

PRELIMINARY

Chip Inductors – M1206CS Series (3216)

The M1206CS inductors feature 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 of Coilcraft's standard 1206CS series features a high temperature encapsulant that allows operation in ambient temperatures up to 155°C and a leach-resistant base metalization with 63/37 tin-lead terminations that ensures the best possible board adhesion.

Part number ¹	Inductance ² (nH)	Percent tolerance	Q min ³	SRF min ⁴ (MHz)	DCR max ⁵ (Ohms)	Irms ⁶ (mA)
M1206CS-030X_	3.3 @ 100 MHz	5	30 @ 300 MHz	6200	0.050	1000
M1206CS-060X_	6.8 @ 100 MHz	5	30 @ 300 MHz	5500	0.070	1000
M1206CS-100X_	10 @ 100 MHz	5	40 @ 300 MHz	4000	0.080	1000
M1206CS-120X_	12 @ 100 MHz	5,2	40 @ 300 MHz	3200	0.080	1000
M1206CS-150X_	15 @ 100 MHz	5,2	40 @ 300 MHz	3200	0.100	1000
M1206CS-180X_	18 @ 100 MHz	5,2	50 @ 300 MHz	2800	0.100	1000
M1206CS-220X_	22 @ 100 MHz	5,2	50 @ 300 MHz	2200	0.100	1000
M1206CS-270X_	27 @ 100 MHz	5,2	50 @ 300 MHz	1800	0.110	1000
M1206CS-330X_	33 @ 100 MHz	5,2	55 @ 300 MHz	1800	0.110	1000
M1206CS-390X_	39 @ 100 MHz	5,2	55 @ 300 MHz	1800	0.120	1000
M1206CS-470X_	47 @ 100 MHz	5,2	55 @ 300 MHz	1500	0.130	1000
M1206CS-560X_	56 @ 100 MHz	5,2,1	55 @ 300 MHz	1450	0.140	1000
M1206CS-680X_	68 @ 100 MHz	5,2,1	55 @ 300 MHz	1200	0.260	900
M1206CS-820X_	82 @ 100 MHz	5,2,1	55 @ 300 MHz	1200	0.210	900
M1206CS-101X_	100 @ 100 MHz	5,2,1	55 @ 300 MHz	1100	0.260	850
M1206CS-121X_	120 @ 100 MHz	5,2,1	60 @ 300 MHz	1100	0.260	800
M1206CS-151X_	150 @ 100 MHz	5,2,1	60 @ 300 MHz	950	0.310	750
M1206CS-181X_	180 @ 50 MHz	5,2,1	60 @ 300 MHz	900	0.430	700
M1206CS-221X_	220 @ 50 MHz	5,2,1	60 @ 300 MHz	760	0.500	670
M1206CS-271X_	270 @ 50 MHz	5,2,1	55 @ 300 MHz	730	0.560	630
M1206CS-331X_	330 @ 50 MHz	5,2,1	45 @ 150 MHz	650	0.620	590
M1206CS-391X_	390 @ 50 MHz	5,2,1	45 @ 150 MHz	600	0.750	530
M1206CS-471X_	470 @ 50 MHz	5,2,1	45 @ 150 MHz	550	1.30	490
M1206CS-561X_	560 @ 35 MHz	5,2,1	45 @ 150 MHz	470	1.34	460
M1206CS-621X_	620 @ 35 MHz	5,2,1	45 @ 150 MHz	470	1.58	460
M1206CS-681X_	680 @ 35 MHz	5,2,1	45 @ 150 MHz	450	1.58	430
M1206CS-751X_	750 @ 35 MHz	5,2,1	45 @ 150 MHz	440	2.25	320
M1206CS-821X_	820 @ 35 MHz	5,2,1	45 @ 150 MHz	420	1.82	400
M1206CS-911X_	910 @ 35 MHz	5,2,1	45 @ 150 MHz	410	2.95	310
M1206CS-102X_	1000 @ 35 MHz	5,2,1	45 @ 150 MHz	400	2.80	320
M1206CS-122X_	1200 @ 35 MHz	5,2,1	45 @ 150 MHz	380	3.20	300

1. When ordering, please specify **tolerance** code:

M1206CS-122X**J**

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

- Inductance measured using a Coilcraft SMD-A fixture in an Agilent/HP 4286A impedance analyzer with Coilcraft-provided correlation pieces.
- Q measured using an Agilent/HP 4291A with an Agilent/HP 16193 test fixture.
- SRF measured using an Agilent/HP 8720D network analyzer and a Coilcraft SMD-D test fixture.
- DCR measured on a Cambridge Technology Micro-ohmmeter and a Coilcraft CCF840 fixture.
- Current that causes a 15°C temperature rise from 25°C ambient.
- Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



These parts are preproduction products for electrical evaluation only.
Specification subject to change without notice.

1102 Silver Lake Road
Cary IL 60013

Phone 800-981-0363
Fax 847-639-1508

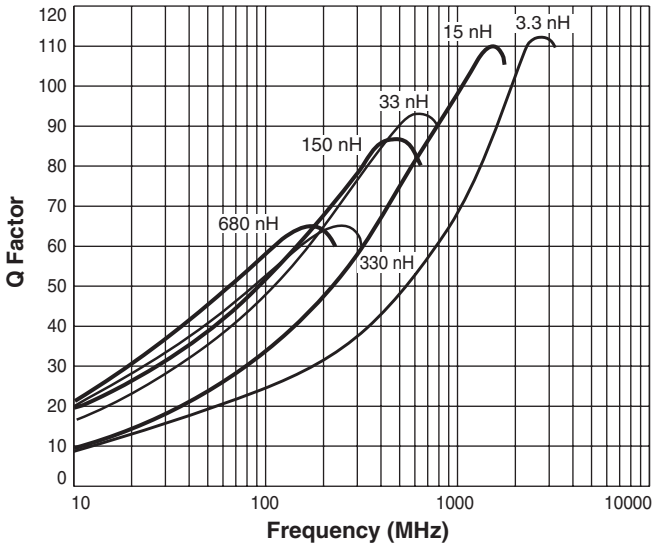
Document M104-1 Revised 04/10/08

E-mail cp@coilcraft.com
Web www.coilcraft.com/cp

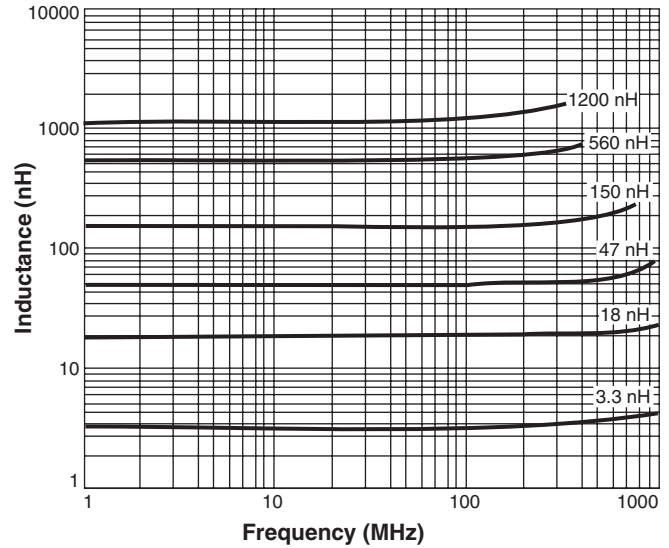
PRELIMINARY

M1206CS Series (3216)

Typical Q vs Frequency



Typical L vs Frequency



Core material Ceramic

Terminations Tin-lead over silver-palladium-platinum-glass frit.

Ambient temperature -55°C to +140°C with I_{rms} current, +140°C to +155°C with derated current

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

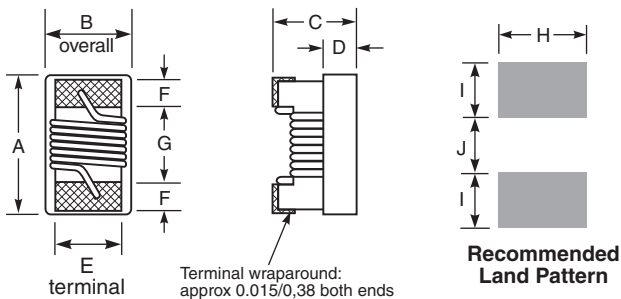
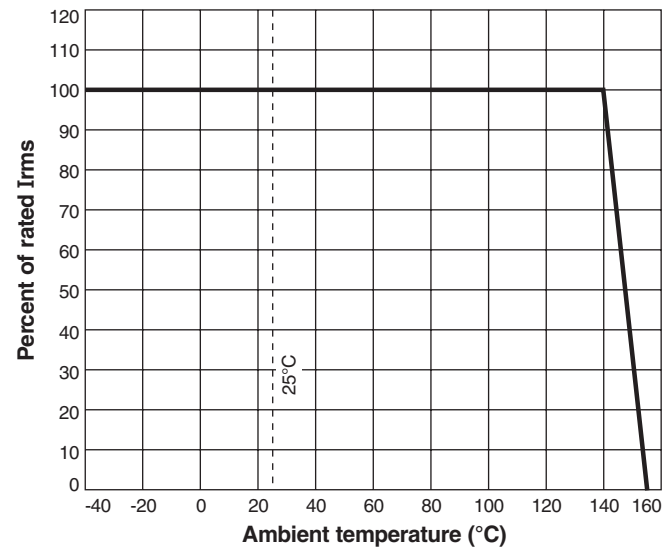
Resistance to soldering heat Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

Temperature Coefficient of Inductance (TCL) +25 to +125 ppm/°C

Moisture Sensitivity Level (MSL) 1 (unlimited floor life at <30°C / 85% relative humidity)

Enhanced Crush-Resistant Packaging 2000 per 7" reel
Plastic tape: 8 mm wide, 0.3 mm thick, 4 mm pocket spacing, 1.6 mm pocket depth

I_{rms} 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



Critical Products

© Coilcraft, Inc. 2007

These parts are preproduction products for electrical evaluation only.
Specification subject to change without notice.

1102 Silver Lake Road
Cary IL 60013

Phone 800-981-0363
Fax 847-639-1508

Document M104-2 Revised 04/10/08

E-mail cp@coilcraft.com
Web www.coilcraft.com/cp