



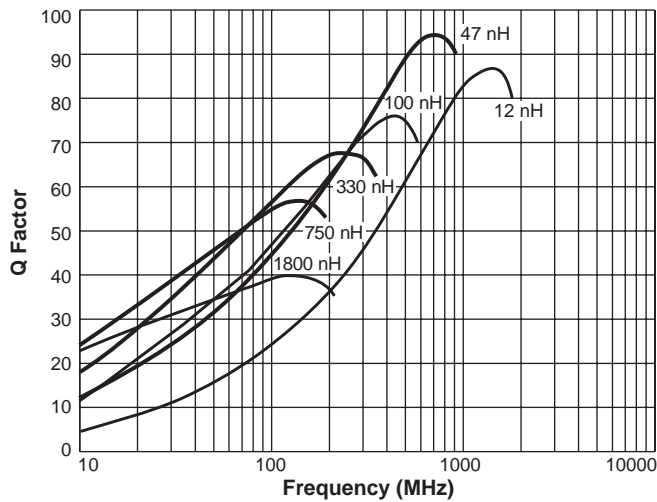
# Chip Inductors – 1008CS Series (2520)

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. They are

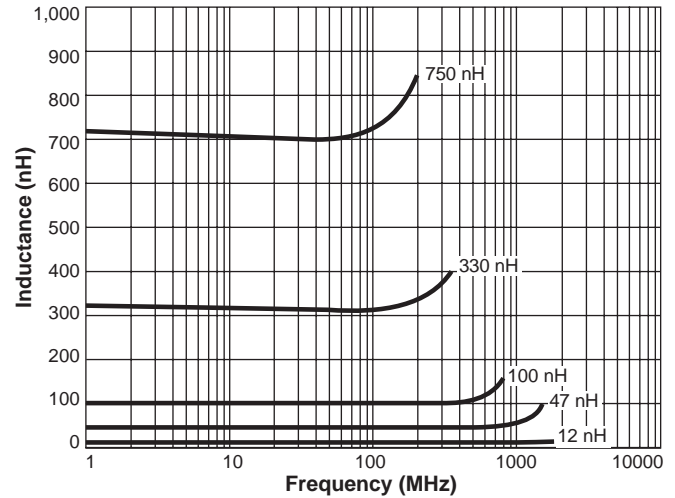
available in 39 inductance values, most at 2% tolerance.

Coilcraft **Designer's Kit C300** contains samples of all 5% inductance tolerance parts. Kits with 2% tolerance parts are also available.

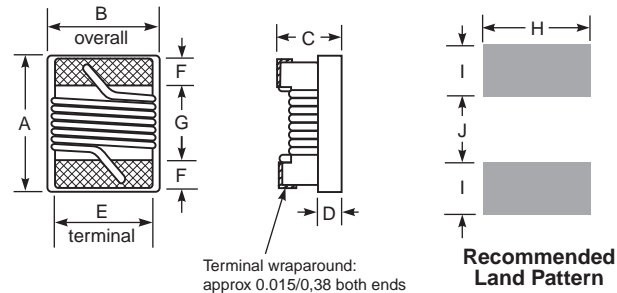
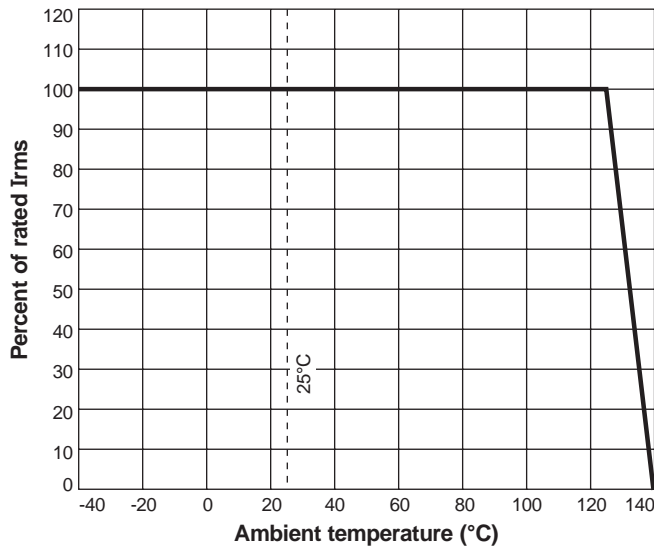
## Typical Q vs Frequency



## Typical L vs Frequency



## Irms Derating



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  
**Tape and reel:** 2000/7" reel; 7500/13" reel 8 mm tape width  
 For packaging data see Tape and Reel Specifications section.



Specifications subject to change without notice.  
 Please check our website for latest information.

Document 101-1 Revised 04/19/07

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# 1008CS Series (2520)

## S-Parameter files

ON OUR WEB SITE OR CD

## SPICE models

ON OUR WEB SITE OR CD

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

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

1008CS-822X J L C

- 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 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. Current that causes a 15°C temperature rise from 25°C ambient.

8. **Ambient temperature range:** -40°C to +125°C with I<sub>rms</sub> current  
+125°C to +140°C with derated current

9. **Storage temperature range:** Component: -55°C to +125°C  
Packaging: -55°C to +80°C

10. **Resistance to soldering heat:** Three reflows at >217°C for 90 seconds  
(+260°C ±5°C for 20 – 40 seconds), allowing parts to cool to room  
temperature between.

11. Electrical specifications at 25°C.

12. Temperature coefficient of inductance: +25 to +125 ppm/°C.

See Qualification Standards section for environmental and test data.

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

# Coilcraft®

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