

## Specification Sheet for Approved

Customer Name:	
Customer Part No.:	
Ceaiya Part No:	CWCI0603F Series
Spec No:	C-063

### 【For Customer Approval Only】

If you Approval, Please Stamp

### 【RoHS Compliant Parts】

Approved By	Checked By	Prepared By
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# Specification Sheet for SMD Chip Inductor

## 1. Scope

This specification applies to the CWCI0603F Series of wire wound SMD chip inductor.

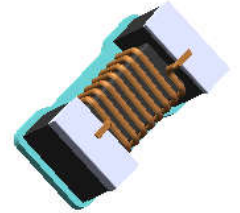
## 2. Product Description and Identification (Part Number)

1) Description:

CWCI0603F series of Wire wound SMD chip inductor.

2) Product Identification (Part Number)

CWCI
0603
F
-
2R2
□
T
□□



①	Type
CWCI	Wire Wound Chip Inductor

②	External Dimensions(L×W) 【inch】
0603	1.60mm×0.8mm

③	Material type
F	Ferrite

④	Nominal Inductance
Example	Nominal Value
1R0	1.0uH
100	10uH
101	100uH

⑤	Inductance Tolerance
J	±5%
K	±10%
M	±20%

⑦	Design Code
□□	Design Code
* Standard product is blank	

⑥	Packing
T	Tape Carrier Package

## 3. Electrical Characteristics

Please refer to Item 5.

- 1) Operating temperature range (individual chip without packing): -25°C ~ +100°C (Including Self-heating)
- 2) Storage temperature range (packaging conditions): -25°C ~ +100°C and RH 70% (Max.).

## 4. Shape and Dimensions (Unit:mm)

Dimensions and recommended PCB pattern for reflow soldering, please see Fig4-1 and Table4-1

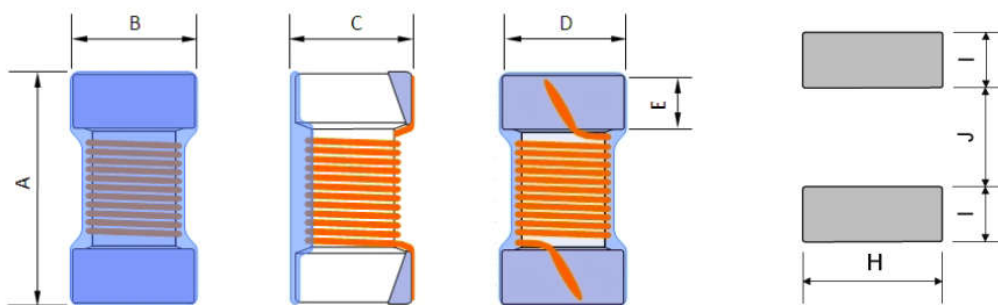


Fig4-1.

Table 4-1.

Series	A	B	C	D	E	H	I	J
CWCI0603F	1.80 Max.	1.20 Max.	1.0 Max.	0.90 typ.	0.30 Ref	1.15 Ref	0.64 Ref	0.64 Ref

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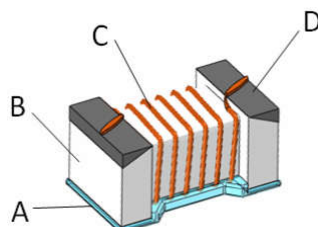
### 5. Electrical Characteristics

Part No.	L(uH)	Tol.	L Test Freq. MHz	Q Typ.	Q Test Freq. MHz	DCR $\pm 30\%$ ( $\Omega$ )	Idc Typ. (mA)	I rms Typ. (mA)	SRF(MHz) Typ.
CWCI0603F-R56□T	0.56	J / K	7.9	17	7.9	0.27	1400	770	500
CWCI0603F-R68□T	0.68	J / K	7.9	15	7.9	0.30	1000	800	400
CWCI0603F-1R0□T	1.0	K / M	7.9	17	7.9	0.37	860	700	390
CWCI0603F-1R2□T	1.2	K / M	7.9	17	7.9	0.38	850	540	330
CWCI0603F-1R5□T	1.5	J / K	7.9	16	7.9	0.41	720	600	160
CWCI0603F-1R8□T	1.8	J / K	7.9	16	7.9	0.43	640	580	121
CWCI0603F-2R2□T	2.2	J / K	7.9	16	7.9	0.56	600	580	103
CWCI0603F-3R3□T	3.3	J / K	7.9	16	7.9	0.70	500	500	66
CWCI0603F-4R7□T	4.7	J / K	7.9	16	7.9	0.97	400	400	51
CWCI0603F-5R6□T	5.6	J / K	7.9	16	7.9	1.30	380	380	47
CWCI0603F-6R8□T	6.8	J / K	7.9	16	7.9	1.50	340	340	43
CWCI0603F-7R8□T	7.8	J / K	7.9	15	7.9	1.70	260	200	38
CWCI0603F-100□T	10	J / K	2.5	14	2.5	1.85	240	190	36
CWCI0603F-150□T	15	J / K	2.5	14	2.5	2.60	220	180	29
CWCI0603F-180□T	18	J / K	2.5	14	2.5	3.30	200	160	28
CWCI0603F-220□T	22	J / K	2.5	14	2.5	3.61	180	150	24

Note:

- When ordering, please specify tolerance and packaging codes. Ex:CWCI0603F-100K-T  
Tolerance: J= $\pm 5\%$ ,K= $\pm 10\%$ ,M= $\pm 20\%$ , N= $\pm 30\%$   
Packaging: Clear tape and reel {standard}
- L, Q, SRF : Agilent /HP 4287A + Agilent / HP 8722ES or Equivalent
- Rdc: Digital Milliohm Meter Chroma 16502, or equivalent.
- Idc for Inductance drop 10% from its value without current.
- I rms for a 15°C rise above 25°C ambient.
- Package spec.: 7 inch Reel , 4000pcs/Reel .

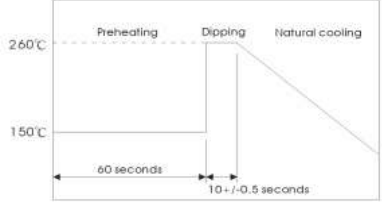
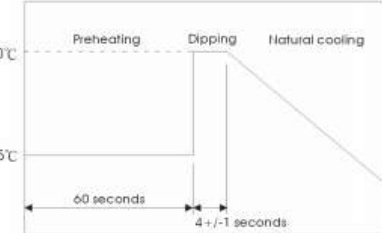
### 6. Structure: See the following.



No.	Components	Material
A	Coating	Ultraviolet epoxy resin
B	Core	Ferrite
C	Wire	Polyurethane system enameled copper wire
D	Electrodes	Ag/Ag-Pd with Ni and Sn plating

# Specification Sheet for SMD Chip Inductor

## 7. Reliability Test

Items	Performance	Test Condition															
7.1 Solder Heat Resistance 耐焊锡热	Appearance: No significant abnormality. Inductance change: Within $\pm 20\%$ 外观：无明显异常 电感值：变化值在初始值 20%以内	Preheat: 150°C, 60sec. Solder: H63A Solder temperature: 260 $\pm$ 5°C Flux for lead free: rosin Dip time: 10 $\pm$ 0.5sec. 预热：150°C，60 sec 锡炉温度：260 $\pm$ 5°C 助焊剂：rosin. 时间：10 $\pm$ 0.5sec 															
7.2 Solderability Test 端面焊锡性	More than 90% of the terminal electrode should be covered with solder. 端电极之锡覆盖面达 90%以上	Preheat: 125 $\pm$ 25°C, 60sec. Solder: H63A Solder temperature: 230 $\pm$ 5°C Flux for lead free: rosin Dip time: 4 $\pm$ 1sec 预热：125°C，60 sec 锡炉温度：230 $\pm$ 5°C 助焊剂：rosin. 时间：4 $\pm$ 1sec 															
7.3 High Temperature Resistance Test 高温放置测试	Appearance: no damage. Inductance: within $\pm 20\%$ of initial value. No disconnection or short circuit. 外观不能破损 电感值：变化值在初始值 20%以内 电性无短路或断线。	Temperature: 85 $\pm$ 2°C. Applied current: rated current. Duration: 500 hrs															
7.4 Humidity Resistance Test 高湿放置测试	Appearance: no damage. Inductance: within $\pm 20\%$ of initial value. No disconnection or short circuit. 外观不能破损 电感值：变化值在初始值 20%以内 电性无短路或断线。	Temperature: 40 $\pm$ 2°C. Applied current: rated current. Duration: 500 hrs Humidity: 90~95%															
7.5 Thermal shock 热冲击试验	Appearance: no damage. Inductance: within $\pm 20\%$ of initial value. No disconnection or short circuit. 外观不能破损 电感值：变化值在初始值 20%以内 电性无短路或断线。	Condition for 1 cycle Step1: -25 $\pm$ 2°C , 30 $\pm$ 3 min. Step2: Room temperature within 15 min. Step3: +85 $\pm$ 5°C, 30 $\pm$ 3 min. Step4: Room temperature within 15 min. Number of cycles: 50PCS <table border="1" data-bbox="1134 1496 1481 1706"> <thead> <tr> <th>Phase</th> <th>Temperature(°C)</th> <th>Time(min)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-25<math>\pm</math>2°C</td> <td>30<math>\pm</math>3</td> </tr> <tr> <td>2</td> <td>Room Temp.</td> <td>15</td> </tr> <tr> <td>3</td> <td>+85<math>\pm</math>2°C</td> <td>30<math>\pm</math>3</td> </tr> <tr> <td>4</td> <td>Room Temp.</td> <td>15</td> </tr> </tbody> </table>	Phase	Temperature(°C)	Time(min)	1	-25 $\pm$ 2°C	30 $\pm$ 3	2	Room Temp.	15	3	+85 $\pm$ 2°C	30 $\pm$ 3	4	Room Temp.	15
Phase	Temperature(°C)	Time(min)															
1	-25 $\pm$ 2°C	30 $\pm$ 3															
2	Room Temp.	15															
3	+85 $\pm$ 2°C	30 $\pm$ 3															
4	Room Temp.	15															
7.6 Humidity Resistance 高湿测试	Appearance: no damage. Inductance: within $\pm 20\%$ of initial value. No disconnection or short circuit. 外观不能破损 电感值：变化值在初始值 20%以内 电性无短路或断线。	Humidity: 90~95%RH. Temperature: 40 $\pm$ 5°C. Applied current: rated current. Duration: 500 $\pm$ 12hrs. Measured at room temperature after placing for 2 to 3hrs. 湿度：90~95%RH. 温度：40 $\pm$ 5°C. 须加电流：额定电流。 放置时间：500 $\pm$ 12hrs.															

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## 8. Packaging and Storage

### 8.1 Packaging

There is one type of packaging for the chip chip inductors. Please specify the packing code when ordering.

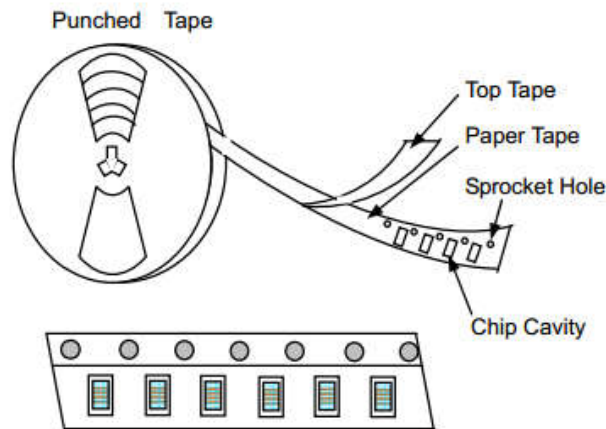
Tape Carrier Packaging:

Packaging code: T

- i. Tape carrier packaging are specified in attached figure
- ii. Tape carrier packaging quantity please see the following table:

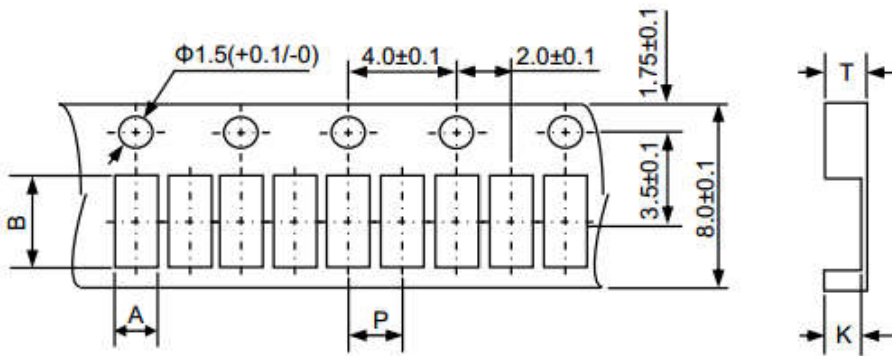
Type	0603
Tape	Punched Tape
Quantity	4K

#### (1) Taping Drawings (Unit: mm)



Remark: The sprocket holes are to the right as the tape is pulled toward the user.

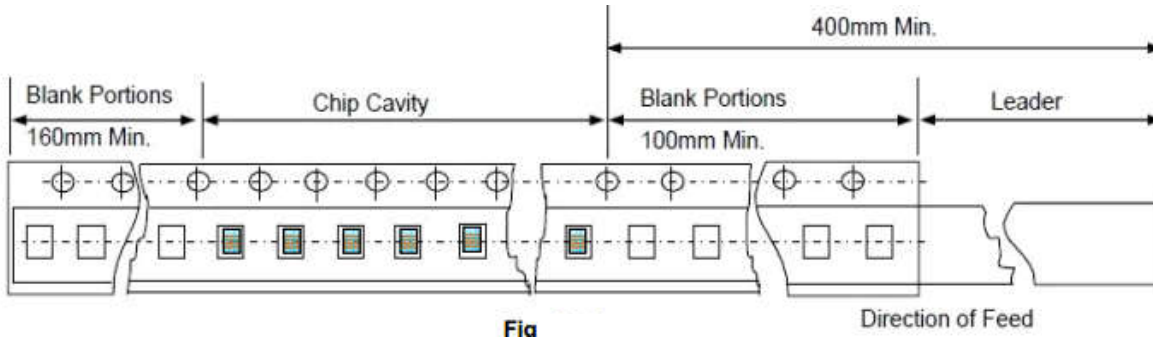
#### (2) Taping Dimensions (Unit: mm)



Type	A	B	P	K	T
0603	$1.30 \pm 0.10$	$1.90 \pm 0.10$	$4.0 \pm 0.05$	$1.08 \pm 0.10$	$1.12 \pm 0.10$

# Specification Sheet for SMD Chip Inductor

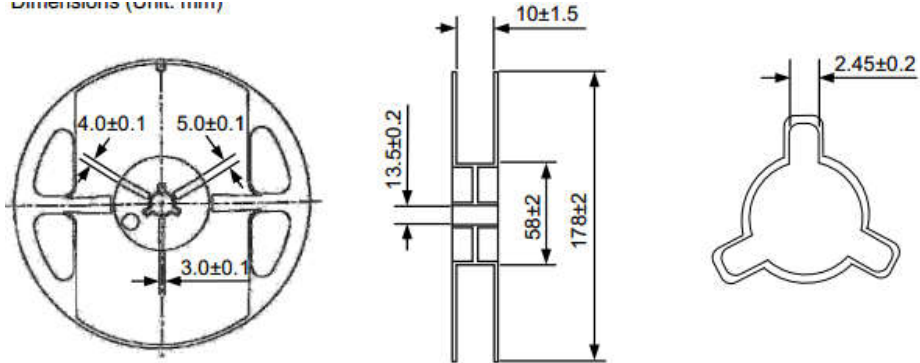
## (3) Leader and blank portion



Fig

## (4) Reel Dimensions (Unit: mm)

Dimensions (Unit: mm)



## (5) Peeling off force: 10gf to 70gf in the direction show below.

