

Chip Inductors for Critical Applications ST312RAM

- 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

Part number ¹	Inductance ² $\pm 5\%$ (nH)	Q min ³	Impedance typ (Ohms)		SRF min ⁴ (MHz)	DCR max ⁵ (Ohms)	Imax (A)	Color code
			100 MHz	500 MHz				
ST312RAM15NJRZ	15 @ 7.9 MHz	10 @ 7.9 MHz	10	42	2800	0.023	1.7	Yellow
ST312RAM33NJRZ	33 @ 7.9 MHz	10 @ 7.9 MHz	19	90	1840	0.028	1.7	Red
ST312RAM111JRZ	110 @ 7.9 MHz	12 @ 7.9 MHz	70	350	980	0.060	1.4	Red
ST312RAM121JRZ	120 @ 7.9 MHz	12 @ 7.9 MHz	76	410	920	0.089	1.4	Black
ST312RAM241JRZ	240 @ 7.9 MHz	12 @ 7.9 MHz	140	810	720	0.12	0.68	Violet
ST312RAM271JRZ	270 @ 7.9 MHz	12 @ 7.9 MHz	173	1023	600	0.22	0.68	Brown
ST312RAM471JRZ	470 @ 7.9 MHz	12 @ 7.9 MHz	306	2253	460	0.37	0.61	Orange
ST312RAM561JRZ	560 @ 7.9 MHz	12 @ 7.9 MHz	371	3180	400	0.49	0.53	Blue
ST312RAM681JRZ	680 @ 7.9 MHz	12 @ 7.9 MHz	420	3620	420	0.46	0.53	Orange
ST312RAM821JRZ	820 @ 7.9 MHz	12 @ 7.9 MHz	507	3300	260	0.58	0.53	Green
ST312RAM102JRZ	1000 @ 7.9 MHz	13 @ 7.9 MHz	663	9823	320	0.84	0.40	Black
ST312RAM222JRZ	2200 @ 7.9 MHz	12 @ 2.5 MHz	5220	129	65	1.10	0.40	Red
ST312RAM472JRZ	4700 @ 7.9 MHz	12 @ 7.9 MHz	2100	220	45	1.50	0.40	Yellow
ST312RAM103JRZ	10000 @ 2.5 MHz	9 @ 2.5 MHz	1400	150	30	4.50	0.40	Gray

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

ST312RAM103JRZ

Termination: R = Matte tin over nickel over silver-platinum-glass frit.

Special order:

Q = Tin-silver-copper (95.5/4/0.5) over tin over nickel over silver-platinum-glass frit or

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

Testing: Z = Unscreened

H = Group A screening per Coilcraft CP-SA-10001

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 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 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.

Core material Ferrite

Terminations Matte tin over nickel over silver-platinum-glass frit.

Weight 4.3 – 5.7 mg

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

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

Storage temperature Component: –55°C to +100°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



CRITICAL PRODUCTS & SERVICES

© Coilcraft, Inc. 2017

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

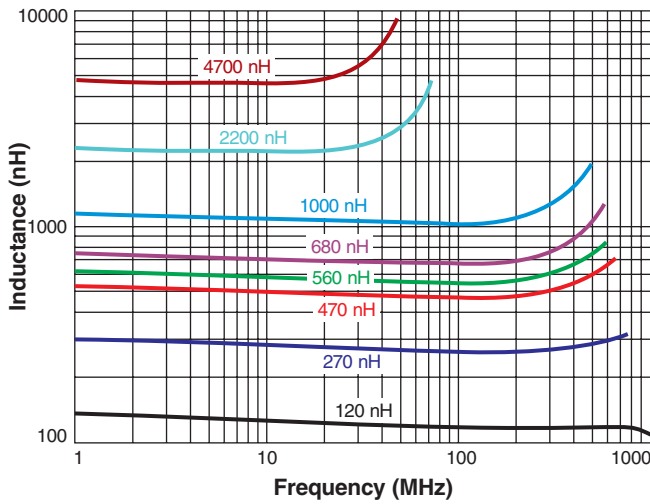
Fax 847-639-1508
Email cps@coilcraft.com
www.coilcraft-cps.com

Document ST773-1 Revised 05/16/17

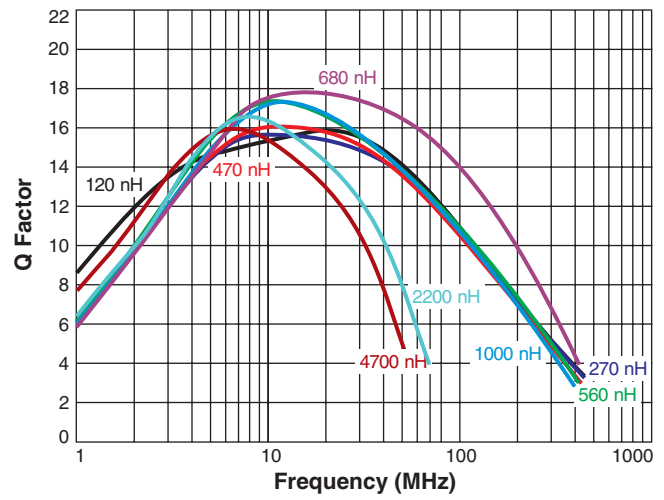
This product may not be used in medical or high risk applications without prior Coilcraft approval. Specifications subject to change without notice. Please check our web site for latest information.

ST312RAM Series (0603)

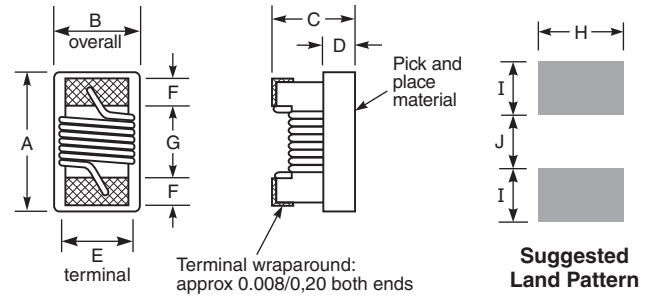
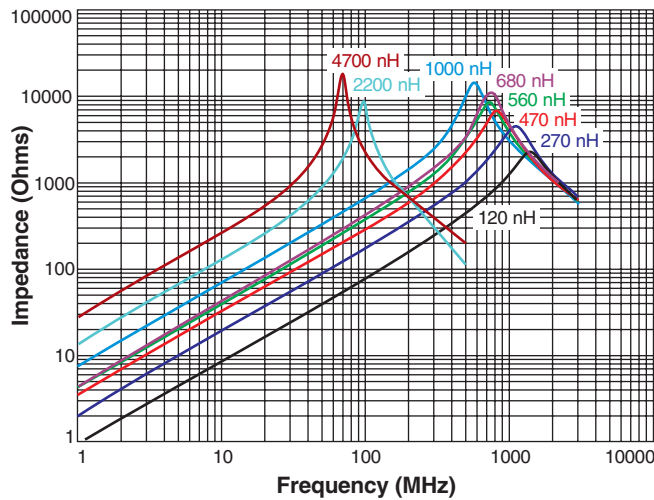
Typical L vs Frequency



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.



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

© Coilcraft, Inc. 2017

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

Document ST773-2 Revised 05/16/17

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.