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 µH

Part number[1]	Inductance[2] ±5% (nH)	Q min[3]	Impedance typ (Ohms) 100 MHz	Impedance typ (Ohms) 500 MHz	SRF min[4] (MHz)	DCR max[5] (Ohms)	Imax (A)	Color code
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** = RoHS compliant matte tin over nickel over silver-platinum-glass frit.
Special order:
Q = RoHS tin-silver-copper (95.5/4/0.5) over tin over nickel over silver-platinum-glass frit or
P = non-RoHS tin-lead (63/37) over tin over nickel over silver-platinum-glass frit.
Testing: **Z** = COTS
H = Screening per Coilcraft CP-SA-10001

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, +85°C to +100°C with derated current

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

Coilcraft CPS
CRITICAL PRODUCTS & SERVICES

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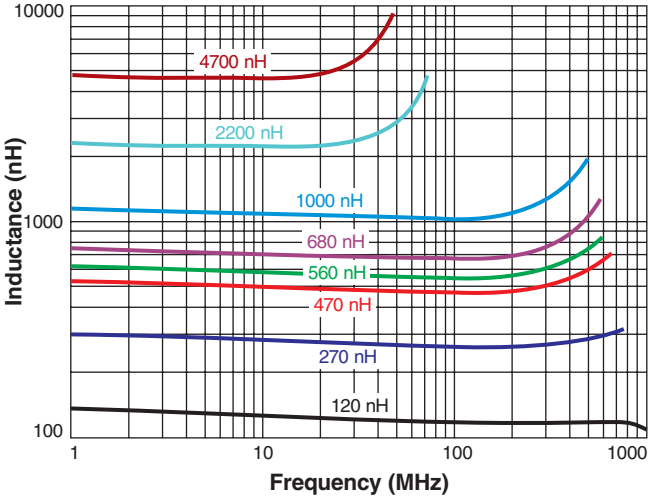
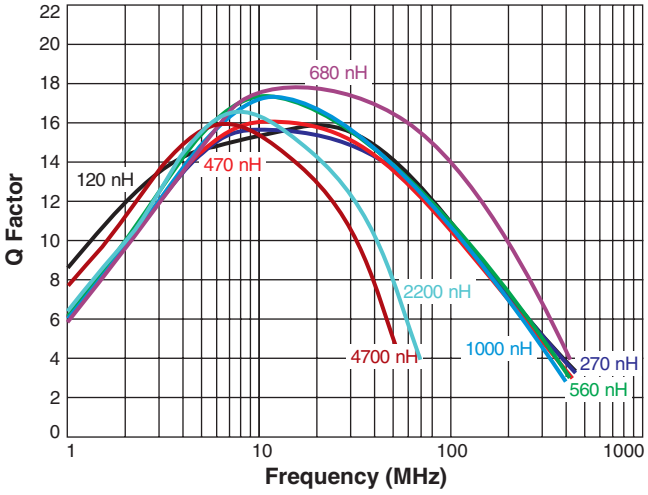
ST312RAM Series (0603)

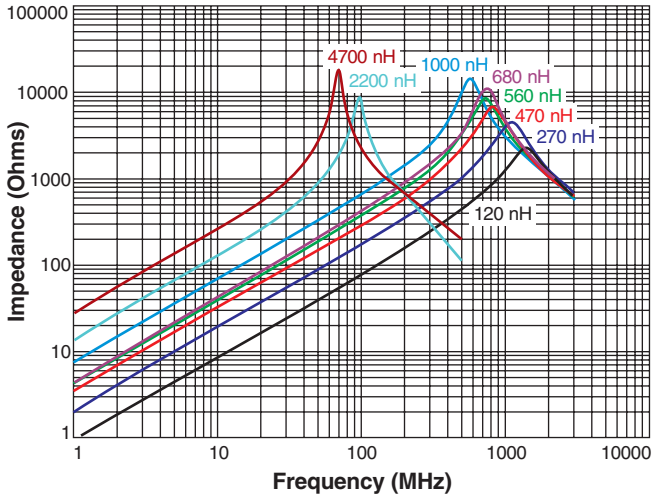
Typical L vs Frequency



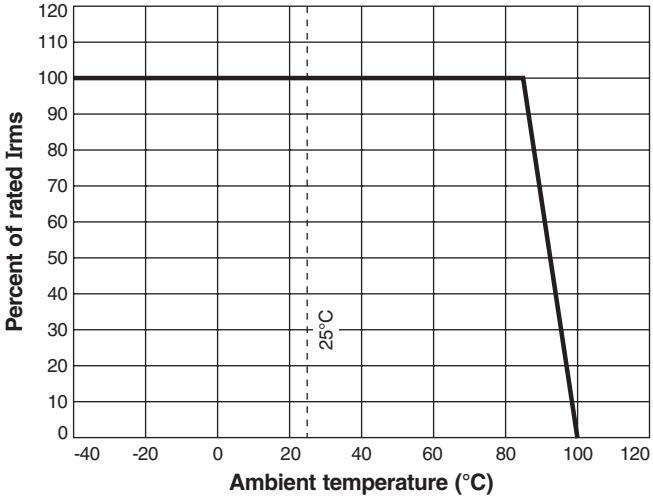
Typical Q vs Frequency

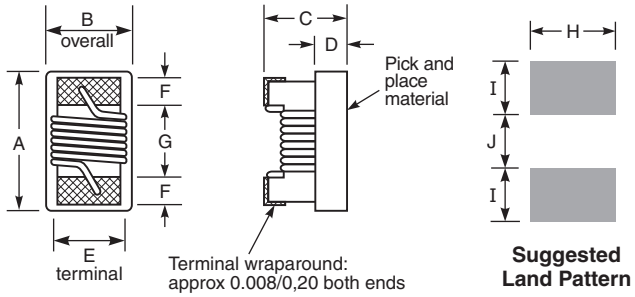


Typical Impedance vs Frequency



Current Derating





A max	B max	C max	D ref	E	F	G	H	I	J	
0.071	0.044	0.036	0.015	0.030	0.013	0.034	0.040	0.025	0.025	inches
1,80	1,12	0,91	0,38	0,76	0,33	0,86	1,02	0,64	0,64	mm

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**.

Specifications subject to change without notice.
Please check our website for latest information. Document ST733-2 Revised 10/28/11

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