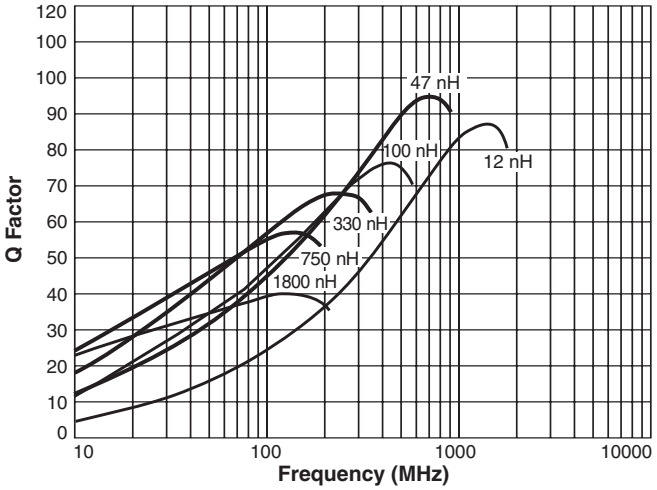
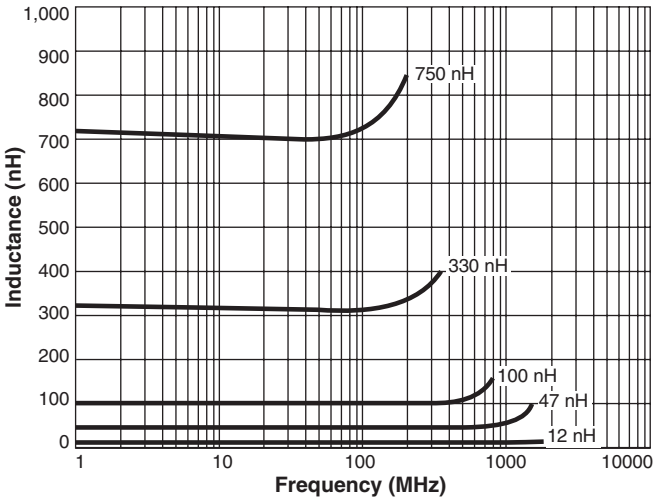
Chip Inductors – 1008CS Series (2520)

- High SRF and excellent Q values
- Tight tolerances, many values at 1%
- 39 inductance values from 10 nH to 8.2 µH

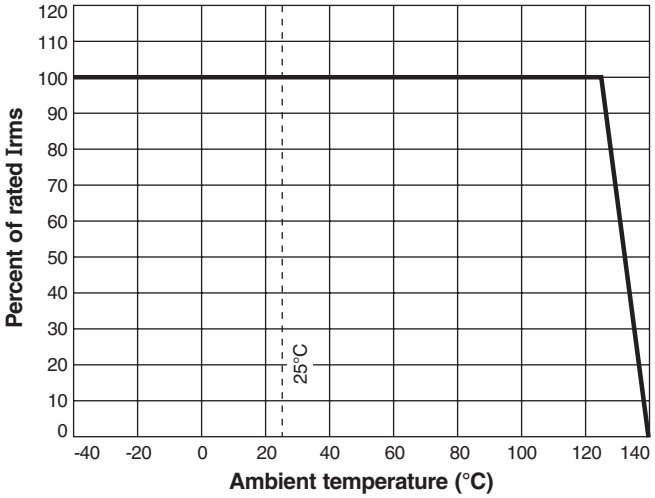
Typical Q vs Frequency

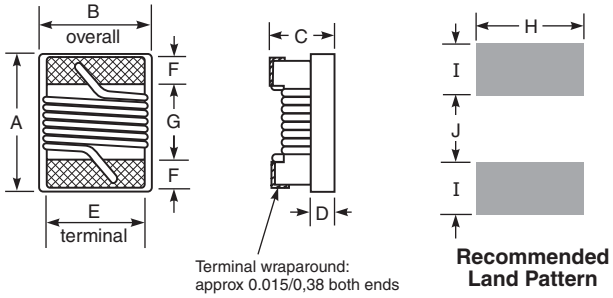


Typical L vs Frequency



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	inches
2,92	2,79	2,03	0,51	2,03	0,51	1,52	2,54	1,02	1,27	mm

Designer's Kit C300 contains 10 each of all values

Core material Ceramic

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

Weight 29.6 – 37.4 mg

Ambient temperature –40°C to +125°C with Irms current, +125°C to +140°C with derated current

Storage temperature Component: –40°C to +140°C. 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 per 7″ reel; 7500 per 13″ reel. Plastic tape: 8 mm wide, 0.3 mm thick, 4 mm pocket spacing, 2.0 mm pocket depth

PCB washing Only pure water or alcohol recommended

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

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S-Parameter files
ON OUR WEB SITE OR CD

SPICE models
ON OUR WEB SITE OR CD

1008CS Series (2520)

Part number[1]	Inductance[2] (nH)	Percent tolerance[3]	Q min[4]	SRF min[5] (MHz)	DCR max[6] (Ohms)	Irms[7] (mA)
1008CS-100X_L_	10 @ 50 MHz	**5,2**	50 @ 500 MHz	4100	0.08	1000
1008CS-120X_L_	12 @ 50 MHz	**5,2**	50 @ 500 MHz	3300	0.09	1000
1008CS-150X_L_	15 @ 50 MHz	**5,2**	50 @ 500 MHz	2500	0.10	1000
1008CS-180X_L_	18 @ 50 MHz	**5,2**	50 @ 350 MHz	2500	0.11	1000
1008CS-220X_L_	22 @ 50 MHz	**5,2**,1	55 @ 350 MHz	2400	0.12	1000
1008CS-270X_L_	27 @ 50 MHz	**5,2**	55 @ 350 MHz	1600	0.13	1000
1008CS-330X_L_	33 @ 50 MHz	**5,2**	60 @ 350 MHz	1600	0.14	1000
1008CS-390X_L_	39 @ 50 MHz	**5,2**	60 @ 350 MHz	1500	0.15	1000
1008CS-470X_L_	47 @ 50 MHz	**5,2**,1	65 @ 350 MHz	1500	0.16	1000
1008CS-560X_L_	56 @ 50 MHz	**5,2**,1	65 @ 350 MHz	1300	0.18	1000
1008CS-680X_L_	68 @ 50 MHz	**5,2**,1	65 @ 350 MHz	1300	0.20	1000
1008CS-820X_L_	82 @ 50 MHz	**5,2**,1	60 @ 350 MHz	1000	0.22	1000
1008CS-101X_L_	100 @ 25 MHz	**5,2**,1	60 @ 350 MHz	1000	0.56	650
1008CS-121X_L_	120 @ 25 MHz	**5,2**,1	60 @ 350 MHz	950	0.63	650
1008CS-151X_L_	150 @ 25 MHz	**5,2**,1	45 @ 100 MHz	850	0.70	580
1008CS-181X_L_	180 @ 25 MHz	**5,2**,1	45 @ 100 MHz	750	0.77	620
1008CS-221X_L_	220 @ 25 MHz	**5,2**,1	45 @ 100 MHz	700	0.84	500
1008CS-271X_L_	270 @ 25 MHz	**5,2,1**	45 @ 100 MHz	600	0.91	500
1008CS-331X_L_	330 @ 25 MHz	**5,2**,1	45 @ 100 MHz	570	1.05	450
1008CS-391X_L_	390 @ 25 MHz	**5,2**,1	45 @ 100 MHz	500	1.12	470
1008CS-471X_L_	470 @ 25 MHz	**5,2**,1	45 @ 100 MHz	450	1.19	470
1008CS-561X_L_	560 @ 25 MHz	**5,2**,1	45 @ 100 MHz	415	1.33	400
1008CS-621X_L_	620 @ 25 MHz	**5,2**,1	45 @ 100 MHz	375	1.40	300
1008CS-681X_L_	680 @ 25 MHz	**5,2**,1	45 @ 100 MHz	375	1.47	400
1008CS-751X_L_	750 @ 25 MHz	**5,2**,1	45 @ 100 MHz	360	1.54	360
1008CS-821X_L_	820 @ 25 MHz	**5,2**,1	45 @ 100 MHz	350	1.61	400
1008CS-911X_L_	910 @ 25 MHz	**5,2,1**	35 @ 50 MHz	320	1.68	380
1008CS-102X_L_	1000 @ 25 MHz	**5,2,1**	35 @ 50 MHz	290	1.75	370
1008CS-122X_L_	1200 @ 7.9 MHz	**5,2**	35 @ 50 MHz	250	2.0	310
1008CS-152X_L_	1500 @ 7.9 MHz	**5,2**	28 @ 50 MHz	200	2.3	330
1008CS-182X_L_	1800 @ 7.9 MHz	**5,2**	28 @ 50 MHz	160	2.6	300
1008CS-222X_L_	2200 @ 7.9 MHz	**5,2**	28 @ 50 MHz	160	2.8	280
1008CS-272X_L_	2700 @ 7.9 MHz	**5,2**	22 @ 25 MHz	140	3.2	290
1008CS-332X_L_	3300 @ 7.9 MHz	**5,2**	22 @ 25 MHz	110	3.4	290
1008CS-392X_L_	3900 @ 7.9 MHz	**5,2**	20 @ 25 MHz	100	3.6	260
1008CS-472X_L_	4700 @ 7.9 MHz	**5,2**	20 @ 25 MHz	90	4.0	260
1008CS-562XJL_	5600 @ 7.9 MHz	**5**	16 @ 7.9 MHz	20	4.0	240
1008CS-682XJL_	6800 @ 7.9 MHz	**5**	18 @ 7.9 MHz	40	4.9	200
1008CS-822XJL_	8200 @ 7.9 MHz	**5**	18 @ 7.9 MHz	25	6.0	170

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

1008CS-472X 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 Aglilent/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. Electrical specifications at 25°C.

Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

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