



# 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.  
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. Factory order only, not stocked (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 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.

**COILCRAFT** ACCURATE  
REPEATABLE  
**PRECISION** MEASUREMENTS  
SEE WEB SITE **TEST FIXTURES**



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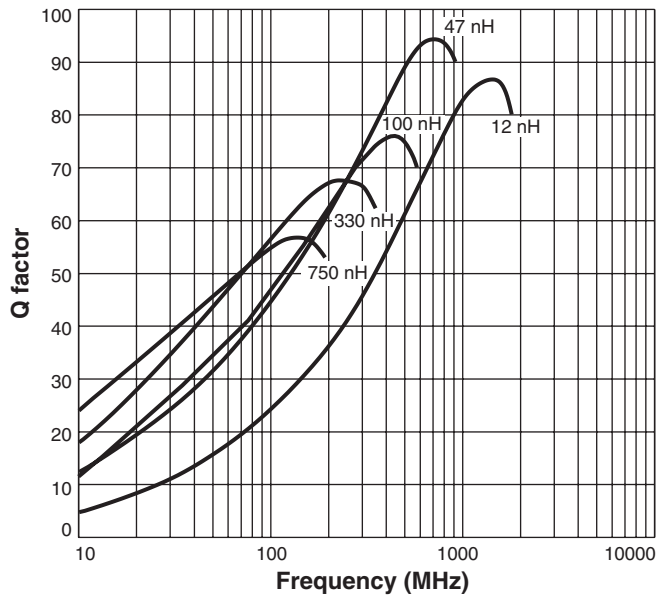
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This product may not be used in medical or high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check web site for latest information.

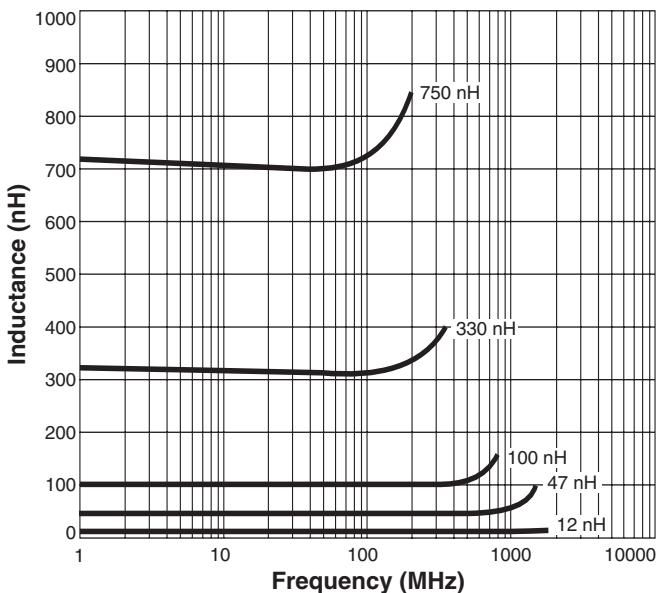


# 1008HS Series (2520)

## 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

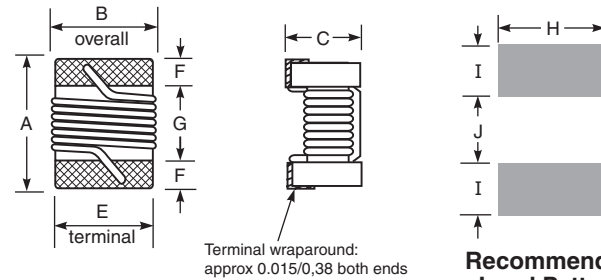
**Moisture Sensitivity Level (MSL)** 1 (unlimited floor life at <30°C / 85% relative humidity)

**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](#).



### Recommended Land Pattern

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.