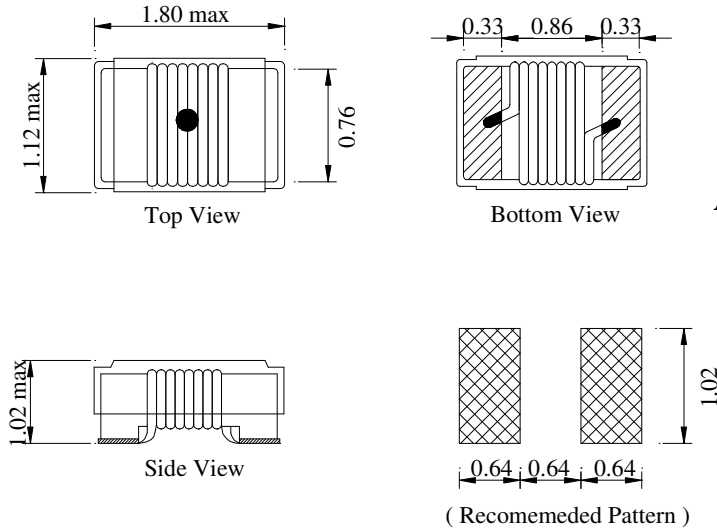


| | | | |
|------------------------------|--------------------------------------|--------|---------------|
| Product Specification | | DOC.NO | 0603CG-series |
| Product Description | SMD Wire Wound Ceramic Chip Inductor | Page | 1 |
| | | Rev. | B0 |

Configuration & Dimension:



Feature:

- 1、Small and lightweight surface mounting type.
- 2、Coil body made of ceramic material in chip from High Q at high frequency.
High self-resonance frequency.
Inductance Range:1.6~470nH.
- 3、Applicable to 100MHz~250MHz.

Application:

- 1、Bluetooth module.
- 2、Mobile communication units.
- 3、Portable telephone.
- 4、Wireless devices.

Construction & Material:

- 1、Core : Ceramic core
- 2、Wire : F Class Enameled copper wire
- 3、Terminal : Mo / Mn or W with Au
- 4、Encapsulate : UV epoxy ; Color : Transparent
- 5、Products comply with RoHS' requirements

Product Identification:

0603 C

1 2 3 4 5

- 1、Dimension
- 2、Type: C : Standard products ., D~Z : Special products
- 3、Terminal : G : Mo / Mn or W with Gold plated.
 S : Pd / Ag with Tin plated.
- 4、Inductance:
- 5、Tolerance: (G2% , J5% , K10%)

| Specification / Electrical | | | | | DOC.NO | 0603CG-type | |
|----------------------------|--------------------------------------|-------|---------------|----------------------|--------------|-------------|------------|
| Product Description | SMD Wire Wound Ceramic Chip Inductor | | | | Page | 2 | |
| | | | | | Rev. | B0 | |
| PART NUMBER | INDUCTANCE (n H) | Q MIN | SRF (MHz) MIN | RDC (Ω) MAX | IDC (mA) MAX | TOLERANCE | COLOR CODE |
| 0603C 1N6 | 1.6@250MHz | 24 | 12500 | 0.030 | 700 | K , J | Black |
| 0603C 1N8 | 1.8@250MHz | 16 | 12500 | 0.045 | 700 | K , J | Brown |
| 0603C 2N2 | 2.2@100MHz | 20 | 5800 | 0.050 | 700 | K , J | Orange |
| 0603C 3N3 | 3.3@250MHz | 20 | 5500 | 0.070 | 700 | K , J | Violet |
| 0603C 3N6 | 3.6@250MHz | 22 | 5900 | 0.063 | 700 | K , J | Red |
| 0603C 3N9 | 3.9@250MHz | 22 | 6900 | 0.080 | 700 | K , J | Orange |
| 0603C 4N3 | 4.3@250MHz | 22 | 5900 | 0.063 | 700 | K , J | Yellow |
| 0603C 4N7 | 4.7@250MHz | 20 | 5800 | 0.116 | 700 | K , J | Green |
| 0603C 5N1 | 5.1@250MHz | 20 | 5700 | 0.140 | 700 | K , J | Blue |
| 0603C 5N6 | 5.6@250MHz | 20 | 5800 | 0.150 | 700 | K , J , G | Gray |
| 0603C 6N1 | 6.1@250MHz | 25 | 5800 | 0.110 | 700 | K , J , G | White |
| 0603C 6N8 | 6.8@250MHz | 27 | 5800 | 0.110 | 700 | K , J , G | Violet |
| 0603C 7N5 | 7.5@250MHz | 28 | 4800 | 0.106 | 700 | K , J , G | Gray |
| 0603C 8N2 | 8.2@250MHz | 25 | 5800 | 0.120 | 700 | K , J , G | Black |
| 0603C 8N4 | 8.4@250MHz | 28 | 4600 | 0.109 | 700 | K , J , G | Red |
| 0603C 8N5 | 8.5@250MHz | 28 | 4600 | 0.109 | 700 | K , J , G | Red |
| 0603C 8N7 | 8.7@250MHz | 28 | 4600 | 0.109 | 700 | J , G | White |
| 0603C 9N5 | 9.5@250MHz | 28 | 5400 | 0.135 | 700 | J , G | Black |
| 0603C 10N | 10@250MHz | 31 | 4800 | 0.130 | 700 | J , G | Brown |
| 0603C 11N | 11@250MHz | 33 | 4000 | 0.086 | 700 | J , G | Red |
| 0603C 12N | 12@250MHz | 35 | 4000 | 0.130 | 700 | J , G | Orange |
| 0603C 14N | 14@250MHz | 35 | 4000 | 0.170 | 700 | J , G | Brown |
| 0603C 15N | 15@250MHz | 35 | 4000 | 0.170 | 700 | J , G | Yellow |
| 0603C 16N | 16@250MHz | 34 | 3300 | 0.104 | 700 | J , G | Green |
| 0603C 18N | 18@250MHz | 35 | 3100 | 0.170 | 700 | J , G | Blue |
| 0603C 22N | 22@250MHz | 38 | 3000 | 0.190 | 700 | J , G | Violet |
| 0603C 24N | 24@250MHz | 37 | 2650 | 0.135 | 700 | J , G | Gray |
| 0603C 27N | 27@250MHz | 40 | 2800 | 0.220 | 600 | J , G | White |
| 0603C 30N | 30@250MHz | 37 | 2250 | 0.144 | 600 | J , G | Black |
| 0603C 33N | 33@250MHz | 40 | 2300 | 0.220 | 600 | J , G | Brown |
| 0603C 36N | 36@250MHz | 38 | 2080 | 0.250 | 600 | J , G | Red |
| 0603C 39N | 39@250MHz | 40 | 2200 | 0.250 | 600 | J , G | Orange |
| 0603C 43N | 43@250MHz | 39 | 2000 | 0.280 | 600 | J , G | Yellow |
| 0603C 47N | 47@200MHz | 38 | 2000 | 0.280 | 600 | J , G | Green |
| 0603C 56N | 56@200MHz | 38 | 1900 | 0.310 | 600 | J , G | Blue |
| 0603C 68N | 68@200MHz | 37 | 1700 | 0.340 | 600 | J , G | Violet |
| 0603C 72N | 72@150MHz | 34 | 1700 | 0.490 | 400 | J , G | Gray |
| 0603C 82N | 82@150MHz | 34 | 1700 | 0.540 | 400 | J , G | White |
| 0603C R10 | 100@150MHz | 34 | 1400 | 0.580 | 400 | J , G | Black |
| 0603C R11 | 110@150MHz | 32 | 1350 | 0.610 | 300 | J , G | Brown |
| 0603C R12 | 120@150MHz | 32 | 1300 | 0.650 | 300 | J , G | Red |
| 0603C R15 | 150@150MHz | 28 | 990 | 0.920 | 280 | J , G | Orange |
| 0603C R18 | 180@100MHz | 25 | 990 | 1.250 | 240 | J , G | Yellow |
| 0603C R22 | 220@100MHz | 25 | 900 | 1.900 | 200 | J , G | Green |
| 0603C R27 | 270@100MHz | 24 | 900 | 2.300 | 170 | J , G | Blue |
| 0603C R33 | 330@100MHz | 24 | 900 | 3.900 | 185 | J , G | Violet |
| 0603C R39 | 390@100MHz | 25 | 900 | 4.350 | 100 | J , G | Gray |
| 0603C R47 | 470@100MHz | 25 | 820 | 4.350 | 100 | J , G | White |

- Test equipment :
L/Q : HP4287A
SRF : HP4291B,HP8753E
- IDC : For 15°C Temperature rise from 25°C ambient.
- Operating temperature : -40°C~+125°C.

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Packaging

DOC.NO

0603CG-type

Product Description

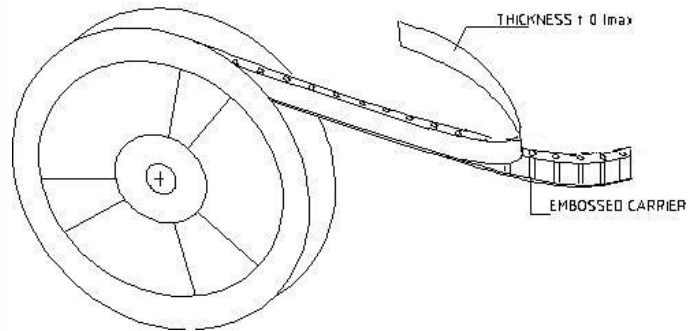
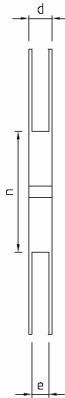
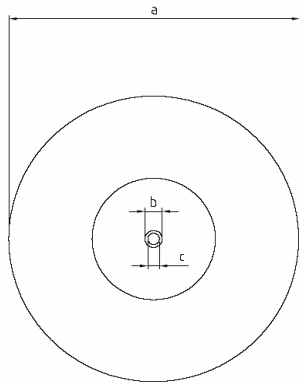
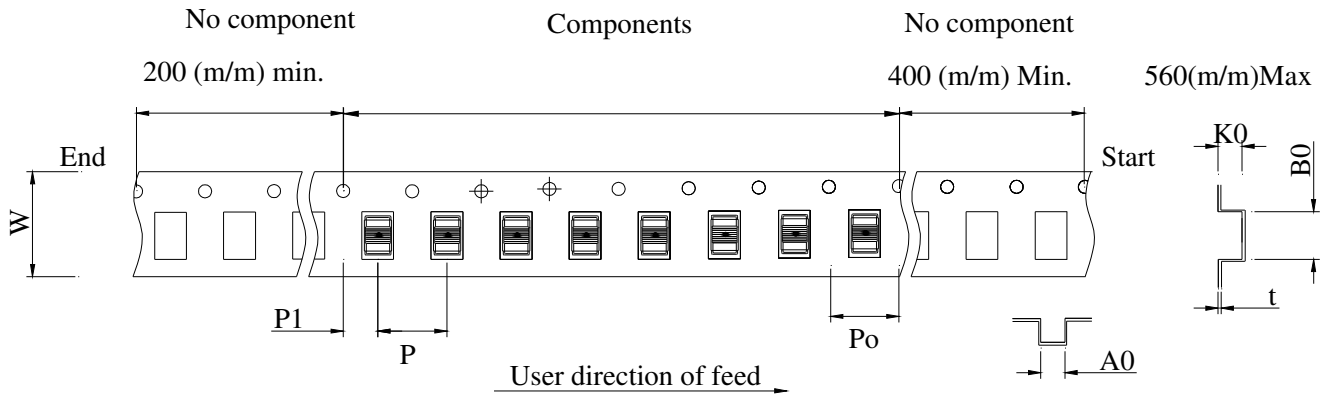
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| Product Series | t | PI | P | P ₀ | W | A ₀ | B ₀ | K ₀ | a | b | c | d | E | n |
|----------------|---------------|--------------|-------------|----------------|-------------|----------------|----------------|----------------|---------------|--------------|--------------|-------------|-------------|-----------|
| 0603 | 0.25 ±0.05 | 2.0 ±0.05 | 4.0 ±0.1 | 4.0 ±0.1 | 8.0 ±0.2 | 1.07 ±0.1 | 1.88 ±0.1 | 1.07 ±0.1 | 178.0 ±2.0 | 21.0 ±0.8 | 13.0 ±0.8 | 12.5 MAX | 8.4 ±1.0 | 50 MIN |

| Type | Reel | | 5Reel / Box | | 6Box / Carton | |
|------|-----------|----------|-------------|------------|---------------|-------------|
| | Q'ty(Pcs) | Size m/m | Q'ty(Pcs) | Size m/m | Q'ty(Pcs) | Size m/m |
| B | 4,000 | 180 φ | 20,000 | 182×182×80 | 120,000 | 540×210×205 |
| C | 3,000 | 180 φ | 15,000 | 182×182×80 | 90,000 | 540×210×205 |

Reliability

DOC.NO

0603CG-type

Product
Description

SMD Wire Wound Ceramic Chip Inductor

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Rev.

B0

1. Environmental Performance

| NO | ITEM | SPECIFICATION | TEST CONDITION | | | TSET METHOD |
|-----|----------------------------|--|---|-----------------|-----------|--|
| 1-1 | TEMPERATURE CYCLE | APPEARANCE:NO DAMAGE L CHANGE:WITHIN±3% Q CHANGE:WITHIN±3% | ONE CYCLE | | | TO WRITE DOWN MEASURED RESULT FOR THE PARTS AFTER TEST AT ROOM TEMPERATURE FOR 1HOUR AND BEFRON TEST |
| | | | STEP | TEMPERATURE(°C) | TIME(MIN) | |
| | | | 1 | +125°C±5 | 30 | |
| | | | 2 | -65°C±5 | 30 | |
| | | | TOTAL:10CYCLES | | | |
| 1-2 | HUMIDITY RESISTANCE | | TEMPERATURE:40±2°C RELATIVE HUMIDITY:90±5% TIME:96HRS | | | TO WRITE DOWN MEASURED RESULT FOR THE PARTS AFTER TEST AT ROOM TEMPERATURE FOR 1HOUR AND BEFRON TEST |
| 1-3 | LIFE TEST | | TEMPERATURE:+75°C±5°C TIME:300HRS | | | TO WRITE DOWN MEASURED RESULT FOR THE PARTS AFTER TEST AT ROOM TEMPERATURE FOR 1HOUR AND BEFRON TEST |
| 1-4 | LOWTEMPERATURE STORAGE | | TEMPERATURE:-40°C±2°C TIME:48±2HRS | | | TO WRITE DOWN MEASURED RESULT FOR THE PARTS AFTER TEST AT ROOM TEMPERATURE FOR 1HOUR AND BEFRON TEST |
| 1-5 | HIGHTEMPERATURE STORAGE | | TEMPERATURE:+125°C±2°C TIME: 48±2HRS | | | TO WRITE DOWN MEASURED RESULT FOR THE PARTS AFTER TEST AT ROOM TEMPERATURE FOR 1HOUR AND BEFRON TEST |

Reliability

DOC.NO

0603CG-type

Product Description

SMD Wire Wound Ceramic Chip Inductor

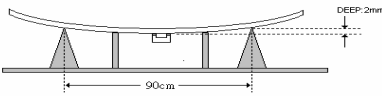
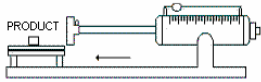
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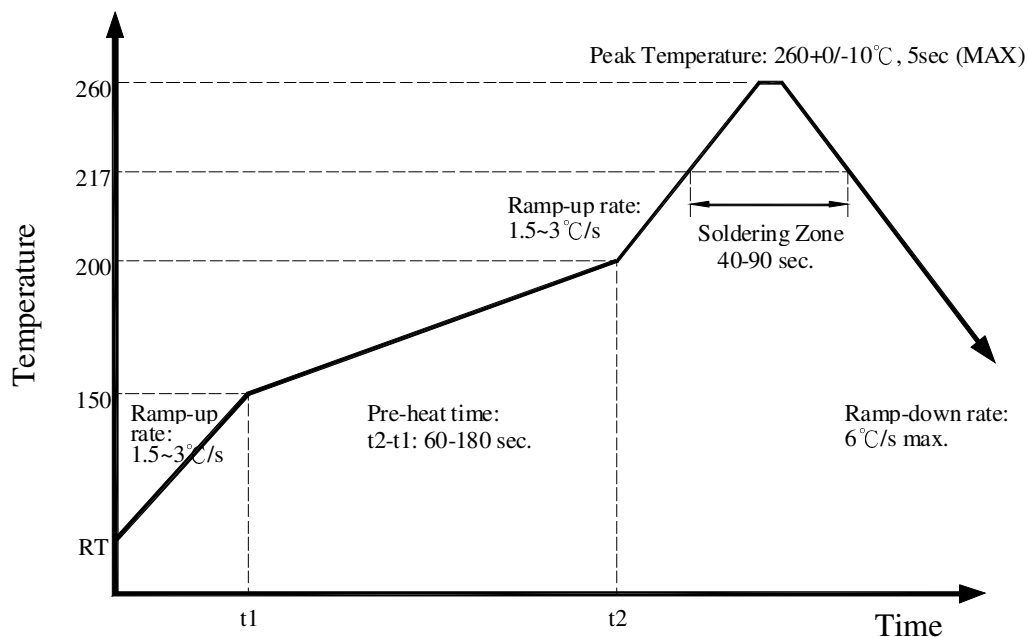
Rev.

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2. Mechanical Performance

| NO | ITEM | SPECIFICATION | TEST CONDITION |
|-----|------------------------------|---|---|
| 2-1 | VIBRATION | | TEST DEVICE SHALL BE SOLDERED ON THE SUBSTRATE OSCILLATION FREQUENCY:10TO 55TO10Hz FOR 1MIN AMPLITUDE:0.75mm TIME:2HRS:FOREACH AXIS(X,Y&Z), TOTAL 6HRS |
| 2-2 | RESISTANCE TO SOLDERING HEAT | | SOLDER COMPOSITION: Sn/Ag/Cu=96.5/3.0/0.5 SOLDER TEMPERATURE:260±5°C IMMERSION TIME:10±1SEC TOTAL:2 CYCLES |
| 2-3 | SOLDERABILITY | THE ELECTRODES SHALL BE AT LEAST 95% COVERED WITH NEW SOLDER COATIN | SOLDER COMPOSITION:Sn/Ag/Cu=96.5/3.0/0.5 SOLDER TEMPERATURE:230±5°C IMMERSION TIME:5±0.5SEC |
| 2-4 | FLEXURE STRENGTH | THE BEING TRIED ARTICLE CAN'T CRACK OR SHED OFF OF SITUATION. | AFTER SOLDERING A CHIP TO A TEST SUBSTRATE,BEND THE USING THE FERROMOLYBDENUM MASS TO GET DOWN THE PCB BOARD TO PRESS TO BEND THE 2 mm DEPTH AND RETURN TO AGAIN THE BREAKOUT MAINTAINING THE 10SEC. SOLDERING SHALL BE RECOMMENDED PC BOARD PATTERN AND REFLOW SOLDERING.  |
| 2-5 | TERMINAL STRENGTH | PRODUCT OF THE SERIES IS MORE THAN 4POUND | AFTER SOLDERING A CHIP TO A TEST SUBSTRATE,WITH THE 0.13~0.15mm THICK SOLDER. SOLDERING SHALL BE RECOMMENDED PC BOARD PATTERN AND REFLOW SOLDERING. THE THRUST ABOUT PUSHER PRODUCT WITH THE VELOCITY OF THE 20mms/1sec AFTER ACCOUNTING TO RETURN THE NULL.  |

3. Recommended Lead-Free IR Reflow Conditions :



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