



# Chip Inductors – 1008HS (2520)

Coilcraft “HS” series chip inductors have been designed especially for the needs of today’s high frequency designer. Their ceramic construction delivers the highest possible

SRF and excellent Q values. The non-magnetic coilform also ensures the utmost in thermal stability, predictability and batch consistency.

Part number <sup>1</sup>	Inductance <sup>2</sup> (nH)	Percent tolerance <sup>3</sup>	Q min <sup>4</sup>	SRF min <sup>5</sup> (MHz)	DCR max <sup>6</sup> (Ohms)	Irms <sup>7</sup> (mA)
1008HS-100T_L_	10 @ 50 MHz	<b>5</b>	50 @ 500 MHz	4100	0.08	1000
1008HS-120T_L_	12 @ 50 MHz	<b>5</b>	50 @ 500 MHz	3300	0.09	1000
1008HS-150T_L_	15 @ 50 MHz	<b>5</b>	50 @ 500 MHz	2500	0.10	1000
1008HS-180T_L_	18 @ 50 MHz	<b>5</b>	50 @ 350 MHz	2500	0.11	1000
1008HS-220T_L_	22 @ 50 MHz	<b>5</b>	55 @ 350 MHz	2400	0.12	1000
1008HS-270T_L_	27 @ 50 MHz	<b>5,2</b>	55 @ 350 MHz	1600	0.13	1000
1008HS-330T_L_	33 @ 50 MHz	<b>5,2</b>	60 @ 350 MHz	1600	0.14	1000
1008HS-390T_L_	39 @ 50 MHz	<b>5,2</b>	60 @ 350 MHz	1500	0.15	1000
1008HS-470T_L_	47 @ 50 MHz	<b>5,2,1</b>	65 @ 350 MHz	1500	0.16	1000
1008HS-560T_L_	56 @ 50 MHz	<b>5,2,1</b>	65 @ 350 MHz	1300	0.18	1000
1008HS-680T_L_	68 @ 50 MHz	<b>5,2,1</b>	65 @ 350 MHz	1300	0.20	1000
1008HS-820T_L_	82 @ 50 MHz	<b>5,2,1</b>	60 @ 350 MHz	1000	0.22	1000
1008HS-101T_L_	100 @ 25 MHz	<b>5,2,1</b>	60 @ 350 MHz	1000	0.56	650
1008HS-121T_L_	120 @ 25 MHz	<b>5,2,1</b>	60 @ 350 MHz	950	0.63	650
1008HS-151T_L_	150 @ 25 MHz	<b>5,2,1</b>	45 @ 100 MHz	850	0.70	580
1008HS-181T_L_	180 @ 25 MHz	<b>5,2,1</b>	45 @ 100 MHz	750	0.77	620
1008HS-221T_L_	220 @ 25 MHz	<b>5,2,1</b>	45 @ 100 MHz	700	0.84	500
1008HS-271T_L_	270 @ 25 MHz	<b>5,2,1</b>	45 @ 100 MHz	600	0.91	500
1008HS-331T_L_	330 @ 25 MHz	<b>5,2,1</b>	45 @ 100 MHz	570	1.05	450
1008HS-391T_L_	390 @ 25 MHz	<b>5,2,1</b>	45 @ 100 MHz	500	1.12	470
1008HS-471T_L_	470 @ 25 MHz	<b>5,2,1</b>	45 @ 100 MHz	450	1.19	470
1008HS-561T_L_	560 @ 25 MHz	<b>5,2,1</b>	45 @ 100 MHz	415	1.33	400
1008HS-621T_L_	620 @ 25 MHz	<b>5,2,1</b>	45 @ 100 MHz	375	1.40	300
1008HS-681T_L_	680 @ 25 MHz	<b>5,2,1</b>	45 @ 100 MHz	375	1.47	400
1008HS-751T_L_	750 @ 25 MHz	<b>5,2,1</b>	45 @ 100 MHz	360	1.54	360
1008HS-821T_L_	820 @ 25 MHz	<b>5,2,1</b>	45 @ 100 MHz	350	1.61	400
1008HS-911T_L_	910 @ 25 MHz	<b>5,2,1</b>	35 @ 50 MHz	320	1.68	380
1008HS-102T_L_	1000 @ 25 MHz	<b>5,2</b>	35 @ 50 MHz	290	1.75	370

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

1008HS-102TGLC

- 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.

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. 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.
9. Temperature coefficient of inductance: +25 to +125 ppm/°C.
- For part marking data, please visit <http://www.coilcraft.com/colrcode.cfm>.  
Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

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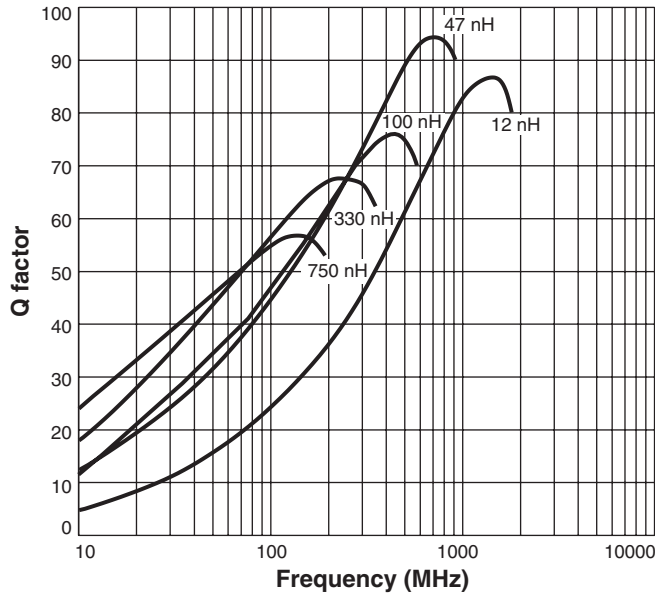
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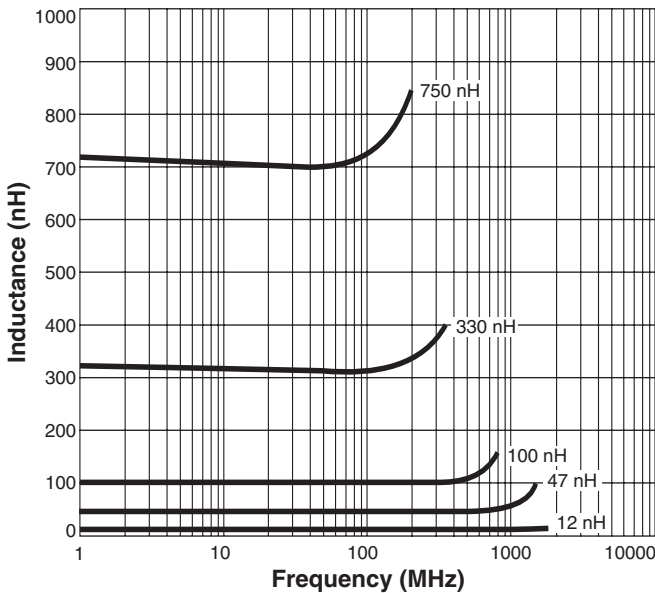


# 1008HS Series (2520)

## Typical Q vs Frequency



## Typical L vs Frequency



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

**Core material** Ceramic

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

**Weight** 28.3–31.5 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

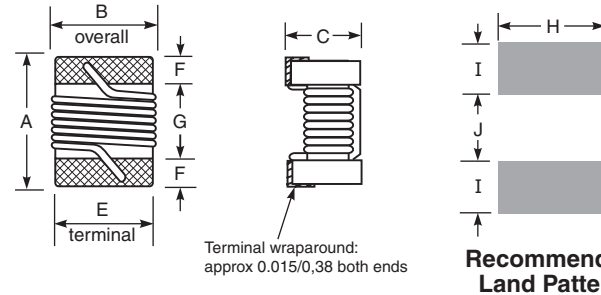
**Moisture Sensitivity Level (MSL)** 1 (unlimited floor life at <30°C / 85% relative humidity)

**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, 0.23 mm thick, 4 mm pocket spacing, 1.3 mm pocket depth

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



A max	B max	C max	E	F	G	H	I	J
0.105	0.095	0.070	0.080	0.020	0.060	0.100	0.040	0.050
2,67	2,41	1,78	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.



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