



# Low Profile Mini Spring™ Inductors



- Only 2 mm tall
- High Q over a wide range of frequencies
- Low DCR and excellent current handling capability

**Designer's Kit C394** contains 10 samples each 5% part  
**Designer's Kit C394-2** contains 10 samples each 2% part

**Terminations** RoHS compliant tin-silver over copper. Other terminations available at additional cost.

**Weight** 48 – 130 g

**Ambient temperature** –40°C to +125°C with Irms current, +125°C to +140°C with derated current

**Storage temperature** Component: –40°C to +140°C.  
 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)** +5 to +70 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** 1000/7" reel; 3500/13" reel Plastic tape: 2 mm wide, 0.23 mm thick, 8 mm pocket spacing, 2.2 mm pocket depth

**PCB washing** Only pure water or alcohol recommended

| Part number <sup>1</sup> | Turns | L <sup>2</sup> (nH) | % tol <sup>3</sup> | Q <sup>2</sup> min | SRF min <sup>4</sup> (GHz) | DCR max <sup>5</sup> (mOhm) | Irms <sup>6</sup> (A) | Wt (mg) |
|--------------------------|-------|---------------------|--------------------|--------------------|----------------------------|-----------------------------|-----------------------|---------|
| 1508-5N5_L_              | 3     | 5.5                 | <b>5,2</b>         | 115                | 5.0                        | 2.6                         | 4.0                   | 52      |
| 1508-9N0_L_              | 4     | 9.0                 | <b>5,2</b>         | 120                | 4.0                        | 3.4                         | 4.0                   | 65      |
| 1508-13N_L_              | 5     | 13.0                | <b>5,2</b>         | 100                | 3.0                        | 3.9                         | 4.0                   | 78      |
| 2508-16N_L_              | 7     | 16.0                | <b>5,2</b>         | 110                | 3.0                        | 5.2                         | 4.0                   | 110     |
| 2508-18N_L_              | 8     | 18.0                | <b>5,2</b>         | 110                | 2.9                        | 6.0                         | 4.0                   | 118     |
| 2508-23N_L_              | 9     | 23.0                | <b>5,2</b>         | 110                | 2.6                        | 6.8                         | 4.0                   | 133     |
| 2508-27N_L_              | 10    | 27.0                | <b>5,2</b>         | 110                | 2.3                        | 7.9                         | 4.0                   | 147     |

1. Specify **tolerance**, **termination** and **packaging** codes:

2508-27N**J**L**C**

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

**Termination:** L = RoHS compliant tin-silver (96.5/3.5) over copper.

**Special order:** T = RoHS tin-silver-copper (95.5/4/0.5) or S = non-RoHS tin-lead (63/37).

**Packaging:** C = 7" machine-ready reel. EIA-481 embossed plastic tape (1000 parts per full reel).

B = Less than full reel. In tape, but not machine ready. To have a leader and trailer added (\$25 charge), use code letter C instead.

D = 13" machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (3500 parts per full reel).

2. L and Q measured at 250 MHz, 0.1 Vrms, 0 A using an Agilent/HP 4291A impedance analyzer with an Agilent/HP 16193A test fixture.

3. Tolerances in bold are stocked for immediate shipment.

4. SRF measured using an Agilent/HP 8753 network analyzer and a Coilcraft SMD-D test fixture.

5. DCR measured using a micro-ohmmeter.

6. Current that causes a 15°C temperature rise from 25°C ambient.

7. Electrical specifications at 25°C.

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

## S-Parameter files

ON OUR WEB SITE

## SPICE models

ON OUR WEB SITE



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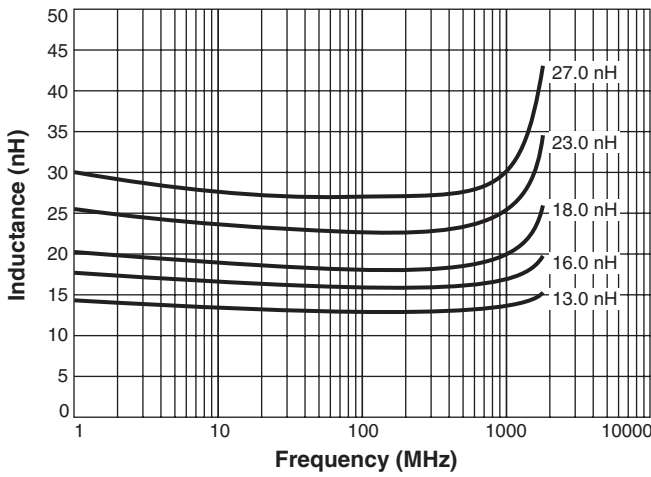
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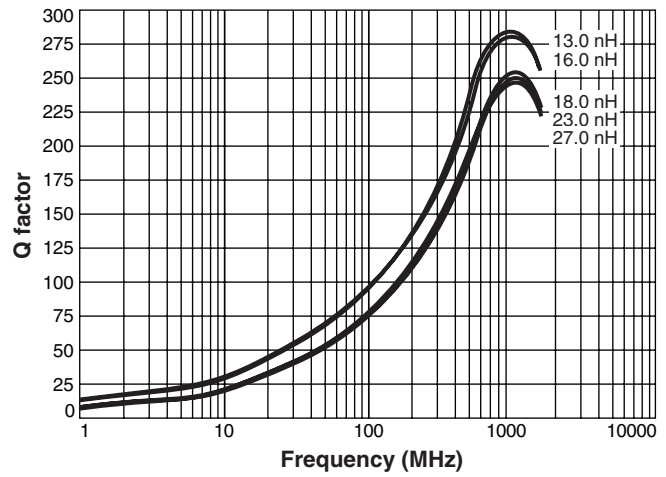


# Low Profile Mini Spring™ Inductors

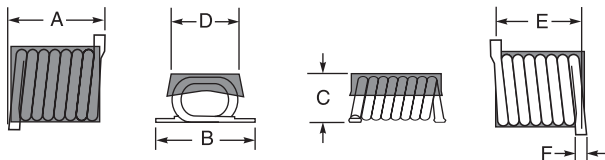
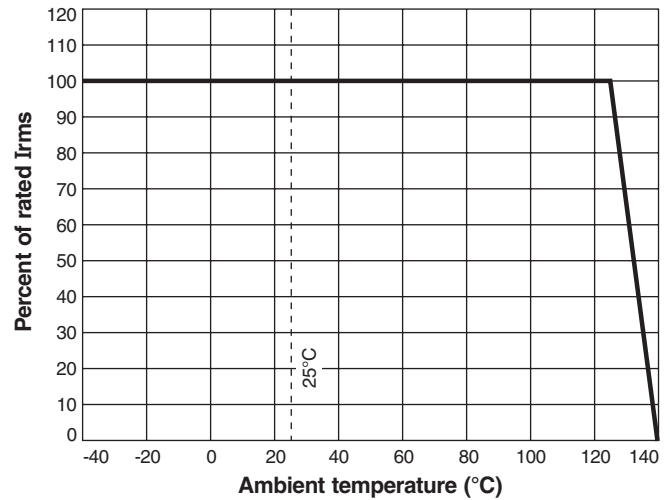
## Typical L vs Frequency



## Typical Q vs Frequency

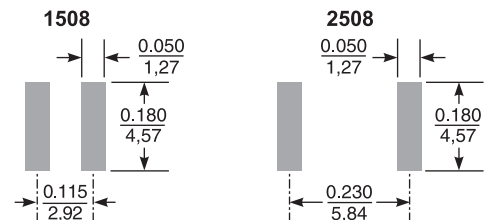


## Irms Derating

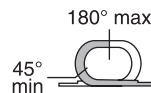


| Size | A max         | B max         | C max         | D             | E                          | F max         |
|------|---------------|---------------|---------------|---------------|----------------------------|---------------|
| 1508 | 0.155<br>3,94 | 0.165<br>4,19 | 0.079<br>2,01 | 0.135<br>3,43 | 0.115 ±0.015<br>2,92 ±0,38 | 0.029<br>0,74 |
| 2508 | 0.270<br>6,86 | 0.165<br>4,19 | 0.079<br>2,01 | 0.135<br>3,43 | 0.230 ±0.015<br>5,84 ±0,38 | 0.029<br>0,74 |

## Recommended Land Patterns



## Strip Length



Dimensions are in  $\frac{\text{inches}}{\text{mm}}$



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