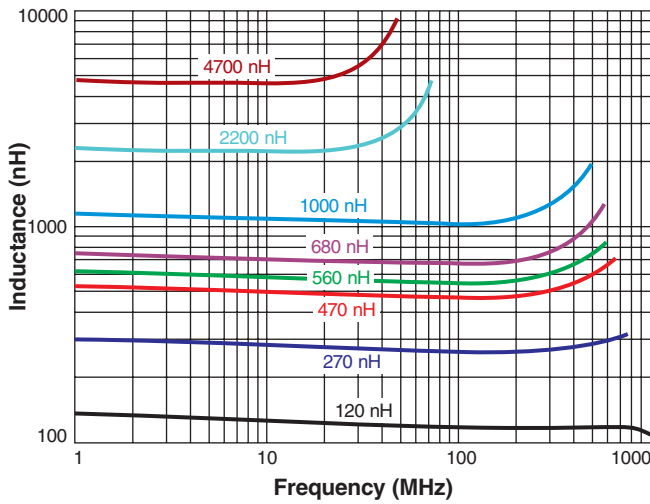
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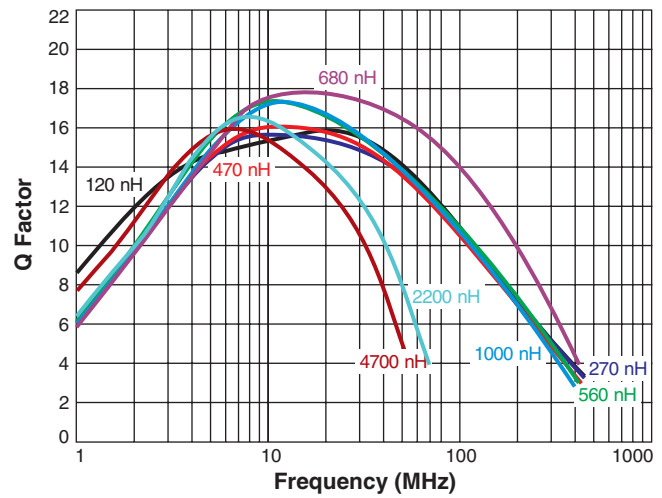
This product may not be used in medical or high risk applications without prior Coilcraft approval. Specifications subject to change without notice. Please check our web site for latest information.

AR312RAM Series (0603)

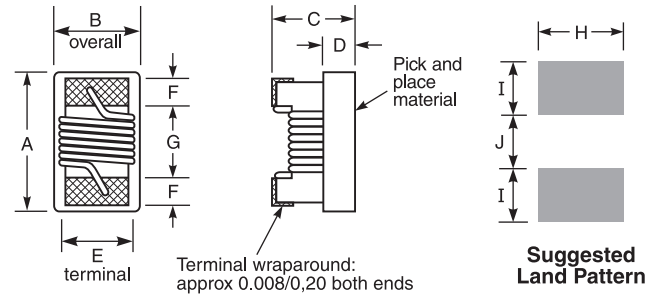
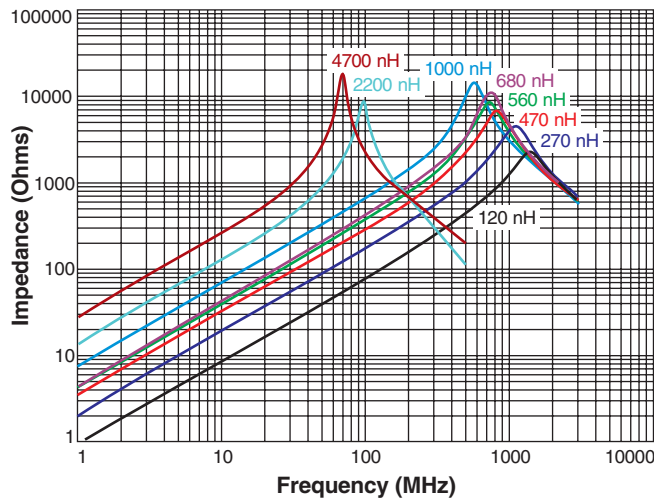
Typical L vs Frequency



Typical Q vs Frequency



Typical Impedance vs Frequency



A	B	C	D	E	F	G	H	I	J
max	max	max	ref						
0,071	0,044	0,036	0,015	0,030	0,013	0,034	0,040	0,025	0,025
1,80	1,12	0,91	0,38	0,76	0,33	0,86	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.

- Core material** Ferrite
- Terminations** Tin-lead (63/37) over tin over nickel over silver-platinum-glass frit.
- Weight** 4.3 – 5.7 mg
- Ambient temperature** -40°C to +125°C with Irms current
- Maximum part temperature** +140°C (ambient + temp rise).
- Storage temperature** Component: -55°C to +140°C. 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 +300 ppm/°C
- Moisture Sensitivity Level (MSL)** 1 (unlimited floor life at <30°C / 85% relative humidity)
- Packaging** 2000 per 7" reel; Paper tape: 8 mm wide, 1.0 mm thick, 4 mm pocket spacing



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