



# Chip Inductors – 1008LS (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 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) | Color code <sup>7</sup> |
|--------------------------|---------------------------------------|-------------------|--------------------|-------------------------------|--------------------------------|---------------------------|-------------------------|
| 1008LS-102XJE_           | 1.0 @ 7.9 MHz                         | 5                 | 48 @ 50 MHz        | 230                           | 0.62                           | 700                       | Black                   |
| 1008LS-122XJE_           | 1.2 @ 7.9 MHz                         | 5                 | 37 @ 50 MHz        | 210                           | 0.68                           | 650                       | Red                     |
| 1008LS-152XJE_           | 1.5 @ 7.9 MHz                         | 5                 | 37 @ 50 MHz        | 190                           | 0.76                           | 630                       | Green                   |
| 1008LS-182XJE_           | 1.8 @ 7.9 MHz                         | 5                 | 37 @ 50 MHz        | 170                           | 0.84                           | 600                       | Gray                    |
| 1008LS-222XJE_           | 2.2 @ 7.9 MHz                         | 5                 | 37 @ 50 MHz        | 150                           | 1.10                           | 520                       | Red                     |
| 1008LS-272XJE_           | 2.7 @ 7.9 MHz                         | 5                 | 37 @ 50 MHz        | 135                           | 1.28                           | 490                       | Violet                  |
| 1008LS-332XJE_           | 3.3 @ 7.9 MHz                         | 5                 | 37 @ 50 MHz        | 120                           | 1.46                           | 450                       | Orange                  |
| 1008LS-392XJE_           | 3.9 @ 7.9 MHz                         | 5                 | 37 @ 7.9 MHz       | 105                           | 1.56                           | 420                       | White                   |
| 1008LS-432XJE_           | 4.3 @ 7.9 MHz                         | 5                 | 30 @ 7.9 MHz       | 85                            | 1.70                           | 400                       | Orange                  |
| 1008LS-472XJE_           | 4.7 @ 7.9 MHz                         | 5                 | 32 @ 7.9 MHz       | 90                            | 1.68                           | 400                       | Violet                  |
| 1008LS-502XJE_           | 5.0 @ 7.9 MHz                         | 5                 | 25 @ 7.9 MHz       | 30                            | 2.20                           | 360                       | Black                   |
| 1008LS-562XJE_           | 5.6 @ 7.9 MHz                         | 5                 | 37 @ 7.9 MHz       | 80                            | 1.82                           | 380                       | Blue                    |
| 1008LS-622XJE_           | 6.2 @ 7.9 MHz                         | 5                 | 32 @ 7.9 MHz       | 75                            | 2.50                           | 330                       | Red                     |
| 1008LS-682XJE_           | 6.8 @ 7.9 MHz                         | 5                 | 37 @ 7.9 MHz       | 70                            | 2.00                           | 360                       | Gray                    |
| 1008LS-822XJE_           | 8.2 @ 7.9 MHz                         | 5                 | 37 @ 7.9 MHz       | 65                            | 2.65                           | 330                       | Red                     |
| 1008LS-912XJE_           | 9.1 @ 7.9 MHz                         | 5                 | 37 @ 7.9 MHz       | 57                            | 2.90                           | 310                       | Brown                   |
| 1008LS-103XJE_           | 10 @ 7.9 MHz                          | 5                 | 37 @ 7.9 MHz       | 60                            | 2.95                           | 300                       | Black                   |
| 1008LS-123XJE_           | 12 @ 2.5 MHz                          | 5                 | 28 @ 2.5 MHz       | 38                            | 3.30                           | 290                       | Red                     |
| 1008LS-153XJE_           | 15 @ 2.5 MHz                          | 5                 | 34 @ 2.5 MHz       | 30                            | 3.70                           | 280                       | Green                   |
| 1008LS-183XJE_           | 18 @ 2.5 MHz                          | 5                 | 28 @ 2.5 MHz       | 26                            | 4.00                           | 160                       | Gray                    |
| 1008LS-223XJE_           | 22 @ 2.5 MHz                          | 5                 | 20 @ 2.5 MHz       | 22                            | 6.14                           | 270                       | Red                     |
| 1008LS-273XJE_           | 27 @ 2.5 MHz                          | 5                 | 24 @ 2.5 MHz       | 12                            | 6.45                           | 210                       | Violet                  |
| 1008LS-333XJE_           | 33 @ 2.5 MHz                          | 5                 | 22 @ 2.5 MHz       | 19                            | 7.00                           | 200                       | Orange                  |
| 1008LS-393XJE_           | 39 @ 2.5 MHz                          | 5                 | 33 @ 2.5 MHz       | 26                            | 10.0                           | 170                       | White                   |
| 1008LS-473XJE_           | 47 @ 2.5 MHz                          | 5                 | 20 @ 2.5 MHz       | 12                            | 10.7                           | 160                       | Violet                  |
| 1008LS-563XJE_           | 56 @ 2.5 MHz                          | 5                 | 20 @ 2.5 MHz       | 8.0                           | 10.0                           | 170                       | Blue                    |
| 1008LS-683XJE_           | 68 @ 0.79 MHz                         | 5                 | 14 @ 0.79 MHz      | 5.7                           | 13.5                           | 145                       | Gray                    |
| 1008LS-104XJE_           | 100 @ 0.79 MHz                        | 5                 | 13 @ 0.79 MHz      | 4.5                           | 20.5                           | 120                       | Black                   |

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

1008LS-103XJEC

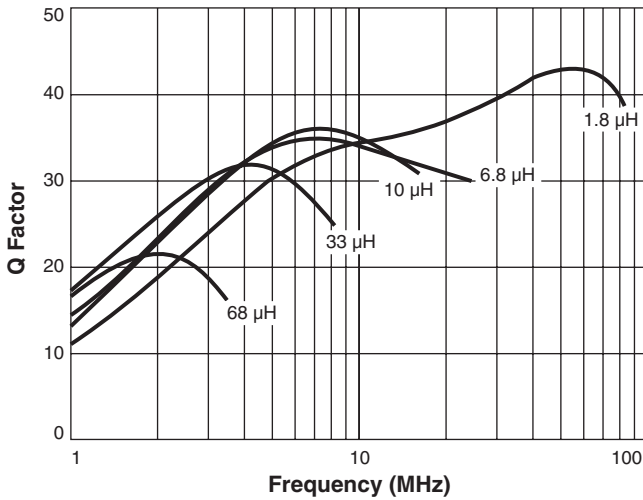
- Termination:** **E**=Halogen free component. RoHS compliant silver-palladium-platinum-glass frit terminations.  
**L**=RoHS compliant, not halogen-free. Silver-palladium-platinum-glass frit terminations.  
**R**=RoHS compliant matte tin over nickel over silver-platinum-glass frit.  
 Special order: **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 (2000 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer (\$25 charge).  
**D**=13" machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (7500 parts per full reel).  
**B**=Less than full reel. In an effort to simplify our part numbering system, Coilcraft is eliminating the need for multiple packaging codes. When ordering, simply change the last letter of your part number from B to C.

- 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. This information is for reference only and does not represent absolute maximum ratings.
  - Current production parts are marked with one dot. Prior production parts were marked with three dots. Single color dots are not unique identifiers and correspond to multiple inductance values. Part marking does not indicate polarity.
  - Electrical specifications at 25°C.
- Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

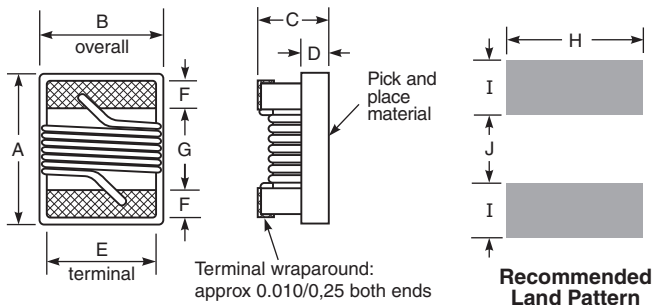
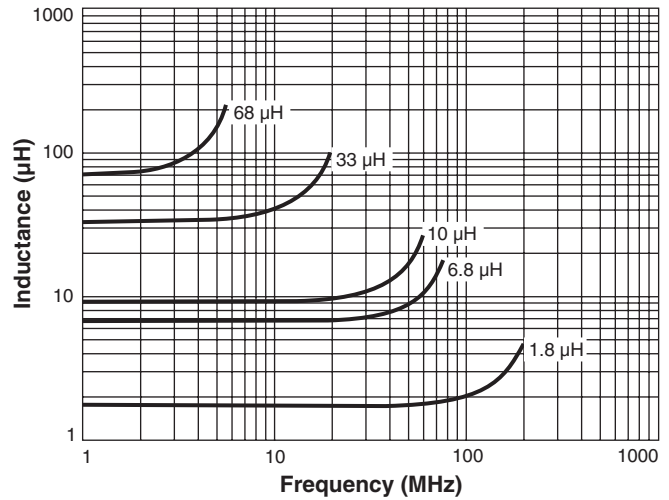


# 1008LS Series (2520)

## Typical Q vs Frequency



## Typical L vs Frequency



| A max | B max | C max | D 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  |

**Note:** Height dimension is before optional solder application. For maximum height dimension including solder, add 0.006 in / 0,152 mm.

- Designer's Kit C336** contains 10 of each stocked value
- Core material** Ceramic/Ferrite
- Environmental** RoHS compliant, halogen free
- Terminations** 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
- Maximum part temperature** +100°C (ambient + temp rise).
- Storage temperature** Component: -40°C to +100°C. Tape and reel 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)
- Packaging** 2000/7" reel Plastic tape: 8 mm wide, 0.3 mm thick, 4 mm pocket spacing, 2.0 mm pocket depth
- PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787\\_PCB\\_Washing.pdf](#).

**S-Parameter files**  
ON OUR WEB SITE  
**SPICE models**  
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