



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

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

1206CS-122XJEC

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.

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. This information is for reference only and does not represent absolute maximum ratings.

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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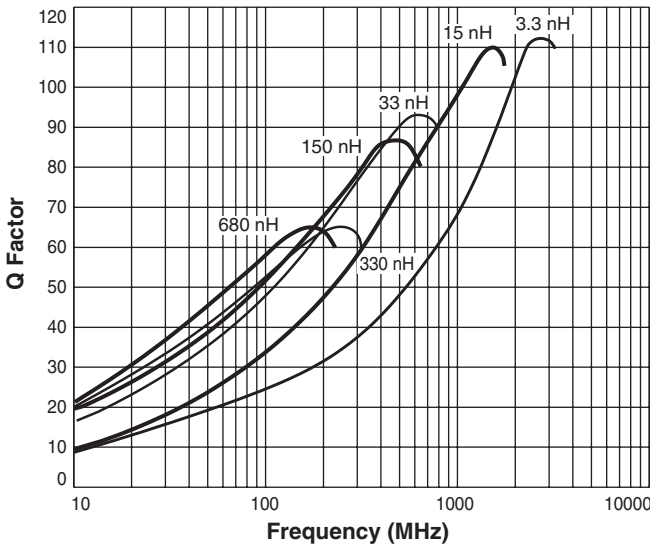
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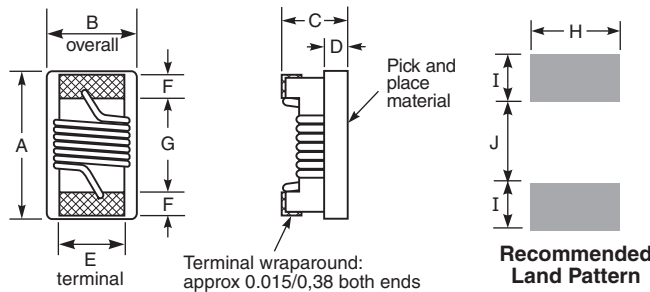
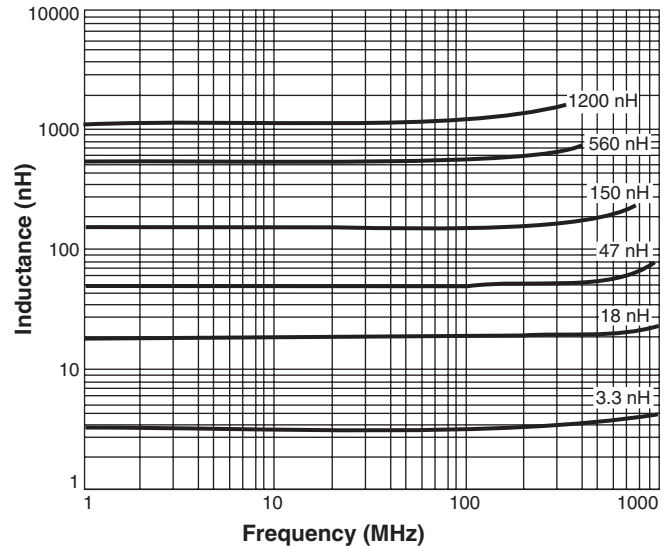
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1206CS Series (3216)

Typical Q vs Frequency



Typical L vs Frequency



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.

Designer's Kit C320 contains 10 each of all 5% values
Core material Ceramic
Environmental RoHS compliant, halogen free
Terminations 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
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)
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 to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787_PCB_Washing.pdf](#).



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