

**PRELIMINARY**

# Chip Inductors – M1206CS Series (3216)

The M1206CS features high SRF and excellent Q values. Their ceramic cores make 1% tolerances practical and economical and ensure the utmost in thermal stability, predictability and consistency.

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.

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)
M1206CS-030X_S_	3.3 @ 100 MHz	5	30 @ 300 MHz	6200	0.050	1000
M1206CS-060X_S_	6.8 @ 100 MHz	5	30 @ 300 MHz	5500	0.070	1000
M1206CS-100X_S_	10 @ 100 MHz	5	40 @ 300 MHz	4000	0.080	1000
M1206CS-120X_S_	12 @ 100 MHz	5,2	40 @ 300 MHz	3200	0.080	1000
M1206CS-150X_S_	15 @ 100 MHz	5,2	40 @ 300 MHz	3200	0.100	1000
M1206CS-180X_S_	18 @ 100 MHz	5,2	50 @ 300 MHz	2800	0.100	1000
M1206CS-220X_S_	22 @ 100 MHz	5,2	50 @ 300 MHz	2200	0.100	1000
M1206CS-270X_S_	27 @ 100 MHz	5,2	50 @ 300 MHz	1800	0.110	1000
M1206CS-330X_S_	33 @ 100 MHz	5,2	55 @ 300 MHz	1800	0.110	1000
M1206CS-390X_S_	39 @ 100 MHz	5,2	55 @ 300 MHz	1800	0.120	1000
M1206CS-470X_S_	47 @ 100 MHz	5,2	55 @ 300 MHz	1500	0.130	1000
M1206CS-560X_S_	56 @ 100 MHz	5,2,1	55 @ 300 MHz	1450	0.140	1000
M1206CS-680X_S_	68 @ 100 MHz	5,2,1	55 @ 300 MHz	1200	0.260	900
M1206CS-820X_S_	82 @ 100 MHz	5,2,1	55 @ 300 MHz	1200	0.210	900
M1206CS-101X_S_	100 @ 100 MHz	5,2,1	55 @ 300 MHz	1100	0.260	850
M1206CS-121X_S_	120 @ 100 MHz	5,2,1	60 @ 300 MHz	1100	0.260	800
M1206CS-151X_S_	150 @ 100 MHz	5,2,1	60 @ 300 MHz	950	0.310	750
M1206CS-181X_S_	180 @ 50 MHz	5,2,1	60 @ 300 MHz	900	0.430	700
M1206CS-221X_S_	220 @ 50 MHz	5,2,1	60 @ 300 MHz	760	0.500	670
M1206CS-271X_S_	270 @ 50 MHz	5,2,1	55 @ 300 MHz	730	0.560	630
M1206CS-331X_S_	330 @ 50 MHz	5,2,1	45 @ 150 MHz	650	0.620	590
M1206CS-391X_S_	390 @ 50 MHz	5,2,1	45 @ 150 MHz	600	0.750	530
M1206CS-471X_S_	470 @ 50 MHz	5,2,1	45 @ 150 MHz	550	1.30	490
M1206CS-561X_S_	560 @ 35 MHz	5,2,1	45 @ 150 MHz	470	1.34	460
M1206CS-621X_S_	620 @ 35 MHz	5,2,1	45 @ 150 MHz	470	1.58	460
M1206CS-681X_S_	680 @ 35 MHz	5,2,1	45 @ 150 MHz	450	1.58	430
M1206CS-751X_S_	750 @ 35 MHz	5,2,1	45 @ 150 MHz	440	2.25	320
M1206CS-821X_S_	820 @ 35 MHz	5,2,1	45 @ 150 MHz	420	1.82	400
M1206CS-911X_S_	910 @ 35 MHz	5,2,1	45 @ 150 MHz	410	2.95	310
M1206CS-102X_S_	1000 @ 35 MHz	5,2,1	45 @ 150 MHz	400	2.80	320
M1206CS-122X_S_	1200 @ 35 MHz	5,2,1	45 @ 150 MHz	380	3.20	300

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

**M1206CS-122XJSC**

**Tolerance:** F = 1% G = 2% J = 5%

**Packaging:** C = 7" machine-ready reel with crush-resistant insert.  
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 with crush-resistant insert.  
EIA-481 embossed plastic tape (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. Q measured using an Agilent/HP 4291A with an Agilent/HP 16193 test fixture.

4. SRF measured using an Agilent/HP 8720D network analyzer and a Coilcraft SMD-D test fixture.

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

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

7. **Ambient temperature range:** -55°C to +140°C with Irms current  
+140°C to +155°C with derated current

8. **Storage temperature range:** Component: -55°C to +155°C  
Packaging: -55°C to +80°C

9. **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.



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

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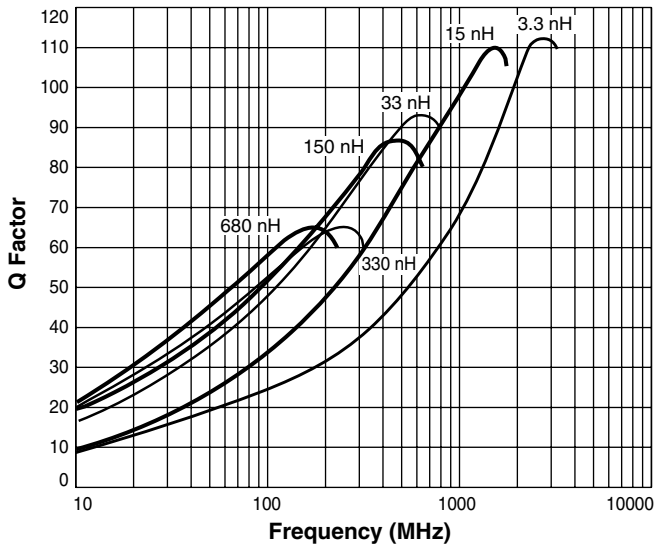
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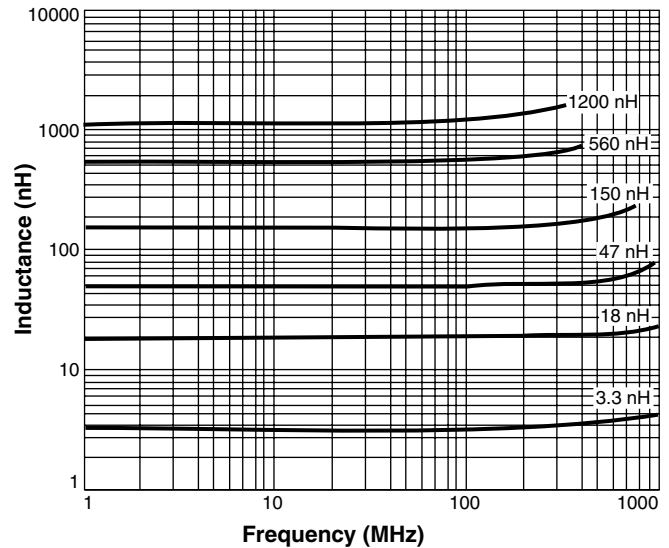
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# M1206CS Series (3216)

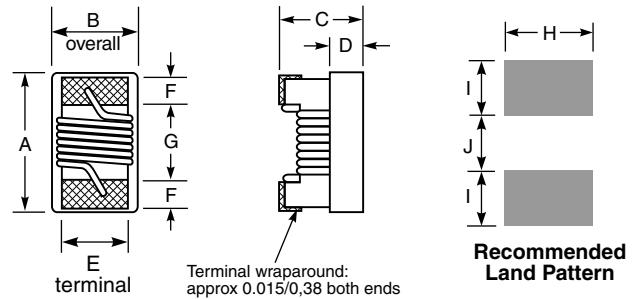
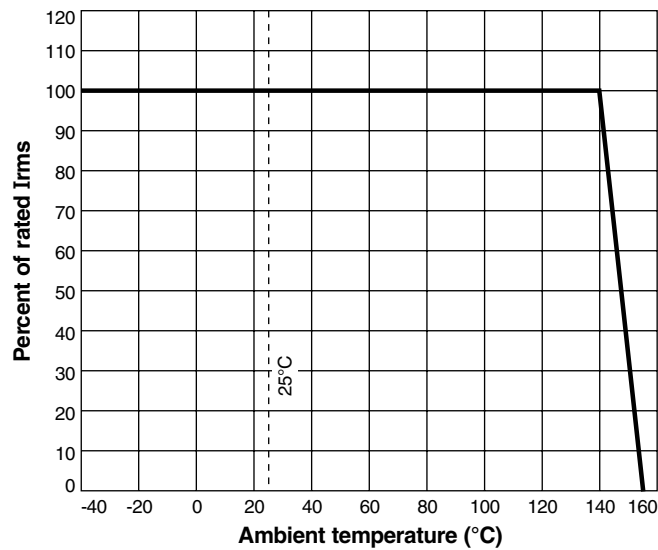
## Typical Q vs Frequency



## Typical L vs Frequency



## Irms Derating



A max	B max	C max	D ref	E	F	G	H	I	J
0.140	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

**Weight:** 19.5 – 23.0 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.

**COILCRAFT** ACCURATE  
 REPEATABLE  
**PRECISION** MEASUREMENTS  
 SEE INDEX **TEST FIXTURES**



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