Chip Inductors for Critical Applications - ST336RAG

- Exceptional Q values, even at high frequencies
- Tight tolerances – 2% for most
- Wirewound construction for highest possible self resonance – up to 9.5 GHz

Part number[1]	Inductance[2] (nH)	Percent tolerance[3]	Q typ[4]	SRF typ[5] (MHz)	DCR max[6] (Ohms)	Imax[7] (A)
ST336RAG2N6JR_	2.6 @ 250 MHz	**5**	100 @ 1500 MHz	9500	0.015	0.80
ST336RAG6N2JR_	6.2 @ 250 MHz	**5**	104 @ 1000 MHz	7200	0.027	0.80
ST336RAG6N8JR_	6.8 @ 250 MHz	**5**	90 @ 1000 MHz	6000	0.066	0.80
ST336RAG11N_R_	11 @ 250 MHz	**5,2**	93 @ 500 MHz	4750	0.039	0.80
ST336RAG12N_R_	12 @ 250 MHz	**5,2**	91 @ 500 MHz	4425	0.039	0.80
ST336RAG13N_R_	13 @ 250 MHz	**5,2**	91 @ 500 MHz	4100	0.039	0.80
ST336RAG18N_R_	18 @ 250 MHz	**5,2**	95 @ 500 MHz	3650	0.050	0.80
ST336RAG33N_R_	33 @ 250 MHz	**5,2**	100 @ 500 MHz	2410	0.087	0.80
ST336RAG47N_R_	47 @ 200 MHz	**5,2**	105 @ 500 MHz	2170	0.093	0.80
ST336RAG56N_R_	56 @ 200 MHz	**5,2**	100 @ 500 MHz	1815	0.122	0.80
ST336RAG82N_R_	82 @ 150 MHz	**5,2**	103 @ 500 MHz	1525	0.168	0.72
ST336RAG101_R_	100 @ 150 MHz	**5,2**	100 @ 500 MHz	1400	0.220	0.69
ST336RAG121_R_	120 @ 150 MHz	**5,2**	80 @ 250 MHz	1265	0.293	0.60
ST336RAG151_R_	150 @ 100 MHz	**5,2**	80 @ 250 MHz	1150	0.288	0.59
ST336RAG181_R_	180 @ 100 MHz	**5,2**	77 @ 250 MHz	1025	0.374	0.52
ST336RAG221_R_	220 @ 100 MHz	**5,2**	75 @ 250 MHz	930	0.426	0.50
ST336RAG271_R_	270 @ 100 MHz	**5,2**	75 @ 100 MHz	830	0.754	0.34
ST336RAG331_R_	330 @ 100 MHz	**5,2**	54 @ 100 MHz	770	1.004	0.31
ST336RAG391_R_	390 @ 100 MHz	**5,2**	52 @ 100 MHz	700	1.110	0.28
ST336RAG471_R_	470 @ 50 MHz	**5,2**	52 @ 100 MHz	640	1.559	0.25
ST336RAG561_R_	560 @ 25 MHz	**5,2**	46 @ 100 MHz	550	2.067	0.21
ST336RAG681_R_	680 @ 25 MHz	**5,2**	46 @ 100 MHz	535	2.355	0.18
ST336RAG821_R_	820 @ 25 MHz	**5,2**	50 @ 100 MHz	485	3.945	0.15

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

   ST336RAG821JRZ

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

   Termination: **R** = Matte tin over nickel over silver-platinum-glass frit
   Special order: **Q** = Tin-silver-copper (95.5/4/0.5) over tin or **P** = non-RoHS tin-lead (63/37) over tin.

   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 with Coilcraft-provided correlation pieces.
3. Tolerances in bold are stocked for immediate shipment.
4. Q measured using an Agilent/HP 4291A with an Agilent/HP 16193 test fixture.
5. SRF measured using an Agilent/HP 8720D network analyzer and a Coilcraft SMD-D test fixture.
6. DCR measured on a Cambridge Technology micro-ohmmeter and a Coilcraft CCF858 test fixture.
7. Current that causes a 15°C temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.
8. Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

Core material Ceramic

Terminations Matte tin over nickel over silver-platinum-glass frit. Other terminations available at additional cost.

Weight 9.5 – 12.5 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. Tape and reel packaging: –40°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) +100 to +250 ppm/°C

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

Failures in Time (FIT) / Mean Time Between Failures (MTBF) One per billion hours / one billion hours, calculated per Telcordia SR-332

Packaging 2000/7″ reel; 7500/13″ reel. Plastic tape: 8 mm wide, 0.23 mm thick, 4 mm pocket spacing, 1.65 mm pocket depth

PCB washing Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.

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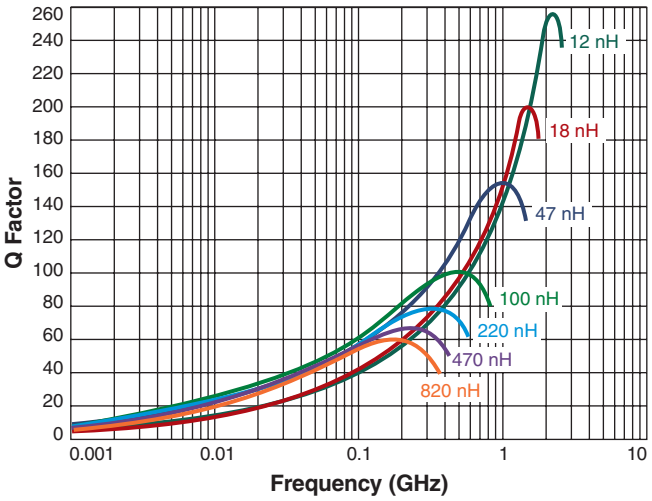
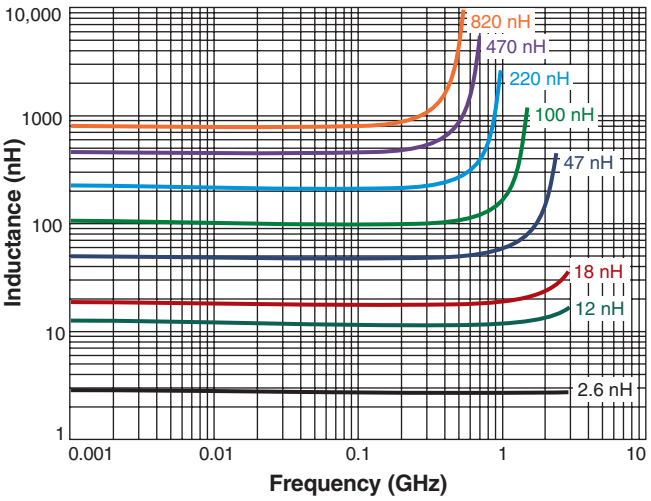
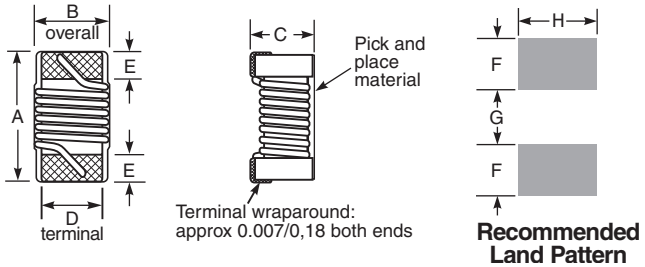
ST336RAG Series (2012)

Typical Q vs Frequency



Typical L vs Frequency





A max	B max	C max	D ref	E	F	G	H	
0.087	0.068	0.061	0.061	0.012	0.040	0.044	0.078	inches
2,21	1,73	1,55	1,55	0,30	1,02	1,12	1,98	mm

Note: Height dimension (C) is before optional solder application. For maximum height dimension including solder, add 0.006 in / 0,152 mm.

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