



Chip Inductors– 1008HQ (2520)

- Highest Q factors of any Coilcraft chip this body size, roughly 20% higher than our popular 1008CS and HS parts.
- Exceptional SRFs, tight tolerance and batch consistency

Coilcraft **Designer's Kit C323** contains samples of all 5% inductance tolerance parts. Kits with 2% tolerance are also available. To order, contact Coilcraft or purchase on-line at <http://order.coilcraft.com>.

| Part number ¹ | Inductance ³ (nH) | Percent tolerance ⁴ | Q min ⁵ | SRF min ⁶ (GHz) | DCR max ⁷ (Ohms) | Irms ⁸ (A) |
|--------------------------|---------------------------------|-----------------------------------|--------------------|-------------------------------|--------------------------------|--------------------------|
| 1008HQ-3N0X_L_2 | 3.0 @ 50 MHz | 5 | 70 @ 1500 MHz | 8.10 | 0.04 | 1.6 |
| 1008HQ-4N1X_L_ | 4.1 @ 50 MHz | 5 | 75 @ 1500 MHz | 6.20 | 0.05 | 1.6 |
| 1008HQ-7N8X_L_2 | 7.8 @ 50 MHz | 5 | 75 @ 500 MHz | 3.80 | 0.05 | 1.6 |
| 1008HQ-10NX_L_ | 10 @ 50 MHz | 5,2 | 60 @ 500 MHz | 3.60 | 0.06 | 1.6 |
| 1008HQ-12NX_L_ | 12 @ 50 MHz | 5,2 | 70 @ 500 MHz | 2.80 | 0.06 | 1.5 |
| 1008HQ-18NX_L_ | 18 @ 50 MHz | 5,2,1 | 62 @ 350 MHz | 2.70 | 0.07 | 1.4 |
| 1008HQ-22NX_L_ | 22 @ 50 MHz | 5,2 | 62 @ 350 MHz | 2.05 | 0.07 | 1.4 |
| 1008HQ-33NX_L_ | 33 @ 50 MHz | 5,2 | 75 @ 350 MHz | 1.70 | 0.09 | 1.3 |
| 1008HQ-36NX_L_ | 36 @ 50 MHz | 5,2 | 65 @ 350 MHz | 1.40 | 0.09 | 1.3 |
| 1008HQ-39NX_L_ | 39 @ 50 MHz | 5,2 | 75 @ 350 MHz | 1.30 | 0.09 | 1.3 |
| 1008HQ-47NX_L_ | 47 @ 50 MHz | 5,2,1 | 75 @ 350 MHz | 1.45 | 0.12 | 1.2 |
| 1008HQ-56NX_L_ | 56 @ 50 MHz | 5,2,1 | 75 @ 350 MHz | 1.23 | 0.12 | 1.2 |
| 1008HQ-68NX_L_ | 68 @ 50 MHz | 5,2,1 | 80 @ 350 MHz | 1.15 | 0.13 | 1.1 |
| 1008HQ-82NX_L_ | 82 @ 50 MHz | 5,2 | 80 @ 350 MHz | 1.06 | 0.16 | 1.1 |
| 1008HQ-R10X_L_ | 100 @ 50 MHz | 5,2 | 62 @ 350 MHz | 0.82 | 0.16 | 1.0 |

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

1008HQ-R10XGLC

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

(Table shows stock tolerances in bold.)

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

- Part is wound on low profile coilform.
- Inductance measured using a Coilcraft SMD-A fixture in an Agilent/HP 4286A impedance analyzer with Coilcraft-provided correlation pieces.
- Tolerances in bold are stocked for immediate shipment.
- Q measured using an Agilent/HP 4291A with an Agilent/HP 16193 test fixture.
- For SRF less than 6 GHz, measured using an Agilent/HP 8753D network analyzer and a Coilcraft SMD-D test fixture. For SRF greater than 6 GHz, measured using an Agilent/HP 8722ES network analyzer and a Coilcraft SMD-D test fixture.
- DCR measured on a Cambridge Technology micro-ohmmeter and a Coilcraft CCF840 test fixture.
- 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.
- Electrical specifications at 25°C.

For part marking data, visit <http://www.coilcraft.com/colrcode.cfm>.

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

Core material Ceramic

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

Weight 32.4–35.7 mg; 17.1–17.7 mg (Low profile parts)

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)

Packaging 2000/7" reel; 7500/13" reel

Standard height parts: Plastic tape: 8 mm wide, 0.23 mm thick, 4 mm pocket spacing, 1.8 mm pocket depth

Low profile parts: 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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www.coilcraft.com

US +1-847-639-6400 sales@coilcraft.com
UK +44-1236-730595 sales@coilcraft-europe.com
Taiwan +886-2-2264 3646 sales@coilcraft.com.tw
China +86-21-6218 8074 sales@coilcraft.com.cn
Singapore +65-6484 8412 sales@coilcraft.com.sg

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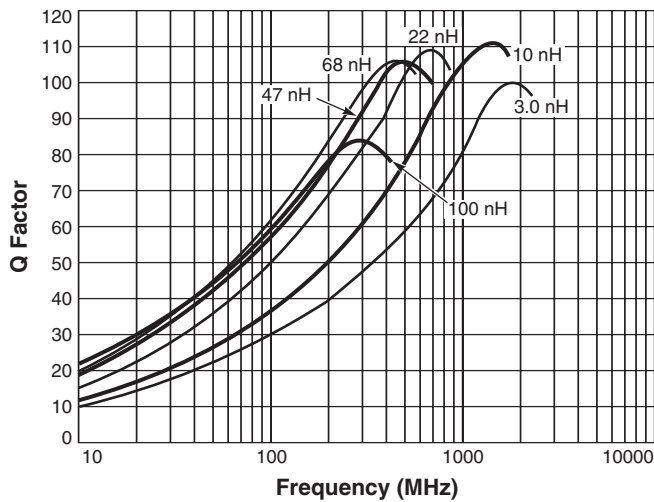
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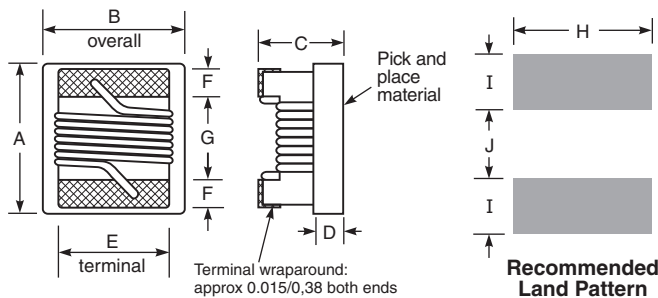
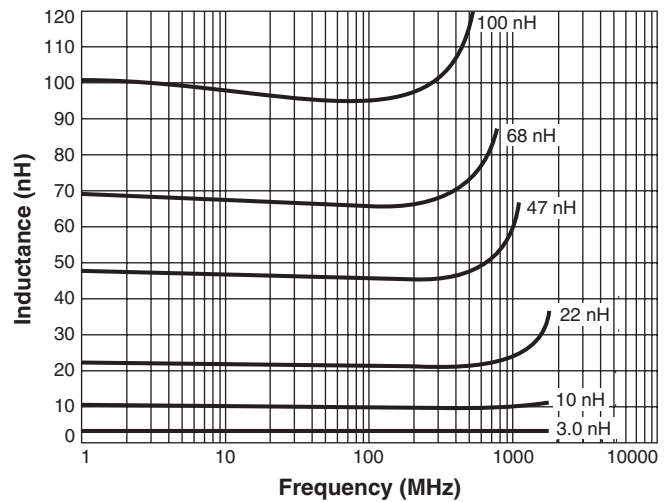


Chip Inductors – 1008HQ Series (2520)

Typical Q vs Frequency



Typical L vs Frequency



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

* Low profile parts: 0.050/1,27

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

S-Parameter files

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SPICE models

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Coilcraft:

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