

# Chip Inductors – 1008CS Series (2520)

These chip inductors are designed for the needs of today's high frequency designer. Their ceramic construction delivers the highest possible SRFs and Q values. The non-magnetic coilform also ensures the utmost in thermal

stability, predictability and batch consistency. Coilcraft **Designer's Kit C100** contains samples of all 5% inductance tolerance parts. Kits with 2% tolerance parts are also available.

| Part number <sup>1</sup> | Inductance <sup>2</sup><br>(nH) | Percent<br>tolerance <sup>3</sup> | 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) |
|--------------------------|---------------------------------|-----------------------------------|--------------------|-------------------------------|--------------------------------|---------------------------|
| 1008CS-100X_B_           | 10 @ 50 MHz                     | <b>5,2</b>                        | 50 @ 500 MHz       | 4100                          | 0.08                           | 1000                      |
| 1008CS-120X_B_           | 12 @ 50 MHz                     | <b>5,2</b>                        | 50 @ 500 MHz       | 3300                          | 0.09                           | 1000                      |
| 1008CS-150X_B_           | 15 @ 50 MHz                     | <b>5,2</b>                        | 50 @ 500 MHz       | 2500                          | 0.10                           | 1000                      |
| 1008CS-180X_B_           | 18 @ 50 MHz                     | <b>5,2</b>                        | 50 @ 350 MHz       | 2500                          | 0.11                           | 1000                      |
| 1008CS-220X_B_           | 22 @ 50 MHz                     | <b>5,2,1</b>                      | 55 @ 350 MHz       | 2400                          | 0.12                           | 1000                      |
| 1008CS-270X_B_           | 27 @ 50 MHz                     | <b>5,2</b>                        | 55 @ 350 MHz       | 1600                          | 0.13                           | 1000                      |
| 1008CS-330X_B_           | 33 @ 50 MHz                     | <b>5,2</b>                        | 60 @ 350 MHz       | 1600                          | 0.14                           | 1000                      |
| 1008CS-390X_B_           | 39 @ 50 MHz                     | <b>5,2</b>                        | 60 @ 350 MHz       | 1500                          | 0.15                           | 1000                      |
| 1008CS-470X_B_           | 47 @ 50 MHz                     | <b>5,2,1</b>                      | 65 @ 350 MHz       | 1500                          | 0.16                           | 1000                      |
| 1008CS-560X_B_           | 56 @ 50 MHz                     | <b>5,2,1</b>                      | 65 @ 350 MHz       | 1300                          | 0.18                           | 1000                      |
| 1008CS-680X_B_           | 68 @ 50 MHz                     | <b>5,2,1</b>                      | 65 @ 350 MHz       | 1300                          | 0.20                           | 1000                      |
| 1008CS-820X_B_           | 82 @ 50 MHz                     | <b>5,2,1</b>                      | 60 @ 350 MHz       | 1000                          | 0.22                           | 1000                      |
| 1008CS-101X_B_           | 100 @ 25 MHz                    | <b>5,2,1</b>                      | 60 @ 350 MHz       | 1000                          | 0.56                           | 650                       |
| 1008CS-121X_B_           | 120 @ 25 MHz                    | <b>5,2,1</b>                      | 60 @ 350 MHz       | 950                           | 0.63                           | 650                       |
| 1008CS-151X_B_           | 150 @ 25 MHz                    | <b>5,2,1</b>                      | 45 @ 100 MHz       | 850                           | 0.70                           | 580                       |
| 1008CS-181X_B_           | 180 @ 25 MHz                    | <b>5,2,1</b>                      | 45 @ 100 MHz       | 750                           | 0.77                           | 620                       |
| 1008CS-221X_B_           | 220 @ 25 MHz                    | <b>5,2,1</b>                      | 45 @ 100 MHz       | 700                           | 0.84                           | 500                       |
| 1008CS-271X_B_           | 270 @ 25 MHz                    | <b>5,2,1</b>                      | 45 @ 100 MHz       | 600                           | 0.91                           | 500                       |
| 1008CS-331X_B_           | 330 @ 25 MHz                    | <b>5,2,1</b>                      | 45 @ 100 MHz       | 570                           | 1.05                           | 450                       |
| 1008CS-391X_B_           | 390 @ 25 MHz                    | <b>5,2,1</b>                      | 45 @ 100 MHz       | 500                           | 1.12                           | 470                       |
| 1008CS-471X_B_           | 470 @ 25 MHz                    | <b>5,2,1</b>                      | 45 @ 100 MHz       | 450                           | 1.19                           | 470                       |
| 1008CS-561X_B_           | 560 @ 25 MHz                    | <b>5,2,1</b>                      | 45 @ 100 MHz       | 415                           | 1.33                           | 400                       |
| 1008CS-621X_B_           | 620 @ 25 MHz                    | <b>5,2,1</b>                      | 45 @ 100 MHz       | 375                           | 1.40                           | 300                       |
| 1008CS-681X_B_           | 680 @ 25 MHz                    | <b>5,2,1</b>                      | 45 @ 100 MHz       | 375                           | 1.47                           | 400                       |
| 1008CS-751X_B_           | 750 @ 25 MHz                    | <b>5,2,1</b>                      | 45 @ 100 MHz       | 360                           | 1.54                           | 360                       |
| 1008CS-821X_B_           | 820 @ 25 MHz                    | <b>5,2,1</b>                      | 45 @ 100 MHz       | 350                           | 1.61                           | 400                       |
| 1008CS-911X_B_           | 910 @ 25 MHz                    | <b>5,2,1</b>                      | 35 @ 50 MHz        | 320                           | 1.68                           | 380                       |
| 1008CS-102X_B_           | 1000 @ 25 MHz                   | <b>5,2,1</b>                      | 35 @ 50 MHz        | 290                           | 1.75                           | 370                       |
| 1008CS-122X_B_           | 1200 @ 7.9 MHz                  | <b>5,2</b>                        | 35 @ 50 MHz        | 250                           | 2.0                            | 310                       |
| 1008CS-152X_B_           | 1500 @ 7.9 MHz                  | <b>5,2</b>                        | 28 @ 50 MHz        | 200                           | 2.3                            | 330                       |
| 1008CS-182X_B_           | 1800 @ 7.9 MHz                  | <b>5,2</b>                        | 28 @ 50 MHz        | 160                           | 2.6                            | 300                       |
| 1008CS-222X_B_           | 2200 @ 7.9 MHz                  | <b>5,2</b>                        | 28 @ 50 MHz        | 160                           | 2.8                            | 280                       |
| 1008CS-272X_B_           | 2700 @ 7.9 MHz                  | <b>5,2</b>                        | 22 @ 25 MHz        | 140                           | 3.2                            | 290                       |
| 1008CS-332X_B_           | 3300 @ 7.9 MHz                  | <b>5,2</b>                        | 22 @ 25 MHz        | 110                           | 3.4                            | 290                       |
| 1008CS-392X_B_           | 3900 @ 7.9 MHz                  | <b>5,2</b>                        | 20 @ 25 MHz        | 100                           | 3.6                            | 260                       |
| 1008CS-472X_B_           | 4700 @ 7.9 MHz                  | <b>5,2</b>                        | 20 @ 25 MHz        | 90                            | 4.0                            | 260                       |
| 1008CS-562X_B_           | 5600 @ 7.9 MHz                  | <b>5</b>                          | 16 @ 7.9 MHz       | 20                            | 4.0                            | 240                       |
| 1008CS-682X_B_           | 6800 @ 7.9 MHz                  | <b>5</b>                          | 18 @ 7.9 MHz       | 40                            | 4.9                            | 200                       |
| 1008CS-822X_B_           | 8200 @ 7.9 MHz                  | <b>5</b>                          | 18 @ 7.9 MHz       | 25                            | 6.0                            | 170                       |

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

**1008CS-822XJB C**

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

(Table shows stock tolerances in bold.)

**Packaging:** C = 7" machine-ready reel. EIA-481 embossed plastic tape (2000 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 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 using an Agilent/HP 4291A with an Agilent/HP 16193 test fixture.

5. SRF measured using an Agilent/HP 8753D 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. Average current for a 15°C rise above 25°C ambient.

8. Operating temperature range –40°C to +125°C.

9. Electrical specifications at 25°C.

See Qualification Standards section for environmental and test data.

See Color Coding Section for part marking data.

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Specifications subject to change without notice.

Please check our website for latest information.

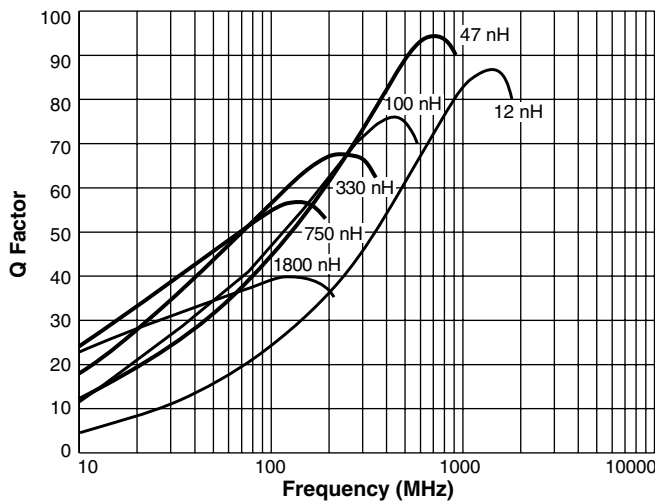
Document 101-1 Revised 02/09/05

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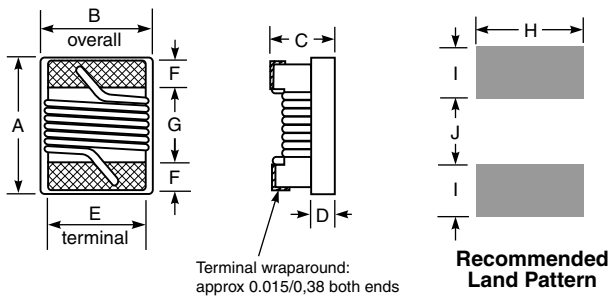
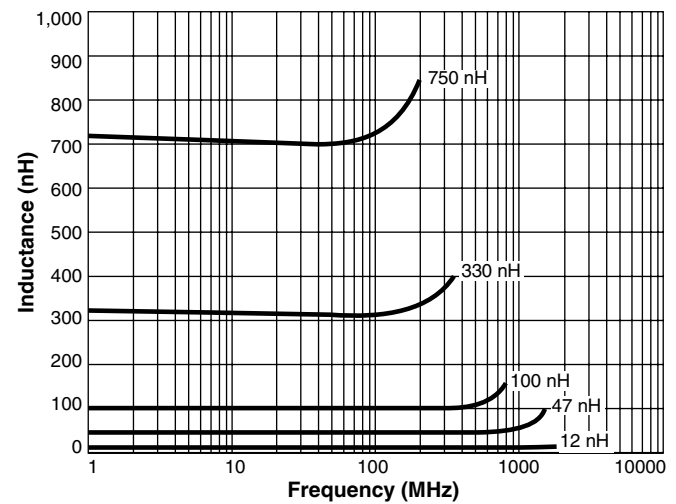
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# 1008CS Series (2520)

## 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  |

**Weight:** 29.6 – 37.4 mg

**Terminations:** Silver-palladium-platinum

**Tape and reel:** 2000/7" reel; 7500/13" reel 8 mm tape width

For packaging data see Tape and Reel Specifications section.

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Please check our website for latest information.

Document 101-2 Revised 12/28/04

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