

# High-Reliability Chip Inductors MS336RAA

The MS336RAA inductors provide exceptional Q values, even at high frequencies. They have a ceramic body and wire wound construction to provide the highest SRFs available in 0805 size.

This robust version of Coilcraft's standard 0805CS series features high temperature materials that allow operation in ambient temperatures up to 155°C and a leach-resistant base metalization with tin-lead (Sn-Pb) terminations that ensures the best possible board adhesion.

Part number <sup>1</sup>	Inductance <sup>2</sup> (nH)	Percent tolerance	Q min <sup>3</sup>	SRF min <sup>4</sup> (MHz)	DCR max <sup>5</sup> (Ohms)	Imax (mA)	Color code
MS336RAA020JSZ	2.8@ 250 MHz	5	57@ 1000 MHz	5000	0.06	800	Gray
MS336RAA3N0JSZ	3.0@ 250 MHz	5	61@ 1000 MHz	5000	0.06	800	White
MS336RAA030JSZ	3.3@ 250 MHz	5	48@ 1000 MHz	5000	0.08	600	Black
MS336RAA050JSZ	5.6@ 250 MHz	5	75@ 1000 MHz	4760	0.08	600	Orange
MS336RAA060JSZ	6.8@ 250 MHz	5	54@ 1000 MHz	4440	0.11	600	Brown
MS336RAA070JSZ	7.5@ 250 MHz	5	56@ 1000 MHz	3840	0.14	600	Green
MS336RAA080_SZ	8.2@ 250 MHz	5,2	63@ 1000 MHz	3560	0.12	600	Red
MS336RAA100_SZ	10@ 250 MHz	5,2,1	57@ 500 MHz	3460	0.10	600	Blue
MS336RAA120_SZ	12@ 250 MHz	5,2,1	46@ 500 MHz	3180	0.15	600	Orange
MS336RAA150_SZ	15@ 250 MHz	5,2,1	41@ 500 MHz	2560	0.17	600	Yellow
MS336RAA180_SZ	18@ 250 MHz	5,2,1	48@ 500 MHz	2480	0.20	600	Green
MS336RAA220_SZ	22@ 250 MHz	5,2,1	59@ 500 MHz	2080	0.22	500	Blue
MS336RAA240_SZ	24@ 250 MHz	5,2,1	59@ 500 MHz	1920	0.22	500	Gray
MS336RAA270_SZ	27@ 250 MHz	5,2,1	56@ 500 MHz	2060	0.25	500	Violet
MS336RAA330_SZ	33@ 250 MHz	5,2,1	64@ 500 MHz	1720	0.27	500	Gray
MS336RAA360_SZ	36@ 250 MHz	5,2,1	57@ 500 MHz	1520	0.27	500	Orange
MS336RAA390_SZ	39@ 250 MHz	5,2,1	44@ 250 MHz	1600	0.29	500	White
MS336RAA430_SZ	43@ 200 MHz	5,2,1	45@ 250 MHz	1440	0.34	500	Yellow
MS336RAA470_SZ	47@ 200 MHz	5,2,1	44@ 250 MHz	1360	0.31	470	Black
MS336RAA560_SZ	56@ 200 MHz	5,2,1	49@ 250 MHz	1280	0.34	460	Brown
MS336RAA680_SZ	68@ 200 MHz	5,2,1	52@ 250 MHz	1200	0.38	440	Red
MS336RAA820_SZ	82@ 150 MHz	5,2,1	51@ 250 MHz	1060	0.42	400	Orange
MS336RAA910_SZ	91@ 150 MHz	5,2,1	49@ 250 MHz	1060	0.48	390	Black
MS336RAA101_SZ	100@ 150 MHz	5,2,1	54@ 250 MHz	1000	0.46	390	Yellow
MS336RAA111_SZ	110@ 150 MHz	5,2,1	38@ 250 MHz	880	0.48	390	Brown
MS336RAA121_SZ	120@ 150 MHz	5,2,1	52@ 250 MHz	880	0.51	380	Green
MS336RAA151_SZ	150@ 100 MHz	5,2,1	33@ 100 MHz	730	0.56	340	Blue
MS336RAA181_SZ	180@ 100 MHz	5,2,1	37@ 100 MHz	730	0.64	340	Violet
MS336RAA221_SZ	220@ 100 MHz	5,2,1	36@ 100 MHz	650	0.70	330	Gray
MS336RAA241_SZ	240@ 100 MHz	5,2,1	36@ 100 MHz	610	1.00	270	Red
MS336RAA271_SZ	270@ 100 MHz	5,2,1	36@ 100 MHz	580	1.00	260	White
MS336RAA331_SZ	330@ 100 MHz	5,2,1	36@ 100 MHz	520	1.40	230	Black
MS336RAA391_SZ	390@ 100 MHz	5,2,1	34@ 100 MHz	480	1.50	210	Brown
MS336RAA471_SZ	470@ 50 MHz	5,2	24@ 50 MHz	300	1.76	230	Violet
MS336RAA561_SZ	560@ 25 MHz	5,2	21@ 50 MHz	260	1.90	210	Orange
MS336RAA681_SZ	680@ 25 MHz	5,2	21@ 50 MHz	220	2.20	190	Green
MS336RAA821_SZ	820@ 25 MHz	5,2	23@ 50 MHz	240	2.35	170	Blue

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

MS336RAA821GSZ

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

**Termination:** S = Tin-lead (63/37) over silver-platinum-glass frit.

**Special order:**

**T** = Tin-silver-copper (95.5/4/0.5) over silver-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.

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 using an Agilent/HP 4291A with an Agilent/HP 16197A test fixture or equivalents.

4. SRF measured on an Agilent 8753ES or equivalent with a Coilcraft CCF1297 test fixture.

5. DCR measured on a Keithley micro-ohmmeter or equivalent and a Coilcraft CCF858 test fixture.

6. Electrical specifications at 25°C.

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



CRITICAL PRODUCTS & SERVICES

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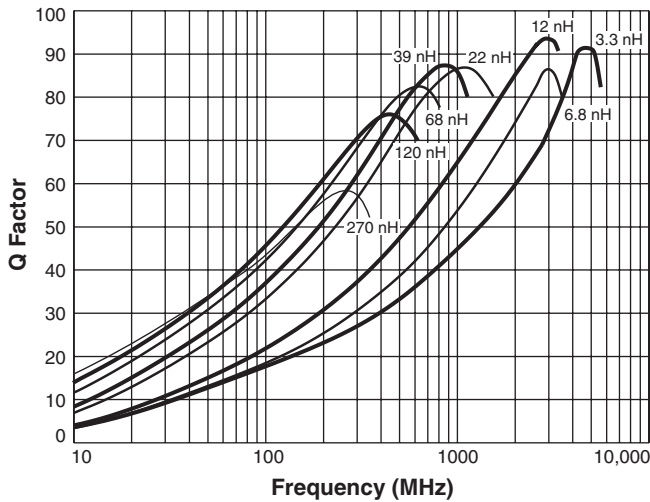
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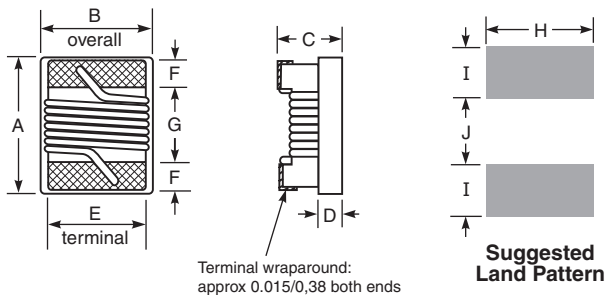
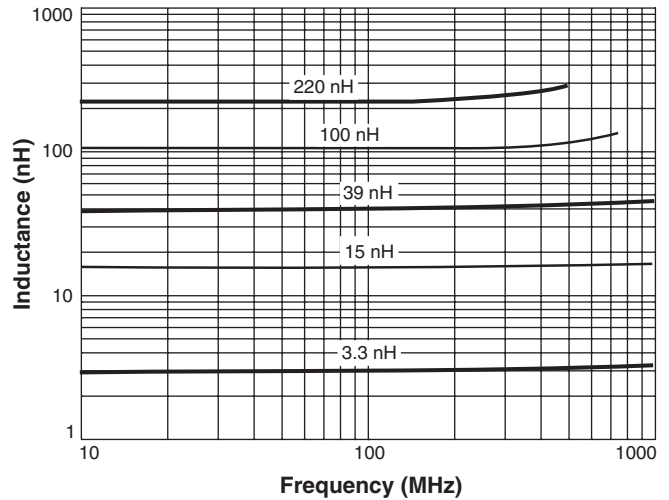
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# MS336RAA Series (0805)

## Typical Q vs Frequency



## Typical L vs Frequency



A max	B max	C max	D ref	E	F	G	H	I	J
0.090	0.068	0.060	0.020	0.050	0.017	0.046	0.070	0.040	0.030
2,29	1,73	1,52	0,51	1,27	0,43	1,17	1,78	1,02	0,76

Note: Dimensions are before 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** Ceramic

**Terminations** Tin-lead (63/37) over silver-platinum-glass frit. Other terminations available at an additional cost.

**Ambient temperature** -55°C to +125°C with I<sub>max</sub> current

**Maximum part temperature** +155°C (ambient + temp rise).

**Storage temperature** Component: -65°C to +155°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)** +25 to +155 ppm/°C

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

**Enhanced crush-resistant packaging** 2000 per 7" reel  
Plastic tape: 8 mm wide, 0.23 mm thick, 4 mm pocket spacing, 1.65 mm pocket depth



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