RoHS/ REACH COMPLIANT

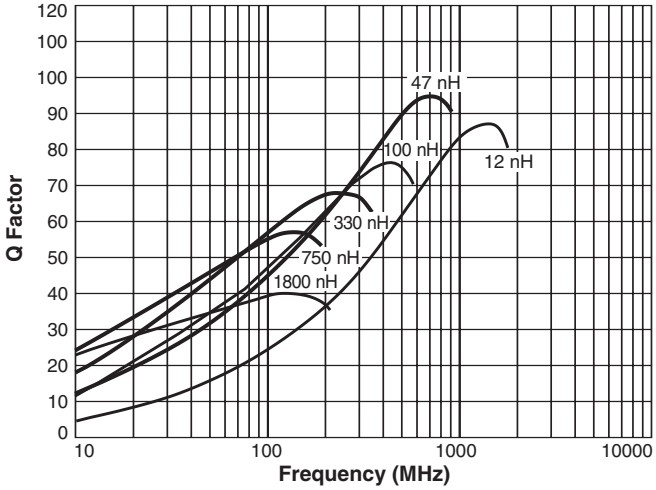
Halogen Free

AEC Q200 +125°C

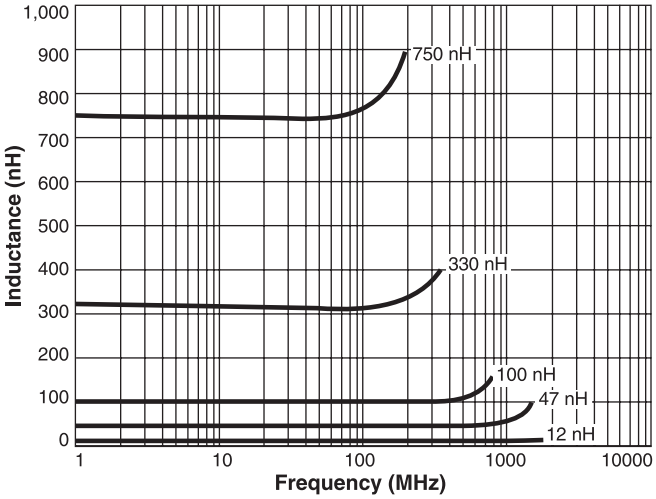
Chip Inductors–1008CS Series (2520)

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

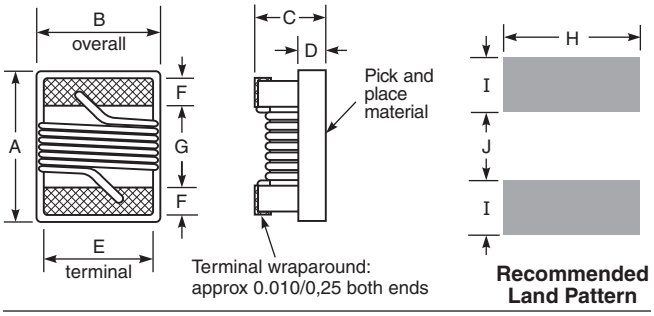
Typical Q vs Frequency



Typical L vs Frequency



Designer's Kit C300 contains 10 each of all 5% tolerance values
Core material Ceramic
Environmental RoHS compliant, halogen free
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
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)
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 Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.



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

Note: Height dimension (C) is before optional solder application. For maximum height dimension including solder, add 0.006 in / 0,152 mm.

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SPICE models
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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)	Color code[8]
1008CS-100X_E_	10 @ 50 MHz	**5,2**	50 @ 500 MHz	4100	0.08	1000	Black
1008CS-120X_E_	12 @ 50 MHz	**5,2**	50 @ 500 MHz	3300	0.09	1000	Red
1008CS-150X_E_	15 @ 50 MHz	**5,2**	50 @ 500 MHz	2500	0.10	1000	Orange
1008CS-180X_E_	18 @ 50 MHz	**5,2**	50 @ 350 MHz	2500	0.11	1000	Yellow
1008CS-220X_E_	22 @ 50 MHz	**5,2**,1	55 @ 350 MHz	2400	0.12	1000	Blue
1008CS-270X_E_	27 @ 50 MHz	**5,2**	55 @ 350 MHz	1600	0.13	1000	Black
1008CS-330X_E_	33 @ 50 MHz	**5,2**	60 @ 350 MHz	1600	0.14	1000	Orange
1008CS-390X_E_	39 @ 50 MHz	**5,2**,1	60 @ 350 MHz	1500	0.15	1000	Violet
1008CS-470X_E_	47 @ 50 MHz	**5,2**,1	65 @ 350 MHz	1500	0.16	1000	Red
1008CS-560X_E_	56 @ 50 MHz	**5,2**,1	65 @ 350 MHz	1300	0.18	1000	Yellow
1008CS-680X_E_	68 @ 50 MHz	**5,2**,1	65 @ 350 MHz	1300	0.20	1000	Gray
1008CS-820X_E_	82 @ 50 MHz	**5,2**,1	60 @ 350 MHz	1000	0.22	1000	Red
1008CS-101X_E_	100 @ 25 MHz	**5,2**,1	60 @ 350 MHz	1000	0.56	650	Violet
1008CS-121X_E_	120 @ 25 MHz	**5,2**,1	60 @ 350 MHz	950	0.63	650	White
1008CS-151X_E_	150 @ 25 MHz	**5,2**,1	45 @ 100 MHz	850	0.70	580	Red
1008CS-181X_E_	180 @ 25 MHz	**5,2**,1	45 @ 100 MHz	750	0.77	620	Orange
1008CS-221X_E_	220 @ 25 MHz	**5,2**,1	45 @ 100 MHz	700	0.84	500	Green
1008CS-271X_E_	270 @ 25 MHz	**5,2,1**	45 @ 100 MHz	600	0.91	500	White
1008CS-331X_E_	330 @ 25 MHz	**5,2**,1	45 @ 100 MHz	570	1.05	450	Orange
1008CS-391X_E_	390 @ 25 MHz	**5,2**,1	45 @ 100 MHz	500	1.12	470	Blue
1008CS-471X_E_	470 @ 25 MHz	**5,2**,1	45 @ 100 MHz	450	1.19	470	Black
1008CS-561X_E_	560 @ 25 MHz	**5,2**,1	45 @ 100 MHz	415	1.33	400	Green
1008CS-621X_E_	620 @ 25 MHz	**5,2**,1	45 @ 100 MHz	375	1.40	300	Blue
1008CS-681X_E_	680 @ 25 MHz	**5,2**,1	45 @ 100 MHz	375	1.47	400	Gray
1008CS-751X_E_	750 @ 25 MHz	**5,2**,1	45 @ 100 MHz	360	1.54	360	Black
1008CS-821X_E_	820 @ 25 MHz	**5,2**,1	45 @ 100 MHz	350	1.61	400	Brown
1008CS-911X_E_	910 @ 25 MHz	**5,2,1**	35 @ 50 MHz	320	1.68	380	Red
1008CS-102X_E_	1000 @ 25 MHz	**5,2,1**	35 @ 50 MHz	290	1.75	370	Yellow
1008CS-122X_E_	1200 @ 7.9 MHz	**5,2**	35 @ 50 MHz	250	2.00	310	Blue
1008CS-132X_E_	1300 @ 7.9 MHz	**5,2**	25 @ 50 MHz	200	2.25	310	Red
1008CS-152X_E_	1500 @ 7.9 MHz	**5,2**	28 @ 50 MHz	200	2.3	330	Gray
1008CS-182X_E_	1800 @ 7.9 MHz	**5,2**	28 @ 50 MHz	160	2.6	300	Brown
1008CS-222X_E_	2200 @ 7.9 MHz	**5,2**	28 @ 50 MHz	160	2.8	280	Orange
1008CS-272X_E_	2700 @ 7.9 MHz	**5,2**	22 @ 25 MHz	140	3.2	290	Green
1008CS-332X_E_	3300 @ 7.9 MHz	**5,2**	22 @ 25 MHz	110	3.4	290	Violet
1008CS-392X_E_	3900 @ 7.9 MHz	**5,2**	20 @ 25 MHz	100	3.6	260	Gray
1008CS-472X_E_	4700 @ 7.9 MHz	**5,2**	20 @ 25 MHz	90	4.0	260	White
1008CS-562XJE_	5600 @ 7.9 MHz	**5**	16 @ 7.9 MHz	20	4.0	240	Black
1008CS-682XJE_	6800 @ 7.9 MHz	**5**	18 @ 7.9 MHz	40	4.9	200	Brown
1008CS-822XJE_	8200 @ 2.5 MHz	**5**	18 @ 7.9 MHz	25	6.0	170	Red

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

1008CS-472XJEC

Tolerance: **F** = 1% **G** = 2% **J** = 5%
(Table shows stock tolerances in bold.)

Termination: **E** = Halogen free component. RoHS compliant silver-palladium-platinum-glass frit terminations.
L = RoHS compliant, not halogen-free. Silver-palladium-platinum-glass frit terminations.
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 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 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. This information is for reference only and does not represent absolute maximum ratings.
8. Current production parts are marked with one dot. Prior production parts were marked with three dots. Single color dots are not unique identifiers and correspond to multiple inductance values. Part marking does not indicate polarity.
9. Electrical specifications at 25°C.

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

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1008CS-390XGLB 1008CS-150XJLB 1008CS-102XJLB 1008CS-220XGLC 1008CS-330XJLC 1008CS-472XGLC 1008CS-472XJLC 1008CS-561XGLB 1008CS-100XJLB 1008CS-821XJLB 1008CS-100XGLB 1008CS-180XJLB 1008CS-821XGLC 1008CS-681XJLC 1008CS-470XGLC 1008CS-471XJLC 1008CS-911XJLC 1008CS-272XJLC 1008CS-560XGLC 1008CS-331XGLC 1008CS-911XGLB 1008CS-391XJLB 1008CS-751XJLC 1008CS-120XGLB 1008CS-390XGLC 1008CS-102XGLC 1008CS-272XGLC 1008CS-332XGLC 1008CS-152XJLB 1008CS-222XJLB 1008CS-820XGLC 1008CS-122XGLC 1008CS-391XGLB 1008CS-182XJLB 1008CS-680XGLB 1008CS-751XGLB 1008CS-101XGLC 1008CS-472XGLB 1008CS-120XJLB 1008CS-180XGLC 1008CS-221XGLC 1008CS-391XJLC 1008CS-122XJLC 1008CS-151XGLB 1008CS-221XGLB 1008CS-220XGLB 1008CS-270XGLB 1008CS-560XGLB 1008CS-681XJLB 1008CS-182XJLC 1008CS-621XGLC 1008CS-392XGLC 1008CS-101XJLB 1008CS-471XGLC 1008CS-470XJLB 1008CS-271XGLC 1008CS-221XJLC 1008CS-121XJLB 1008CS-332XJLB 1008CS-561XJLC 1008CS-561XGLC 1008CS-820XJLC 1008CS-271XJLB 1008CS-150XJLC 1008CS-751XJLB 1008CS-911XJLB 1008CS-330XGLB 1008CS-682XJLC 1008CS-560XJLC 1008CS-272XJLB 1008CS-471XGLB 1008CS-680XJLB 1008CS-330XGLC 1008CS-221XJLB 1008CS-122XGLB 1008CS-120XGLC 1008CS-101XJLC 1008CS-182XGLB 1008CS-270XJLB 1008CS-151XJLB 1008CS-390XJLC 1008CS-150XGLB 1008CS-181XJLB 1008CS-392XJLB 1008CS-121XGLC 1008CS-222XGLC 1008CS-681XGLB 1008CS-101XGLB 1008CS-331XGLB 1008CS-621XJLB 1008CS-822XJLB 1008CS-272XGLB 1008CS-390XJLB 1008CS-562XJLB 1008CS-120XJLC 1008CS-181XGLC 1008CS-152XGLC 1008CS-821XJLC 1008CS-270XGLC 1008CS-751XGLC