

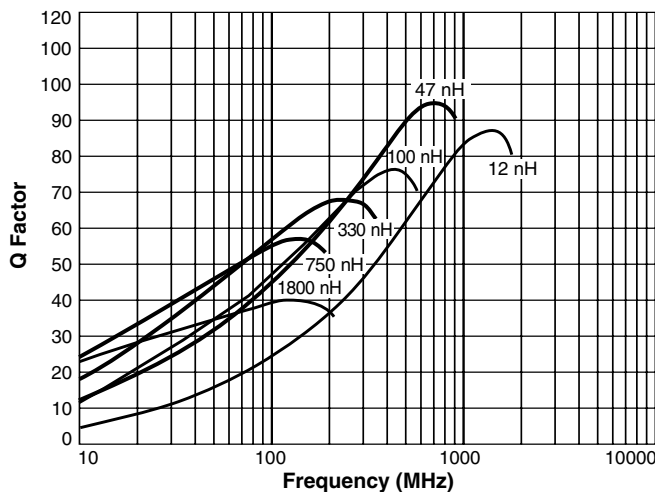
**PRELIMINARY**

# Chip Inductors – M1008CS Series (2520)

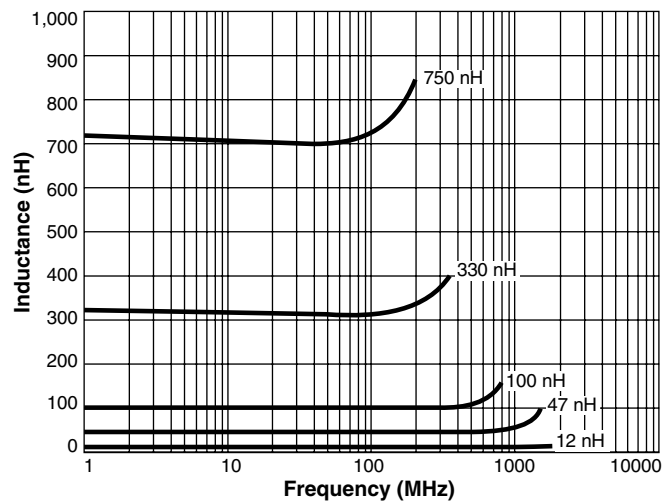
These chip inductors are designed for the needs of today's high frequency designer. Their ceramic construction delivers the highest possible SRFs and Q values. The non-magnetic coilform also ensures the utmost in thermal stability, predictability and batch consistency. They are available in 39 inductance values, most at 2% tolerance.

This robust version features a high temperature encapsulant that allows operation in ambient temperature up to 155°C and a leach-resistant base metalization with 63/37 tin-lead terminations that ensure the best possible board adhesion.

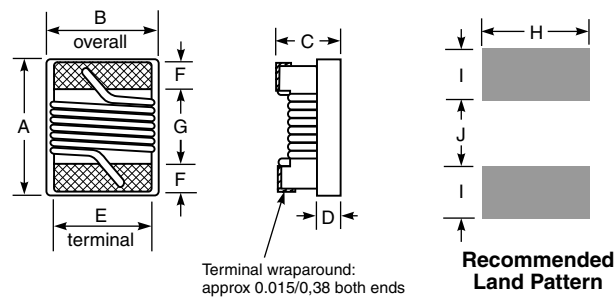
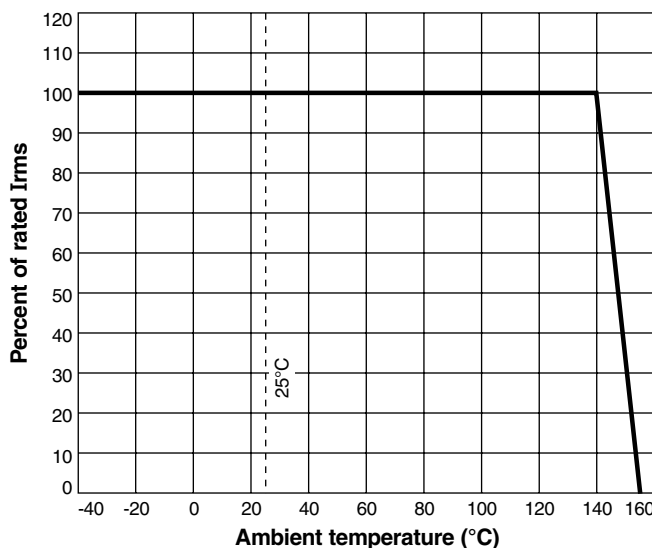
## Typical Q vs Frequency



## 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  
**Terminations:** Tin-lead (63/37) over silver-palladium-platinum-glass frit  
**Tape and reel:** 2000/7" reel; 7500/13" reel 8 mm tape width  
 For packaging data see Tape and Reel Specifications section.



**PRELIMINARY****M1008CS Series (2520)****S-Parameter files**

ON OUR WEB SITE OR CD

**SPICE models**

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Part number <sup>1</sup>	Inductance <sup>2</sup> (nH)	Percent tolerance	Q min <sup>3</sup>	SRF min <sup>4</sup> (MHz)	DCR max <sup>5</sup> (Ohms)	Irms <sup>6</sup> (mA)
M1008CS-100X_S	10 @ 50 MHz	5,2	50 @ 500 MHz	4100	0.08	1000
M1008CS-120X_S	12 @ 50 MHz	5,2	50 @ 500 MHz	3300	0.09	1000
M1008CS-150X_S	15 @ 50 MHz	5,2	50 @ 500 MHz	2500	0.10	1000
M1008CS-180X_S	18 @ 50 MHz	5,2	50 @ 350 MHz	2500	0.11	1000
M1008CS-220X_S	22 @ 50 MHz	5,2,1	55 @ 350 MHz	2400	0.12	1000
M1008CS-270X_S	27 @ 50 MHz	5,2	55 @ 350 MHz	1600	0.13	1000
M1008CS-330X_S	33 @ 50 MHz	5,2	60 @ 350 MHz	1600	0.14	1000
M1008CS-390X_S	39 @ 50 MHz	5,2	60 @ 350 MHz	1500	0.15	1000
M1008CS-470X_S	47 @ 50 MHz	5,2,1	65 @ 350 MHz	1500	0.16	1000
M1008CS-560X_S	56 @ 50 MHz	5,2,1	65 @ 350 MHz	1300	0.18	1000
M1008CS-680X_S	68 @ 50 MHz	5,2,1	65 @ 350 MHz	1300	0.20	1000
M1008CS-820X_S	82 @ 50 MHz	5,2,1	60 @ 350 MHz	1000	0.22	1000
M1008CS-101X_S	100 @ 25 MHz	5,2,1	60 @ 350 MHz	1000	0.56	650
M1008CS-121X_S	120 @ 25 MHz	5,2,1	60 @ 350 MHz	950	0.63	650
M1008CS-151X_S	150 @ 25 MHz	5,2,1	45 @ 100 MHz	850	0.70	580
M1008CS-181X_S	180 @ 25 MHz	5,2,1	45 @ 100 MHz	750	0.77	620
M1008CS-221X_S	220 @ 25 MHz	5,2,1	45 @ 100 MHz	700	0.84	500
M1008CS-271X_S	270 @ 25 MHz	5,2,1	45 @ 100 MHz	600	0.91	500
M1008CS-331X_S	330 @ 25 MHz	5,2,1	45 @ 100 MHz	570	1.05	450
M1008CS-391X_S	390 @ 25 MHz	5,2,1	45 @ 100 MHz	500	1.12	470
M1008CS-471X_S	470 @ 25 MHz	5,2,1	45 @ 100 MHz	450	1.19	470
M1008CS-561X_S	560 @ 25 MHz	5,2,1	45 @ 100 MHz	415	1.33	400
M1008CS-621X_S	620 @ 25 MHz	5,2,1	45 @ 100 MHz	375	1.40	300
M1008CS-681X_S	680 @ 25 MHz	5,2,1	45 @ 100 MHz	375	1.47	400
M1008CS-751X_S	750 @ 25 MHz	5,2,1	45 @ 100 MHz	360	1.54	360
M1008CS-821X_S	820 @ 25 MHz	5,2,1	45 @ 100 MHz	350	1.61	400
M1008CS-911X_S	910 @ 25 MHz	5,2,1	35 @ 50 MHz	320	1.68	380
M1008CS-102X_S	1000 @ 25 MHz	5,2,1	35 @ 50 MHz	290	1.75	370
M1008CS-122X_S	1200 @ 7.9 MHz	5,2	35 @ 50 MHz	250	2.0	310
M1008CS-152X_S	1500 @ 7.9 MHz	5,2	28 @ 50 MHz	200	2.3	330
M1008CS-182X_S	1800 @ 7.9 MHz	5,2	28 @ 50 MHz	160	2.6	300
M1008CS-222X_S	2200 @ 7.9 MHz	5,2	28 @ 50 MHz	160	2.8	280
M1008CS-272X_S	2700 @ 7.9 MHz	5,2	22 @ 25 MHz	140	3.2	290
M1008CS-332X_S	3300 @ 7.9 MHz	5,2	22 @ 25 MHz	110	3.4	290
M1008CS-392X_S	3900 @ 7.9 MHz	5,2	20 @ 25 MHz	100	3.6	260
M1008CS-472X_S	4700 @ 7.9 MHz	5,2	20 @ 25 MHz	90	4.0	260
M1008CS-562X_S	5600 @ 7.9 MHz	5	16 @ 7.9 MHz	20	4.0	240
M1008CS-682X_S	6800 @ 7.9 MHz	5	18 @ 7.9 MHz	40	4.9	200
M1008CS-822X_S	8200 @ 7.9 MHz	5	18 @ 7.9 MHz	25	6.0	170

1. When ordering, specify **tolerance**, and **packaging** codes:**M1008CS-822XJSC****Tolerance:** F = 1% G = 2% J = 5%**Packaging:** C = 7" machine-ready reel with crush-resistant insert.  
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 with crush-resistant insert.  
EIA-481 embossed plastic tape (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. Q measured using an Agilent/HP 4291A with an Agilent/HP 16193 test fixture.

4. SRF measured using an Agilent/HP 8753D network analyzer and a Coilcraft SMD-D test fixture.

5. DCR measured on a Cambridge Technology micro-ohmmeter and a Coilcraft CCF840 test fixture.

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

7. **Ambient temperature range:** -55°C to +140°C with I<sub>rms</sub> current  
+140°C to +155°C with derated current8. **Storage temperature range:** Component: -55°C to +155°C  
Packaging: -55°C to +80°C9. **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.

10. Electrical specifications at 25°C.

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

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

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