Chip Inductors – 1206CS Series (3216)

- High SRF and excellent Q values
- Tight tolerances, many values at 1%
- 31 inductance values from 3.3 to 1200 nH

Request free evaluation samples by contacting Coilcraft or visiting **www.coilcraft.com.**

Part number[1]	Inductance[2] (nH)	Percent tolerance[3]	Q min[4]	SRF min[5] (MHz)	DCR max[6] (Ohms)	Irms[7] (mA)
1206CS-030X_L_	3.3 @ 100 MHz	**5**	30 @ 300 MHz	6200	0.050	1000
1206CS-060X_L_	6.8 @ 100 MHz	**5**	30 @ 300 MHz	5500	0.070	1000
1206CS-100X_L_	10 @ 100 MHz	**5**	40 @ 300 MHz	4000	0.080	1000
1206CS-120X_L_	12 @ 100 MHz	**5,2**	40 @ 300 MHz	3200	0.080	1000
1206CS-150X_L_	15 @ 100 MHz	**5,2**	40 @ 300 MHz	3200	0.100	1000
1206CS-180X_L_	18 @ 100 MHz	**5,2**	50 @ 300 MHz	2800	0.100	1000
1206CS-220X_L_	22 @ 100 MHz	**5,2**	50 @ 300 MHz	2200	0.100	1000
1206CS-270X_L_	27 @ 100 MHz	**5,2**	50 @ 300 MHz	1800	0.110	1000
1206CS-330X_L_	33 @ 100 MHz	**5,2**	55 @ 300 MHz	1800	0.110	1000
1206CS-390X_L_	39 @ 100 MHz	**5,2**	55 @ 300 MHz	1800	0.120	1000
1206CS-470X_L_	47 @ 100 MHz	**5,2**	55 @ 300 MHz	1500	0.130	1000
1206CS-560X_L_	56 @ 100 MHz	**5,2,1**	55 @ 300 MHz	1450	0.140	1000
1206CS-680X_L_	68 @ 100 MHz	**5,2,1**	55 @ 300 MHz	1200	0.260	900
1206CS-820X_L_	82 @ 100 MHz	**5,2**,1	55 @ 300 MHz	1200	0.210	900
1206CS-101X_L_	100 @ 100 MHz	**5,2,1**	55 @ 300 MHz	1100	0.260	850
1206CS-121X_L_	120 @ 100 MHz	**5,2**,1	60 @ 300 MHz	1100	0.260	800
1206CS-151X_L_	150 @ 100 MHz	**5,2**,1	60 @ 300 MHz	950	0.310	750
1206CS-181X_L_	180 @ 50 MHz	**5,2**,1	60 @ 300 MHz	900	0.430	700
1206CS-221X_L_	220 @ 50 MHz	**5,2**,1	60 @ 300 MHz	760	0.500	670
1206CS-271X_L_	270 @ 50 MHz	**5,2**,1	55 @ 300 MHz	730	0.560	630
1206CS-331X_L_	330 @ 50 MHz	**5,2**,1	45 @ 150 MHz	650	0.620	590
1206CS-391X_L_	390 @ 50 MHz	**5,2**,1	45 @ 150 MHz	600	0.750	530
1206CS-471X_L_	470 @ 50 MHz	**5,2**,1	45 @ 150 MHz	550	1.30	490
1206CS-561X_L_	560 @ 35 MHz	**5,2**,1	45 @ 150 MHz	470	1.34	460
1206CS-621X_L_	620 @ 35 MHz	**5,2**,1	45 @ 150 MHz	470	1.58	460
1206CS-681X_L_	680 @ 35 MHz	**5,2**,1	45 @ 150 MHz	450	1.58	430
1206CS-751X_L_	750 @ 35 MHz	**5,2**,1	45 @ 150 MHz	440	2.25	320
1206CS-821X_L_	820 @ 35 MHz	**5,2**,1	45 @ 150 MHz	420	1.82	400
1206CS-911X_L_	910 @ 35 MHz	**5,2**,1	45 @ 150 MHz	410	2.95	310
1206CS-102X_L_	1000 @ 35 MHz	**5,2**,1	45 @ 150 MHz	400	2.80	320
1206CS-122X_L_	1200 @ 35 MHz	**5,2**,1	45 @ 150 MHz	380	3.20	300

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

1206CS-122XJLC

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

Termination: **L** = RoHS compliant silver-palladium-platinum-glass frit.
E = Halogen free component. RoHS compliant silver-palladium-platinum-glass frit terminations. 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 8720D network analyzer and a Coilcraft SMD-D test fixture.
6. DCR measured on a Cambridge Technology Micro-ohmmeter and a Coilcraft CCF840 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.
Refer to Doc 174 “Color Coding” for the explanation of color dots.

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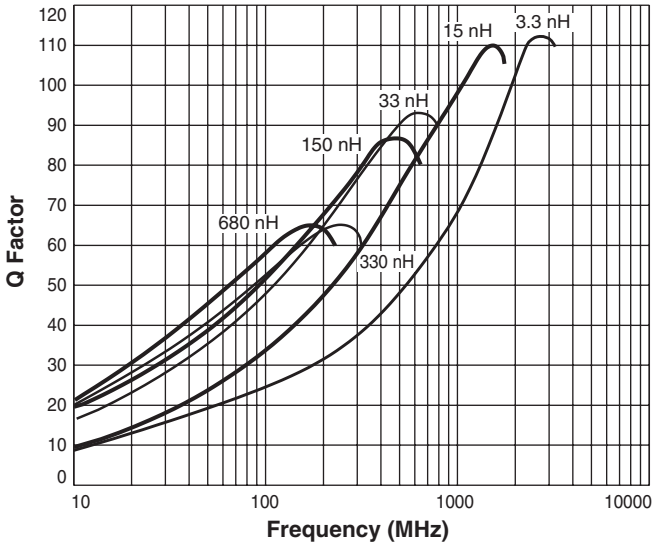
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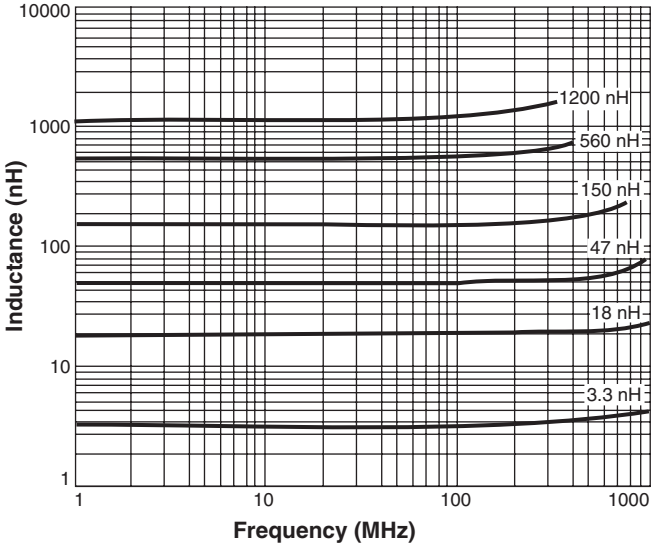
S-Parameter files
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SPICE models
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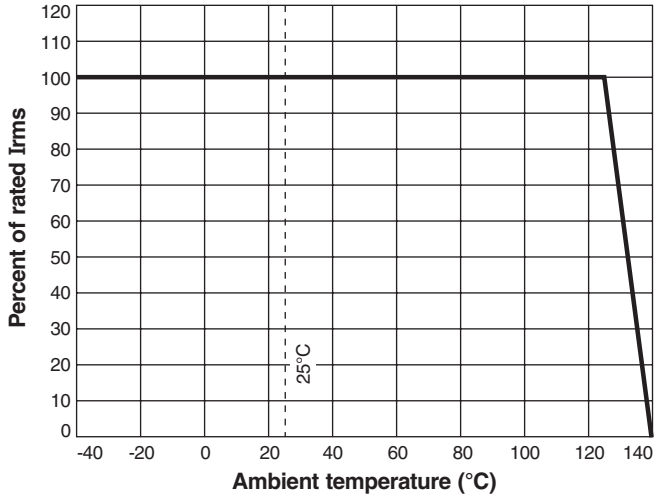
Typical Q vs Frequency



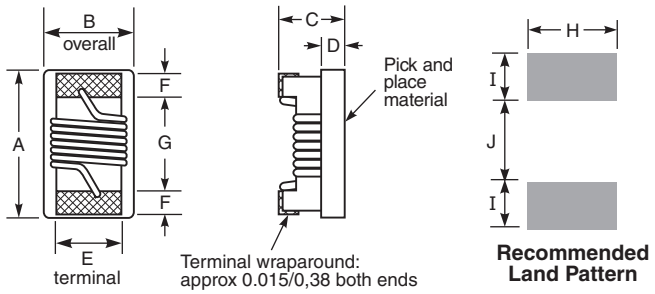
Typical L vs Frequency



Irms Derating



Designer's Kit C320 contains 10 each of all 5% values
Core material Ceramic
Environmental RoHS compliant, halogen free optional
Terminations RoHS compliant silver-palladium-platinum-glass frit. Other terminations available at additional cost.
Weight 19.5 – 23.0 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. 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, 0.3 mm thick, 4 mm pocket spacing, 1.6 mm pocket depth
PCB washing Tested with pure water or alcohol only. For other solvents, see Doc787_PCB_Washing.pdf



Amax	Bmax	Cmax	Dref	E	F	G	H	I	J
0.140	0.085	0.060	0.020	0.056	0.020	0.080	0.076	0.040	0.070
3,56	2,16	1,52	0,51	1,42	0,51	2,03	1,93	1,02	1,78

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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