



# Chip Inductors – 1008LS Series (2520)

- Lower DCR than other 1008 inductors
- Ferrite construction for high current handling
- Inductance values: 1.0 – 100  $\mu$ H

Request free evaluation samples by contacting Coilcraft or visiting [www.coilcraft.com](http://www.coilcraft.com).

| Part number <sup>1</sup> | Inductance <sup>2</sup><br>( $\mu$ H) | Percent<br>tolerance | Q min <sup>3</sup> | SRF min <sup>4</sup><br>(MHz) | DCR max <sup>5</sup><br>(Ohms) | Irms <sup>6</sup><br>(mA) |
|--------------------------|---------------------------------------|----------------------|--------------------|-------------------------------|--------------------------------|---------------------------|
| 1008LS-102XJL            | 1.0 @ 7.9 MHz                         | 5                    | 48 @ 50 MHz        | 230                           | 0.62                           | 700                       |
| 1008LS-122XJL            | 1.2 @ 7.9 MHz                         | 5                    | 37 @ 50 MHz        | 210                           | 0.68                           | 650                       |
| 1008LS-152XJL            | 1.5 @ 7.9 MHz                         | 5                    | 37 @ 50 MHz        | 190                           | 0.76                           | 630                       |
| 1008LS-182XJL            | 1.8 @ 7.9 MHz                         | 5                    | 37 @ 50 MHz        | 170                           | 0.84                           | 600                       |
| 1008LS-222XJL            | 2.2 @ 7.9 MHz                         | 5                    | 37 @ 50 MHz        | 150                           | 1.10                           | 520                       |
| 1008LS-272XJL            | 2.7 @ 7.9 MHz                         | 5                    | 37 @ 50 MHz        | 135                           | 1.28                           | 490                       |
| 1008LS-332XJL            | 3.3 @ 7.9 MHz                         | 5                    | 37 @ 50 MHz        | 120                           | 1.46                           | 450                       |
| 1008LS-392XJL            | 3.9 @ 7.9 MHz                         | 5                    | 37 @ 7.9 MHz       | 105                           | 1.56                           | 420                       |
| 1008LS-432XJL            | 4.3 @ 7.9 MHz                         | 5                    | 30 @ 7.9 MHz       | 85                            | 1.70                           | 400                       |
| 1008LS-472XJL            | 4.7 @ 7.9 MHz                         | 5                    | 32 @ 7.9 MHz       | 90                            | 1.68                           | 400                       |
| 1008LS-502XJL            | 5.0 @ 7.9 MHz                         | 5                    | 25 @ 7.9 MHz       | 30                            | 2.20                           | 360                       |
| 1008LS-562XJL            | 5.6 @ 7.9 MHz                         | 5                    | 37 @ 7.9 MHz       | 80                            | 1.82                           | 380                       |
| 1008LS-622XJL            | 6.2 @ 7.9 MHz                         | 5                    | 32 @ 7.9 MHz       | 75                            | 2.50                           | 330                       |
| 1008LS-682XJL            | 6.8 @ 7.9 MHz                         | 5                    | 37 @ 7.9 MHz       | 70                            | 2.00                           | 360                       |
| 1008LS-822XJL            | 8.2 @ 7.9 MHz                         | 5                    | 37 @ 7.9 MHz       | 65                            | 2.65                           | 330                       |
| 1008LS-912XJL            | 9.1 @ 7.9 MHz                         | 5                    | 37 @ 7.9 MHz       | 57                            | 2.90                           | 310                       |
| 1008LS-103XJL            | 10 @ 7.9 MHz                          | 5                    | 37 @ 7.9 MHz       | 60                            | 2.95                           | 300                       |
| 1008LS-123XJL            | 12 @ 2.5 MHz                          | 5                    | 28 @ 2.5 MHz       | 38                            | 3.30                           | 290                       |
| 1008LS-153XJL            | 15 @ 2.5 MHz                          | 5                    | 34 @ 2.5 MHz       | 30                            | 3.70                           | 280                       |
| 1008LS-183XJL            | 18 @ 2.5 MHz                          | 5                    | 28 @ 2.5 MHz       | 26                            | 4.00                           | 160                       |
| 1008LS-223XJL            | 22 @ 2.5 MHz                          | 5                    | 20 @ 2.5 MHz       | 22                            | 6.14                           | 270                       |
| 1008LS-273XJL            | 27 @ 2.5 MHz                          | 5                    | 24 @ 2.5 MHz       | 12                            | 6.45                           | 210                       |
| 1008LS-333XJL            | 33 @ 2.5 MHz                          | 5                    | 22 @ 2.5 MHz       | 19                            | 7.00                           | 200                       |
| 1008LS-393XJL            | 39 @ 2.5 MHz                          | 5                    | 33 @ 2.5 MHz       | 26                            | 10.0                           | 170                       |
| 1008LS-473XJL            | 47 @ 2.5 MHz                          | 5                    | 20 @ 2.5 MHz       | 12                            | 10.7                           | 160                       |
| 1008LS-563XJL            | 56 @ 2.5 MHz                          | 5                    | 20 @ 2.5 MHz       | 8.0                           | 10.0                           | 170                       |
| 1008LS-683XJL            | 68 @ 0.79 MHz                         | 5                    | 14 @ 0.79 MHz      | 5.7                           | 13.5                           | 145                       |
| 1008LS-104XJL            | 100 @ 0.79 MHz                        | 5                    | 13 @ 0.79 MHz      | 4.5                           | 20.5                           | 120                       |

1. When ordering, please specify **termination** and **packaging** codes:

1008LS-103XJL C

**Termination:** L = RoHS compliant silver-palladium-platinum-glass frit  
Special order, added cost: 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 (2000 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 (7500 parts per full reel).

- Inductance measured using a Coilcraft SMD-A fixture in an Agilent/HP 4286A impedance analyzer with Coilcraft-provided correlation pieces.
- Q measured using an Agilent/HP 4291A with an Agilent/HP 16193 test fixture.
- SRF measured using an Agilent/HP 8753D network analyzer with a Coilcraft SMD-D fixture.
- DCR measured on a Cambridge Technology Micro-ohmmeter.
- Current that causes a 15°C temperature rise from 25°C. Because of their open construction, these parts will not saturate.
- Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.  
For part marking data see Color Coding section.

**Designer's Kit C336** contains 10 of each stocked value

**Core material** Ceramic/Ferrite

**Terminations** RoHS compliant silver-palladium-platinum-glass frit.  
Other terminations available at additional cost.

**Weight** 38.3 – 41.0 mg

**Ambient temperature** –40°C to +85°C with Irms current, +85°C to  
+100°C with derated current

**Storage temperature** Component: –40°C to +100°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)** +100 to +350 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,  
0.3 mm thick, 4 mm pocket spacing, 2.0 mm pocket depth

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

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Specifications subject to change without notice.  
Please check our website for latest information.

Document 103-1 Revised 12/14/09

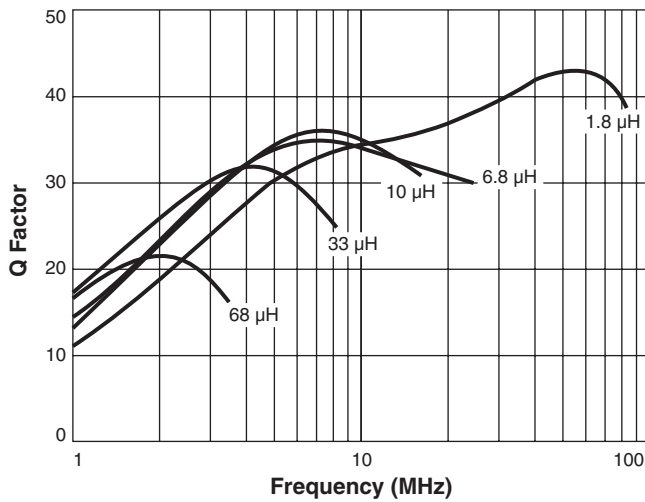
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# 1008LS Series (2520)

## Typical Q vs Frequency



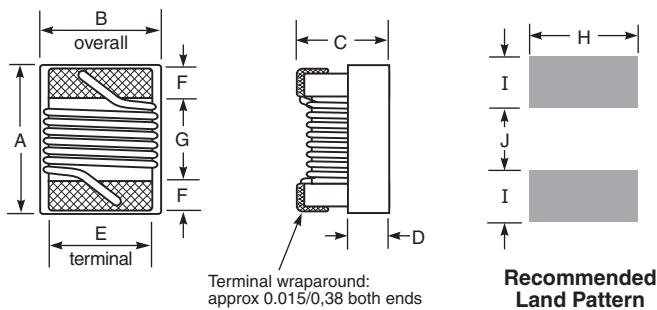
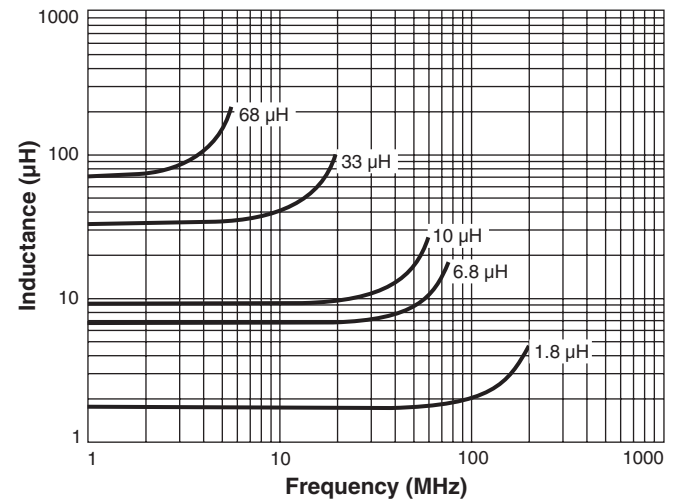
**S-Parameter files**

ON OUR WEB SITE OR CD

**SPICE models**

ON OUR WEB SITE OR CD

## Typical L vs Frequency



| A<br>max | B<br>max | C<br>max | D<br>ref | E     | F     | G     | H     | I     | J     |
|----------|----------|----------|----------|-------|-------|-------|-------|-------|-------|
| 0.115    | 0.110    | 0.080    | 0.020    | 0.080 | 0.020 | 0.060 | 0.100 | 0.040 | 0.050 |
| 2,92     | 2,79     | 2,03     | 0,51     | 2,03  | 0,51  | 1,52  | 2,54  | 1,02  | 1,27  |
|          |          |          |          |       |       |       |       |       | mm    |

**COILCRAFT** ACCURATE  
**PRECISION** REPEATABLE  
MEASUREMENTS  
SEE INDEX **TEST FIXTURES**

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Specifications subject to change without notice.  
Please check our website for latest information.

Document 103-2 Revised 12/14/09

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