



# Chip Inductors – 1008CT (2520)

The 0.055" profile makes these parts ideal for low clearance applications. Their simple construction ensures high reliability and stability, and they feature much higher

SRF values than ferrite alternatives. For free evaluation samples, visit [www.coilcraft.com](http://www.coilcraft.com) or contact Coilcraft.

| Part number <sup>1</sup> | Inductance <sup>2</sup><br>(nH) | Percent <sup>3</sup><br>tolerance | Q min <sup>4</sup> | SRF min <sup>5</sup><br>(MHz) | DCR max <sup>6</sup><br>(Ohms) | Irms <sup>7</sup><br>(mA) |
|--------------------------|---------------------------------|-----------------------------------|--------------------|-------------------------------|--------------------------------|---------------------------|
| 1008CT-040XJL_           | 4.7 @ 50 MHz                    | <b>5</b>                          | 28 @ 500 MHz       | 7500                          | 0.15                           | 600                       |
| 1008CT-080X_L_           | 8.2 @ 50 MHz                    | <b>5,2</b>                        | 40 @ 500 MHz       | 5000                          | 0.22                           | 600                       |
| 1008CT-100XJL_           | 10 @ 50 MHz                     | <b>5</b>                          | 40 @ 500 MHz       | 2700                          | 0.25                           | 600                       |
| 1008CT-150X_L_           | 15 @ 50 MHz                     | <b>5,2</b>                        | 40 @ 500 MHz       | 3000                          | 0.22                           | 600                       |
| 1008CT-200X_L_           | 20 @ 50 MHz                     | <b>5,2</b>                        | 50 @ 500 MHz       | 2400                          | 0.33                           | 600                       |
| 1008CT-300X_L_           | 30 @ 50 MHz                     | <b>5,2</b>                        | 50 @ 500 MHz       | 2400                          | 0.38                           | 600                       |
| 1008CT-400X_L_           | 40 @ 50 MHz                     | <b>5,2</b>                        | 60 @ 500 MHz       | 2000                          | 0.43                           | 600                       |
| 1008CT-500X_L_           | 50 @ 50 MHz                     | <b>5,2</b>                        | 60 @ 500 MHz       | 1900                          | 0.48                           | 600                       |
| 1008CT-600X_L_           | 60 @ 50 MHz                     | <b>5,2,1</b>                      | 60 @ 500 MHz       | 1800                          | 0.52                           | 600                       |
| 1008CT-700X_L_           | 70 @ 50 MHz                     | <b>5,2,1</b>                      | 60 @ 500 MHz       | 1700                          | 0.55                           | 510                       |
| 1008CT-800X_L_           | 80 @ 50 MHz                     | <b>5,2,1</b>                      | 60 @ 500 MHz       | 1400                          | 0.56                           | 510                       |
| 1008CT-900X_L_           | 90 @ 50 MHz                     | <b>5,2</b>                        | 65 @ 500 MHz       | 1400                          | 0.61                           | 500                       |
| 1008CT-101X_L_           | 100 @ 50 MHz                    | <b>5,2</b>                        | 60 @ 500 MHz       | 1000                          | 0.63                           | 480                       |

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

**1008CT-101XJLC**

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

(Table shows stock tolerances in bold.)

**Termination:** L = RoHS compliant silver-palladium-platinum-glass frit.

E = Halogen free component. RoHS compliant silver-palladium-platinum-glass frit terminations.

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).

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 (7500 parts per full reel).

2. Inductance measured using a Coilcraft SMD-A fixture in an Agilent/HP 4286A impedance analyzer with Coilcraft-provided correlation pieces.

3. Tolerances in bold are stocked for immediate shipment.

4. Q measured at using an Agilent/HP 4291A with an Agilent/HP 16193 test fixture.

5. SRF measured using an Agilent/HP 8720D network analyzer and a Coilcraft SMD-D test fixture.

6. DCR measured on a Cambridge Technology micro-ohmmeter and a Coilcraft CCF840 test fixture.

7. Current that causes a 15°C temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.

8. Electrical specifications at 25°C.

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

**Core material** Ceramic

**Environmental** RoHS compliant, halogen free optional

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

**Weight** 17.8–17.8 mg

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

**Maximum part temperature** +140°C (ambient + temp rise).

**Storage temperature** Component: –40°C to +140°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)** +25 to +125 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, 1.6 mm pocket depth

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787\\_PCB\\_Washing.pdf](#).



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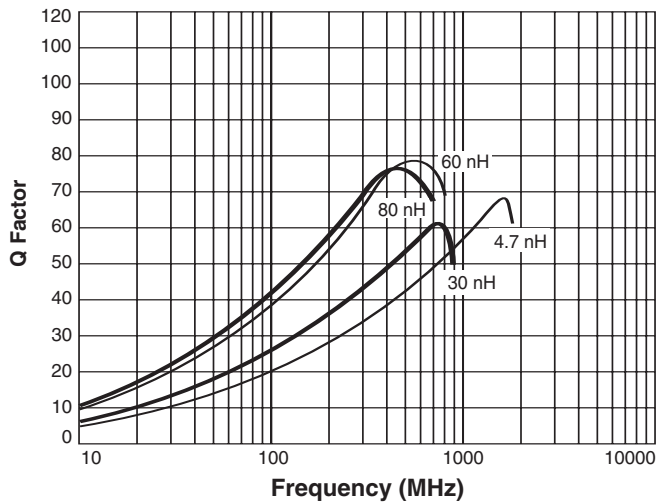
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# 1008CT Series (2520)

## Typical Q vs Frequency



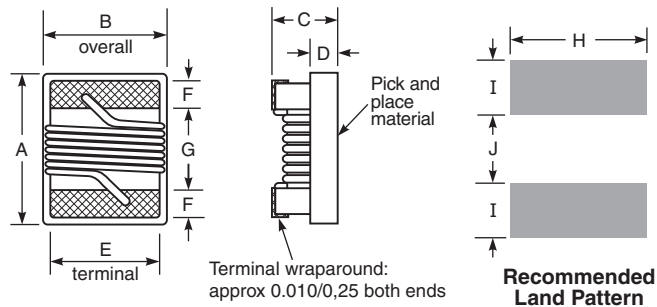
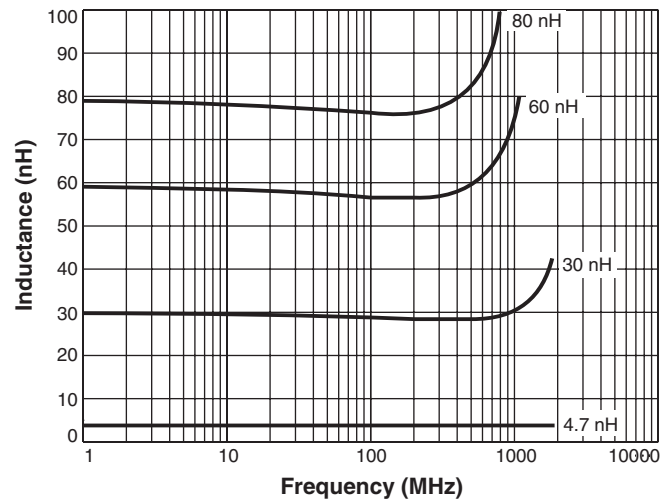
## S-Parameter files

ON OUR WEB SITE

## SPICE models

ON OUR WEB SITE

## Typical L vs Frequency



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

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

# Mouser Electronics

Authorized Distributor

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## Coilcraft:

|                                       |                                       |                                       |                                       |                                       |                                       |
|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| <a href="#"><u>1008CT-300XGLB</u></a> | <a href="#"><u>1008CT-500XGLC</u></a> | <a href="#"><u>1008CT-101XGLC</u></a> | <a href="#"><u>1008CT-080XGLB</u></a> | <a href="#"><u>1008CT-900XJLB</u></a> | <a href="#"><u>1008CT-080XJLC</u></a> |
| <a href="#"><u>1008CT-300XJLC</u></a> | <a href="#"><u>1008CT-400XJLB</u></a> | <a href="#"><u>1008CT-700XGLC</u></a> | <a href="#"><u>1008CT-200XGLC</u></a> | <a href="#"><u>1008CT-800XJLC</u></a> | <a href="#"><u>1008CT-080XJLB</u></a> |
| <a href="#"><u>1008CT-200XJLB</u></a> | <a href="#"><u>1008CT-900XGLB</u></a> | <a href="#"><u>1008CT-150XJLC</u></a> | <a href="#"><u>1008CT-400XJLC</u></a> | <a href="#"><u>1008CT-700XGLB</u></a> | <a href="#"><u>1008CT-400XGLB</u></a> |
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| <a href="#"><u>1008CT-300XJLB</u></a> | <a href="#"><u>1008CT-700XJLB</u></a> | <a href="#"><u>1008CT-300XGLC</u></a> | <a href="#"><u>1008CT-150XGLC</u></a> | <a href="#"><u>1008CT-900XJLC</u></a> | <a href="#"><u>1008CT-500XJLB</u></a> |