CERAMIC CHIP INDUCTORS

C0 SERIES

1. PART NO. EXPRESSION :

C 0 - 1 N 0 S - □□
(a) (b) (c) (d)

(a) Series code

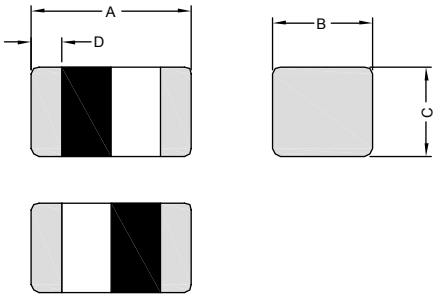
(b) Inductance code : 1N0 = 1.0nH

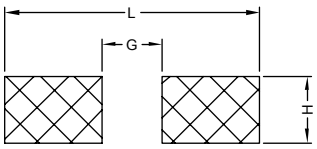
(c) Inductance Tolerence : S=± 0.3nH , J=± 5% , K=± 10%

(d) 10: Standard

11 ~ 99 : Internal control number

2. C0NFIGURATION & DIMENSIONS :



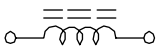


Recommended PC Board Pattern

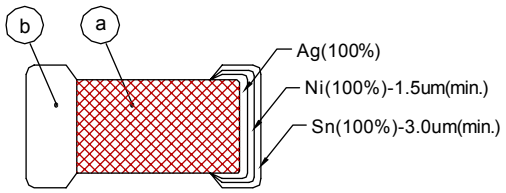
Unit:m/m

A	B	C	D	G	H	L
0.60± 0.03	0.30± 0.03	0.30± 0.03	0.15± 0.05	0.20~0.30	0.25~0.40	0.80

3. SCHEMATIC :



4. MATERIALS :



(a) Body : ceramic (Pb Free)

(b) Termination : (Pb Free)

5. GENERAL SPECIFICATION :

a) Operating temp. : -40° C to +105° C (including self-temperature. rise)

b) Storage condition (component in its packaging)

i) Temperature : -10 to 40° C

ii) Humidity : 60%

RoHS Compliant

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

26.01.2015

SUPERWORLD ELECTRONICS (S) PTE LTD

6. ELECTRICAL CHARACTERISTICS :

Part Number	Inductance (nH)	Test Frequency (MHz)	Q Min	Q(Typ.) Frequency(MHz)					Rated Current (mA) Max	DC Resistance (Ω)		SRF (MHz)	
				100	300	500	800	1000		Typ.	Max.	Typ.	Min
C0-1N0S-10	1.0	100	4	6	12	17	22	27	470	0.088	0.11	>13000	10000
C0-1N2S-10	1.2	100	4	6	12	16	21	25	450	0.089	0.12	>13000	10000
C0-1N5S-10	1.5	100	4	6	12	15	20	23	430	0.11	0.13	>13000	10000
C0-1N8S-10	1.8	100	4	6	12	15	20	23	390	0.12	0.16	>13000	10000
C0-2N0S-10	2.0	100	4	6	12	15	20	22	380	0.13	0.17	>13000	10000
C0-2N2S-10	2.2	100	4	6	12	15	20	22	360	0.14	0.19	12500	8800
C0-2N4S-10	2.4	100	4	6	12	15	20	22	350	0.15	0.20	11700	8300
C0-2N7S-10	2.7	100	5	7	12	15	20	22	340	0.16	0.21	11000	7700
C0-3N0S-10	3.0	100	5	7	12	15	20	22	330	0.18	0.22	11000	7200
C0-3N3S-10	3.3	100	5	7	12	15	20	22	320	0.19	0.23	9600	6700
C0-3N6S-10	3.6	100	5	7	12	15	20	22	310	0.20	0.25	9100	6400
C0-3N9S-10	3.9	100	5	7	12	15	20	22	300	0.20	0.27	8600	6000
C0-4N3S-10	4.3	100	5	7	12	15	19	21	280	0.22	0.30	8100	5700
C0-4N7S-10	4.7	100	5	7	12	15	19	21	280	0.24	0.30	7600	5300
C0-5N1S-10	5.1	100	5	7	12	15	19	21	270	0.26	0.33	7100	5000
C0-5N6S-10	5.6	100	5	7	12	15	19	21	260	0.27	0.36	6600	4600
C0-6N2S-10	6.2	100	5	7	11	14	18	20	250	0.29	0.38	6100	4200
C0-6N8J-10	6.8	100	5	7	11	14	18	20	250	0.30	0.39	5600	3900
C0-7N5J-10	7.5	100	5	7	11	14	18	19	240	0.34	0.41	5300	3600
C0-8N2J-10	8.2	100	5	7	11	14	18	19	230	0.34	0.45	4900	3400
C0-9N1J-10	9.1	100	5	7	11	14	17	18	220	0.40	0.48	4600	3200
C0-10NJ-10	10	100	5	7	11	14	17	18	220	0.41	0.51	4200	2900
C0-12NJ-10	12	100	5	7	11	14	17	18	190	0.45	0.68	3800	2700
C0-15NJ-10	15	100	5	7	11	13	16	17	180	0.50	0.71	3300	2300
C0-18NJ-10	18	100	5	7	11	13	16	17	170	0.57	0.81	3000	2100
C0-22NJ-10	22	100	5	7	11	13	15	16	150	0.71	1.00	2600	1800
C0-27NJ-10	27	100	4	6	10	12	14	15	120	1.11	1.35	2600	1800
C0-33NJ-10	33	100	4	6	10	12	14	14	110	1.33	1.47	2400	1700
C0-39NJ-10	39	100	4	6	10	12	13	12	100	1.51	1.72	2100	1500
C0-47NJ-10	47	100	4	6	10	11	12	11	100	1.74	1.90	1800	1300
C0-56NJ-10	56	100	4	6	10	11	11	10	80	1.85	2.27	1600	1100
C0-68NJ-10	68	100	4	6	10	11	11	10	80	2.30	2.66	1500	1100
C0-82NJ-10	82	100	4	6	10	11	10	8	70	2.60	3.37	1400	1000
C0-R10J-10	100	100	4	6	9	10	9	6	60	3.00	3.74	1200	900

Inductance Tolerence : S=± 0.3nH , J=± 5% , K=± 10%

Pb

RoHS Compliant

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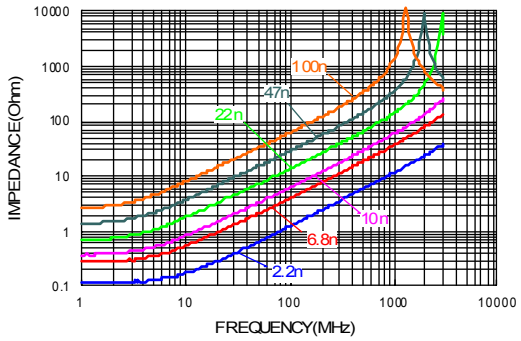
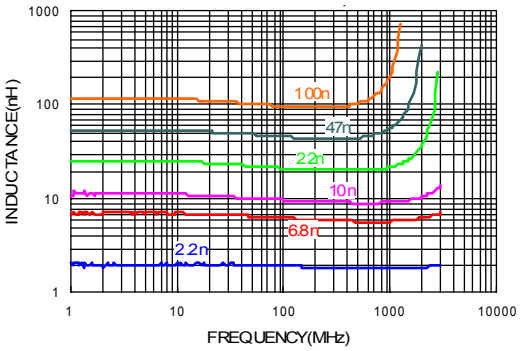
7. CHARACTERISTICS CURVES :

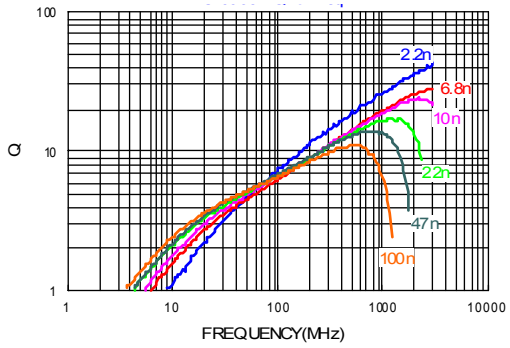
Impedance v.s. Frequency Characteristics



Inductance v.s. Frequency Characteristics



Q v.s. Frequency Characteristics



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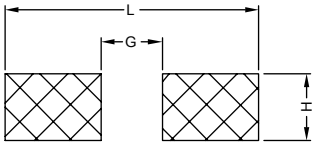
8. SOLDERING AND MOUNTING :

8-1. Recommended PC Board Pattern



Unit:m/m

L	G	H
0.80	0.20~0.30	0.25~0.40

PC board should be designed so that products can prevent damage from mechanical stress when warping the board.

8-2. Soldering

Mildly activated rosin fluxes are preferred. The terminations are suitable for re-flow soldering systems. If hand soldering cannot be avoided, the preferred technique is the utilization of hot air soldering tools.

Note.

If wave soldering is used ,there will be some risk.

Re-flow soldering temperatures below 240 degrees, there will be non-wetting risk

8-2.1 Lead Free Solder Re-flow :

Recommended temperature profiles for lead free re-flow soldering in Figure 1. (Refered to J-STD-020C)

8-2.2 Soldering Iron :

Products attachment with a soldering iron is discouraged due to the inherent process control limitations. If a soldering iron must be employed the following precautions are recommended. for Iron Soldering in Figure 2.

Note :

a) Preheat circuit and products to 150° C.

b) 350° C tip temperature for Ferrite chip bead (max)

c) Never contact the ceramic with the iron tip

d) 1.0mm tip diameter (max)

e) Use a 20 watt soldering iron with tip diameter of 1.0mm

f) Limit soldering time to 4-5 secs.

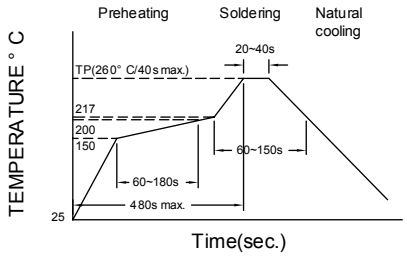


Figure 1. Re-flow Soldering:3 times max

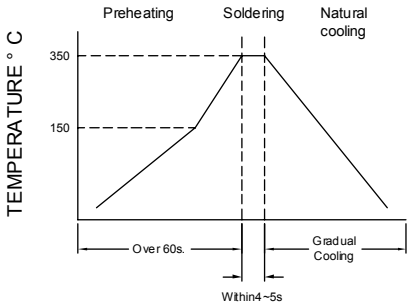


Figure 2. Wave Soldering:1 times max

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8-3. Solder Volume

Accordingly increasing the solder volume, the mechanical stress to product is also increased. Exceeding solder volume may cause the failure of mechanical or electrical performance. Solder shall be used not to be exceed as shown in Fig. 3.
Minimum fillet height = soldering thickness + 25% product height

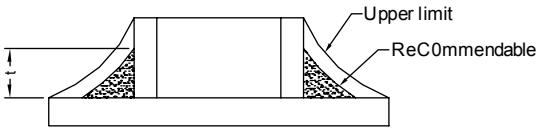
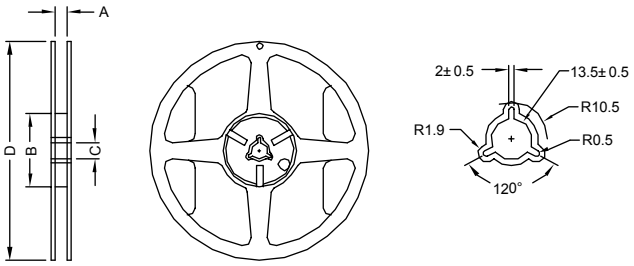


Figure 3

9. PACKAGING INFORMATION :

9-1. Reel Dimension

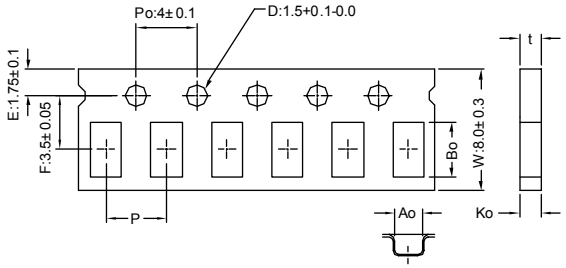


7" x 8mm

Type	A(mm)	B(mm)	C(mm)	D(mm)
7" x 8mm	9.0± 0.5	60± 2	13.5± 0.5	178.0± 2.0

9-2 Tape Dimension / 8mm

Material : Paper



Size	Bo(mm)	Ao(mm)	Ko(mm)	P(mm)	t(mm)
C0	0.70± 0.06	0.40± 0.06	0.45 max	2.0± 0.05	0.45 max

9-3. Packaging Quantity

Chip Size	C0
Chip / Reel	15000
Inner Box	75000
Middle Box	375000
Carton	750000

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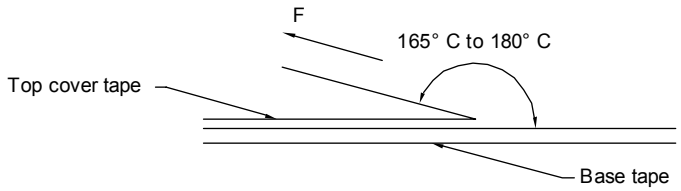
9-4. Tearing Off Force



The force for tearing off cover tape is 15 to 60 grams in the arrow direction under the following conditions.

Room Temp. (° C)	Room Humidity (%)	Room atm (hPa)	Tearing Speed (mm/min)
5~35	45~85	860~1060	300

Application Notice

1. Storage Conditions :
   To maintain the solderabililty of terminal electrodes :
   a) Recommended products should be used within 12 months from the time of delivery.
   b) The packaging material should be kept where no chlorine or sulfur exists in the air.

2. Transportation :
   a) Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
   b) The use of tweezers or vacuum pick up is strongly recommended for individual components.
   c) Bulk handling should ensure that abrasion and mechanical shock are minimized.

Pb

RoHS Compliant

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