Chip Inductors for Critical Applications ST336RAE

- Ceramic body and wire wound construction provide highest SRFs available in 0805 size.
- Exceptional Q values, even at high frequencies.

Part number[1]	Inductance[2] (nH)	Percent tolerance	Q min[3]	SRF min[4] (MHz)	DCR max[5] (Ohms)	Imax (mA)	Color Code
ST336RAE030JRZ	3.3 @ 250 MHz	5	27 @ 1000 MHz	>5000	0.08	600	Black
ST336RAE060JRZ	6.8 @ 250 MHz	5	41 @ 1000 MHz	>5000	0.11	600	Brown
ST336RAE080JRZ	8.2 @ 250 MHz	5	46 @ 1000 MHz	4700	0.12	600	Red
ST336RAE100JRZ	10 @ 250 MHz	5	38 @ 500 MHz	4200	0.10	600	Blue
ST336RAE120JRZ	12 @ 250 MHz	5	33 @ 500 MHz	4000	0.15	600	Orange
ST336RAE150JRZ	15 @ 250 MHz	5	40 @ 500 MHz	3400	0.17	600	Yellow
ST336RAE180JRZ	18 @ 250 MHz	5	40 @ 500 MHz	3300	0.20	600	Green
ST336RAE220_RZ	22 @ 250 MHz	5,2	49 @ 500 MHz	2600	0.22	500	Blue
ST336RAE270_RZ	27 @ 250 MHz	5,2	49 @ 500 MHz	2500	0.25	500	Violet
ST336RAE330_RZ	33 @ 250 MHz	5,2	55 @ 500 MHz	2050	0.27	500	Gray
ST336RAE390_RZ	39 @ 250 MHz	5,2	57 @ 500 MHz	2000	0.29	500	White
ST336RAE470_RZ	47 @ 200 MHz	5,2	60 @ 500 MHz	1650	0.31	500	Black
ST336RAE560_RZ	56 @ 200 MHz	5,2,1	60 @ 500 MHz	1550	0.34	500	Brown
ST336RAE680_RZ	68 @ 200 MHz	5,2,1	60 @ 500 MHz	1450	0.38	500	Red
ST336RAE820_RZ	82 @ 150 MHz	5,2,1	65 @ 500 MHz	1300	0.42	400	Orange
ST336RAE101_RZ	100 @ 150 MHz	5,2,1	65 @ 500 MHz	1200	0.46	400	Yellow
ST336RAE121_RZ	120 @ 150 MHz	5,2,1	50 @ 250 MHz	1100	0.51	400	Green
ST336RAE151_RZ	150 @ 100 MHz	5,2,1	48 @ 250 MHz	920	0.56	400	Blue
ST336RAE181_RZ	180 @ 100 MHz	5,2,1	47 @ 250 MHz	870	0.64	400	Violet
ST336RAE221_RZ	220 @ 100 MHz	5,2	47 @ 250 MHz	850	0.70	400	Gray

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

ST336RAE221GRZ

Tolerance: **F** = 1% **G** = 2% **J** = 5%

Termination:
- **R** = Matte tin over nickel over silver-platinum glass frit
- **A** = Gold over nickel over moly-mag
- **L** = Silver-palladium-platinum glass frit.
- **P** = Tin-lead (63/37) over tin over nickel over silver-platinum-glass frit.
- **Q** = Tin-silver-copper (95.5/4/0.5) over tin over nickel over silver-platinum-glass frit.
- **C** = Tin-lead (63/37) over gold over nickel over moly-mag
- **F** = Tin-silver-copper (95.5/4/0.5) over gold over nickel over moly-mag
- **S** = Tin-lead (63/37) over silver-platinum-glass frit.
- **T** = Tin-silver-copper (95.5/4/0.5) 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 with Coilcraft-provided correlation pieces.
3. Q measured using an Agilent/HP 4291A with an Agilent/HP 16193 test fixture.
4. SRF measured using an Agilent/HP 8753D network analyzer and a Coilcraft CCF1297 test fixture.
5. DCR measured on a Cambridge Technology micro-ohmmeter and a Coilcraft CCF858 test fixture.
6. 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.

Ambient temperature –40°C to +125°C with Imax current

Maximum part temperature +140°C

Storage temperature Component: –55°C to +140°C. Tape and reel 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) +25 to +155 ppm/°C

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

Packaging 2000 per 7″ reel Plastic tape: 8 mm wide, 0.23 mm thick, 4 mm pocket spacing, 1.3 mm pocket depth

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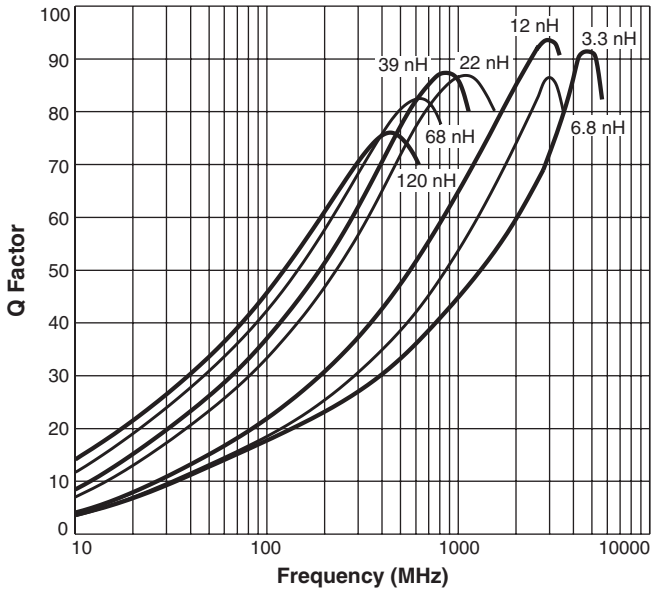
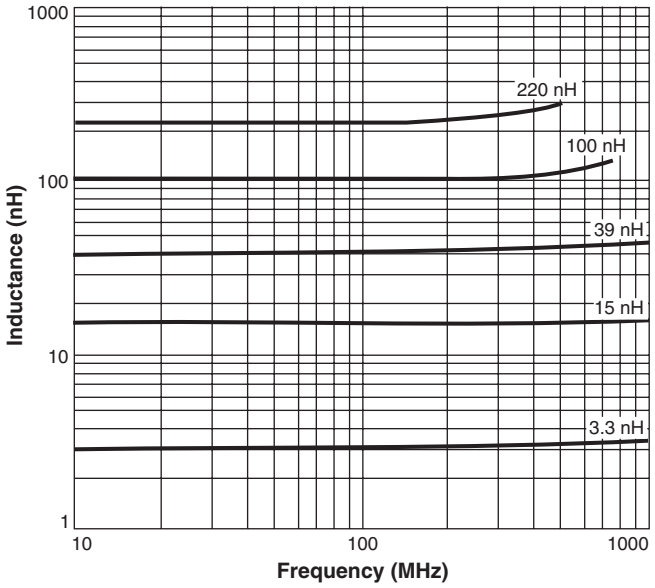
ST336RAE Series (0805)

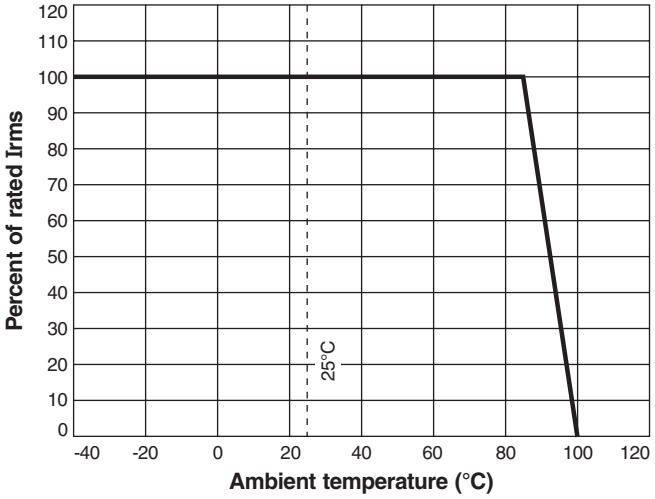
Typical Q vs Frequency

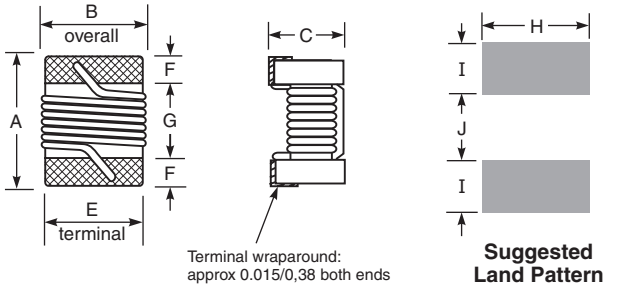


Typical L vs Frequency



Irms Derating





A max	B max	C max	E	F	G	H	I	J	
0.085	0.060	0.057	0.050	0.017	0.046	0.070	0.040	0.030	inches
2,16	1,52	1,45	1,27	0,43	1,17	1,78	1,02	0,76	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**.

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