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	1.2	Yellow
ST312RAM33NJRZ	33 @ 7.9 MHz	10 @ 7.9 MHz	19	90	1840	0.028	1.2	Red
ST312RAM39NJRZ	39 @ 7.9 MHz	13 @ 7.9 MHz	23	113	2200	0.115	0.60	Green
ST312RAM47NJRZ	47 @ 7.9 MHz	13 @ 7.9 MHz	42	210	2250	0.052	1.1	White
ST312RAM50NJRZ	50 @ 7.9 MHz	15 @ 7.9 MHz	31	149	1830	0.052	1.1	Violet
ST312RAM68NJRZ	68 @ 7.9 MHz	15 @ 7.9 MHz	39	193	1500	0.150	0.50	Gray
ST312RAM72NJRZ	72 @ 7.9 MHz	15 @ 7.9 MHz	60	385	1800	0.065	1.0	Blue
ST312RAM85NJRZ	85 @ 7.9 MHz	15 @ 7.9 MHz	51	256	1600	0.065	1.0	Brown
ST312RAM111JRZ	110 @ 7.9 MHz	12 @ 7.9 MHz	70	350	980	0.060	1.1	Red
ST312RAM121JRZ	120 @ 7.9 MHz	12 @ 7.9 MHz	76	410	920	0.089	0.90	Black
ST312RAM151JRZ	150 @ 7.9 MHz	15 @ 7.9 MHz	89	468	1050	0.093	0.85	Yellow
ST312RAM201JRZ	200 @ 7.9 MHz	15 @ 7.9 MHz	120	685	880	0.115	0.80	Green
ST312RAM241JRZ	240 @ 7.9 MHz	12 @ 7.9 MHz	140	810	720	0.120	0.70	Violet
ST312RAM271JRZ	270 @ 7.9 MHz	12 @ 7.9 MHz	173	1023	600	0.220	0.55	Brown
ST312RAM361JRZ	360 @ 7.9 MHz	15 @ 7.9 MHz	210	1310	700	0.210	0.55	Blue
ST312RAM391JRZ	390 @ 7.9 MHz	15 @ 7.9 MHz	240	1565	700	0.300	0.50	Black
ST312RAM421JRZ	420 @ 7.9 MHz	11 @ 7.9 MHz	250	1925	685	0.330	0.50	Red
ST312RAM471JRZ	470 @ 7.9 MHz	12 @ 7.9 MHz	306	2253	460	0.370	0.48	Orange
ST312RAM561JRZ	560 @ 7.9 MHz	12 @ 7.9 MHz	371	3180	400	0.490	0.42	Blue
ST312RAM601JRZ	600 @ 7.9 MHz	16 @ 7.9 MHz	372	2778	540	0.552	0.36	Blue
ST312RAM681JRZ	680 @ 7.9 MHz	12 @ 7.9 MHz	420	3620	420	0.460	0.36	Orange
ST312RAM821JRZ	820 @ 7.9 MHz	12 @ 7.9 MHz	507	3300	260	0.580	0.34	Green
ST312RAM102JRZ	1000 @ 7.9 MHz	13 @ 7.9 MHz	663	9823	320	0.840	0.32	Black
ST312RAM152JRZ	1500 @ 7.9 MHz	17 @ 7.9 MHz	944	17,830	330	1.3	0.22	Orange
ST312RAM222JRZ	2200 @ 7.9 MHz	12 @ 2.5 MHz	5220	129	65	1.1	0.25	Red
ST312RAM472JRZ	4700 @ 7.9 MHz	12 @ 7.9 MHz	2100	220	45	1.5	0.22	Yellow
ST312RAM103JRZ	10000 @ 2.5 MHz	9 @ 2.5 MHz	1400	150	30	4.5	0.10	Gray

1. When ordering, please specify **termination** and **screening** 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.

Screening: **Z** = Unscreened
H = Coilcraft CP-SA-10001 Group A
- 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 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.

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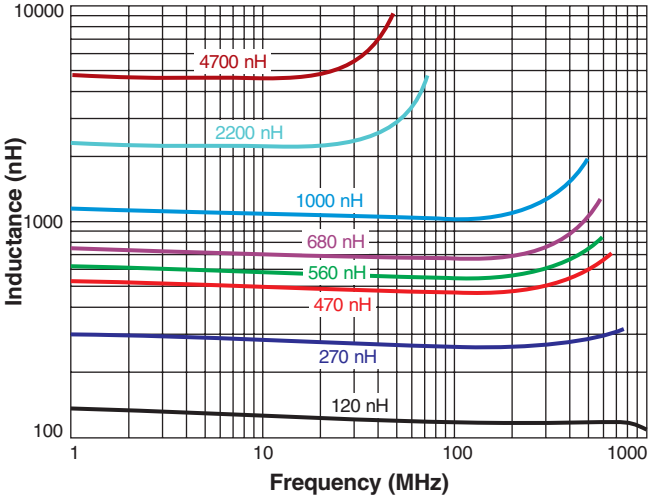
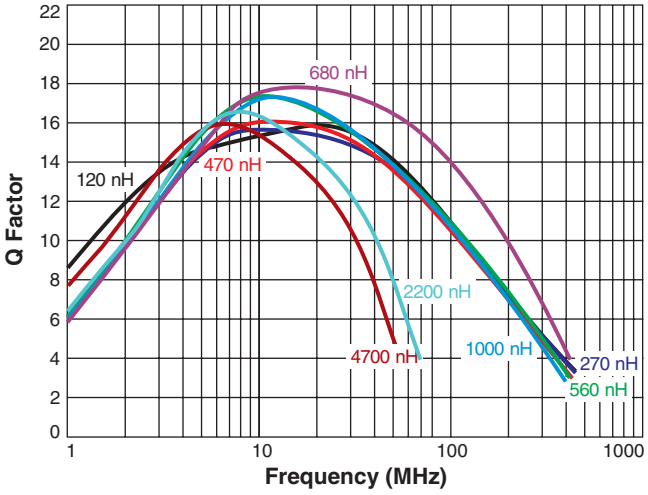
ST312RAM Series (0603)

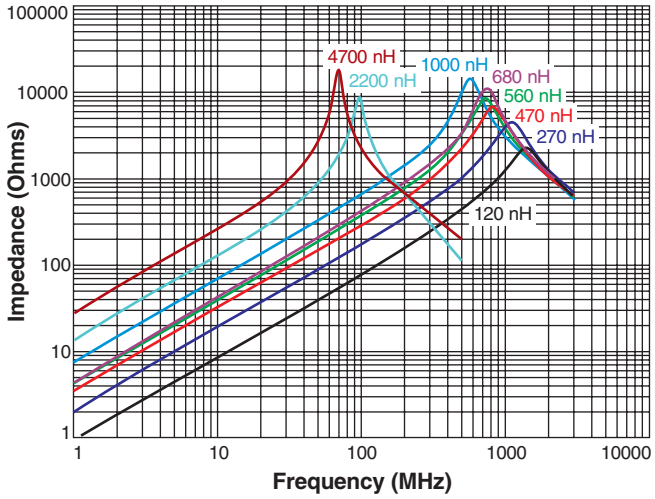
Typical L vs Frequency

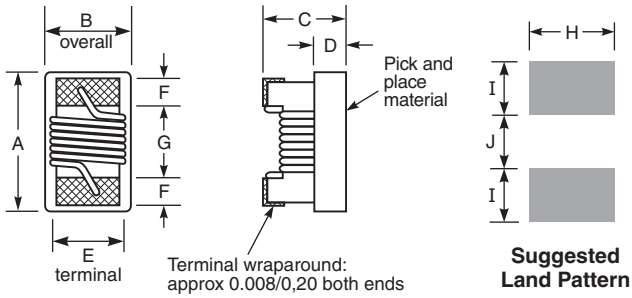


Typical Q vs Frequency



Typical Impedance vs Frequency





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**.

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

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