

# High-Reliability Chip Inductors ML376RAA

The ML376RAA inductors feature high SRF and excellent Q values. Their ceramic cores make 1% tolerances practical and economical and ensure the utmost in thermal stability, predictability and consistency.

This robust version of Coilcraft's standard 1206CS series features high temperature materials that allow operation in ambient temperatures up to 155°C.

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)	I <sub>max</sub> (mA)
ML376RAA030JLZ	3.3 @ 100 MHz	5	29 @ 300 MHz	>5000	0.050	900
ML376RAA060JLZ	6.8 @ 100 MHz	5	24 @ 300 MHz	4380	0.070	900
ML376RAA100JLZ	10 @ 100 MHz	5,2,1	31 @ 300 MHz	3440	0.080	900
ML376RAA120_LZ	12 @ 100 MHz	5,2,1	40 @ 300 MHz	2560	0.100	900
ML376RAA150_LZ	15 @ 100 MHz	5,2,1	38 @ 300 MHz	2520	0.100	900
ML376RAA180_LZ	18 @ 100 MHz	5,2,1	50 @ 300 MHz	2260	0.100	900
ML376RAA220_LZ	22 @ 100 MHz	5,2,1	50 @ 300 MHz	2120	0.100	900
ML376RAA270_LZ	27 @ 100 MHz	5,2,1	50 @ 300 MHz	1800	0.110	900
ML376RAA330_LZ	33 @ 100 MHz	5,2,1	55 @ 300 MHz	1800	0.110	900
ML376RAA390_LZ	39 @ 100 MHz	5,2,1	55 @ 300 MHz	1800	0.120	900
ML376RAA470_LZ	47 @ 100 MHz	5,2,1	55 @ 300 MHz	1500	0.130	900
ML376RAA560_LZ	56 @ 100 MHz	5,2,1	55 @ 300 MHz	1400	0.140	900
ML376RAA680_LZ	68 @ 100 MHz	5,2,1	48 @ 150 MHz	1180	0.260	600
ML376RAA820_LZ	82 @ 100 MHz	5,2,1	52 @ 150 MHz	1120	0.210	700
ML376RAA101_LZ	100 @ 100 MHz	5,2,1	55 @ 150 MHz	1040	0.260	650
ML376RAA121_LZ	120 @ 100 MHz	5,2,1	53 @ 150 MHz	1040	0.260	620
ML376RAA151_LZ	150 @ 100 MHz	5,2,1	53 @ 150 MHz	920	0.310	720
ML376RAA181_LZ	180 @ 50 MHz	5,2,1	53 @ 150 MHz	780	0.430	580
ML376RAA221_LZ	220 @ 50 MHz	5,2,1	51 @ 150 MHz	700	0.500	550
ML376RAA271_LZ	270 @ 50 MHz	5,2,1	53 @ 150 MHz	630	0.560	470
ML376RAA331_LZ	330 @ 50 MHz	5,2,1	30 @ 35 MHz	570	0.620	370
ML376RAA391_LZ	390 @ 50 MHz	5,2,1	31 @ 35 MHz	540	0.750	370
ML376RAA471_LZ	470 @ 50 MHz	5,2,1	31 @ 35 MHz	500	1.30	320
ML376RAA561_LZ	560 @ 35 MHz	5,2,1	31 @ 35 MHz	440	1.34	300
ML376RAA621_LZ	620 @ 35 MHz	5,2,1	32 @ 35 MHz	440	1.60	270
ML376RAA681_LZ	680 @ 35 MHz	5,2,1	32 @ 35 MHz	410	1.58	260
ML376RAA751_LZ	750 @ 35 MHz	5,2,1	32 @ 35 MHz	400	2.20	220
ML376RAA821_LZ	820 @ 35 MHz	5,2,1	31 @ 35 MHz	370	1.82	240
ML376RAA911_LZ	910 @ 35 MHz	5,2,1	31 @ 35 MHz	350	2.85	190
ML376RAA102_LZ	1000 @ 35 MHz	5,2,1	32 @ 35 MHz	360	2.80	190
ML376RAA122_LZ	1200 @ 35 MHz	5,2,1	32 @ 35 MHz	320	3.20	170

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

ML376RAA122JLZ

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

**Testing:** Z = COTS

H = Screening per Coilcraft CP-SA-10001

N = Screening per Coilcraft CP-SA-10003

C = Custom screening (please specify when ordering)

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 impedance Analyzer with an Agilent/HP 16197 test fixture or equivalents.

4. SRF measured using an Agilent/HP 8753ES network analyzer or equivalent and a Coilcraft CCF1297 test fixture.

5. DCR measured on a Keithley 580 micro-ohmmeter or equivalent and a Coilcraft CCF858 fixture.

6. Electrical specifications at 25°C.

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



CRITICAL PRODUCTS & SERVICES

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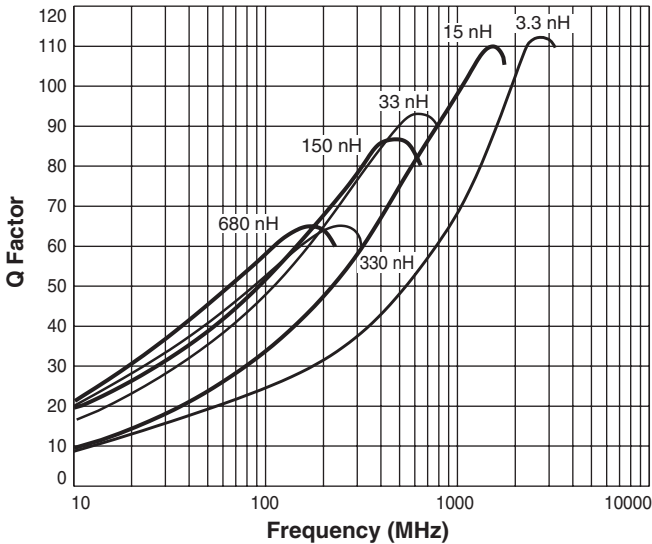
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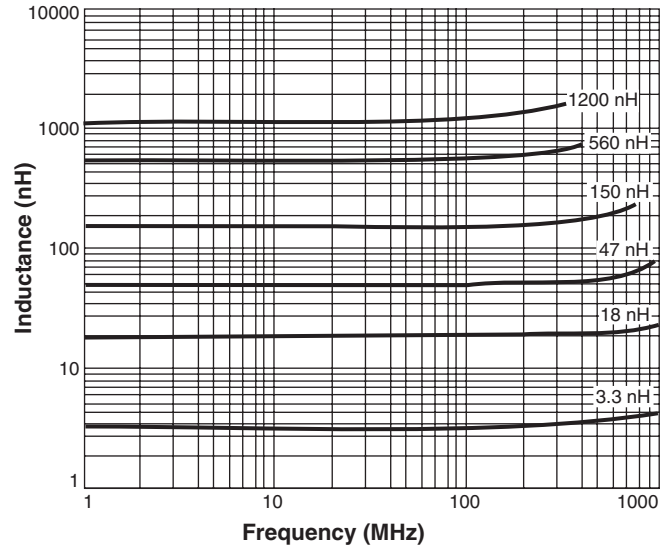
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# ML376RAA Series (1206)

## Typical Q vs Frequency



## Typical L vs Frequency



**Core material** Ceramic

**Terminations** Silver-palladium-platinum-glass frit.

**Weight:** 19.5 – 23.0 mg

**Ambient temperature** -55°C to +125°C with  $I_{max}$  current, +125°C to +155°C with derated current

**Storage temperature** Component: -55°C to +155°C.  
Tape and reel packaging: -55°C to +80°C

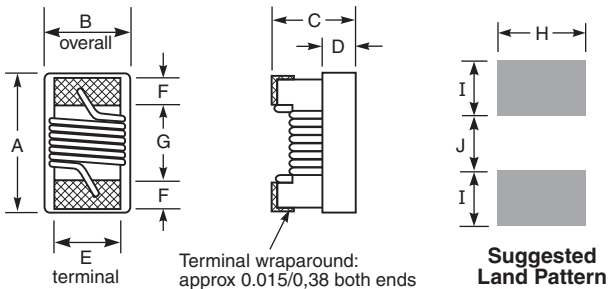
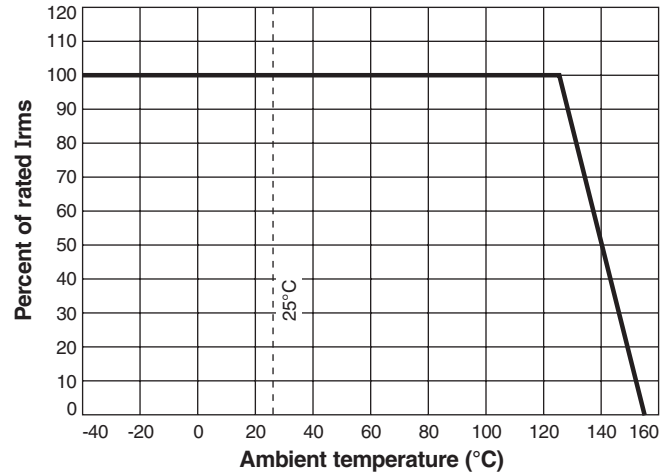
**Resistance to soldering heat** Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

**Temperature Coefficient of Inductance (TCL)** +25 to +155 ppm/°C

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

**Enhanced crush-resistant packaging** 2000 per 7" reel  
Plastic tape: 8 mm wide, 0.3 mm thick, 4 mm pocket spacing, 1.6 mm pocket depth

## Current Derating



Amax	Bmax	Cmax	Dref	E	F	G	H	I	J
0.140	0.085	0.060	0.020	0.056	0.020	0.080	0.076	0.040	0.070
3,56	2,16	1,52	0,51	1,42	0,51	2,03	1,93	1,02	1,78



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