

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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【Version of Changed Record】				
Rev.	Effective Date	Changed Contents	Change Reasons	Approved By
A0	2022-10-10	New release	/	Li qing hui

Specification Sheet for SMD Chip Inductor

1. Scope

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

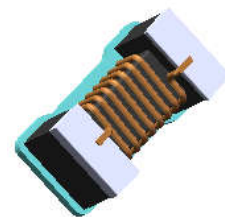
2. Product Description and Identification (Part Number)

1) Description:

CWCI0603F series of Wire wound SMD chip inductor.

2) Product Identification (Part Number)

CWCI 0603 F - 2R2 □ T □ □
 ① ② ③ ④ ⑤ ⑥ ⑦



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.

- Operating temperature range (individual chip without packing): -25℃ ~ +100℃ (Including Self-heating) .
- Storage temperature range (packaging conditions): -25℃ ~ +100℃ 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

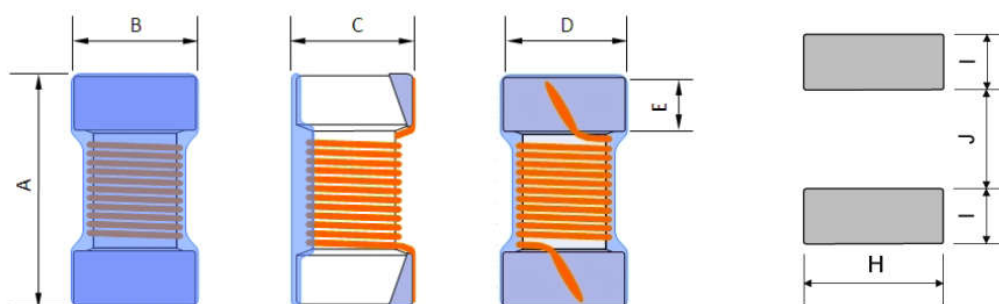


Fig4-1.

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 $\pm 30\%$ (Ω)	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:

1. 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}

2. L, Q, SRF : Agilent /HP 4287A + Agilent / HP 8722ES or Equivalent

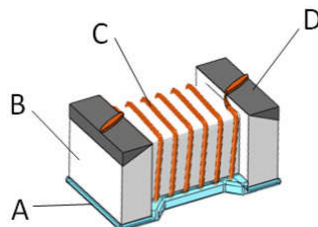
3. Rdc: Digital Milliohm Meter Chroma 16502, or equivalent.

4. Idc for Inductance drop 10% from its value without current.

5. Irms for a 15°C rise above 25°C ambient.

6. Package spec.: 7 inch Reel , 4000pcs/Reel .

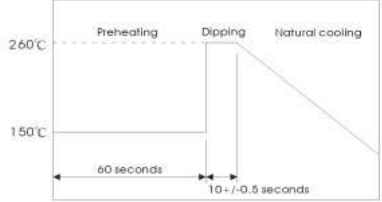
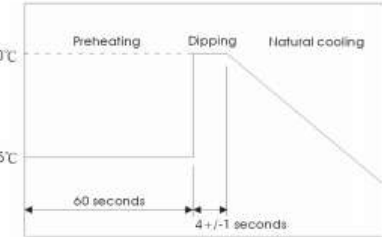
6. Structure: See the following.



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

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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: $260 \pm 5^{\circ}\text{C}$ Flux for lead free: rosin Dip time: $10 \pm 0.5\text{sec}$. 预热： 150°C ，60 sec 锡炉温度： $260 \pm 5^{\circ}\text{C}$ 助焊剂：rosin. 时间： $10 \pm 0.5\text{sec}$ 															
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: $125 \pm 25^{\circ}\text{C}$, 60sec. Solder: H63A Solder temperature: $230 \pm 5^{\circ}\text{C}$ Flux for lead free: rosin Dip time: $4 \pm 1\text{sec}$ 预热： 125°C ，60 sec 锡炉温度： $230 \pm 5^{\circ}\text{C}$ 助焊剂：rosin. 时间： $4 \pm 1\text{sec}$ 															
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: $85 \pm 2^{\circ}\text{C}$. 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: $40 \pm 2^{\circ}\text{C}$. 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: $-25 \pm 2^{\circ}\text{C}$, $30 \pm 3\text{ min}$. Step2: Room temperature within 15 min. Step3: $+85 \pm 5^{\circ}\text{C}$, $30 \pm 3\text{ min}$. Step4: Room temperature within 15 min. Number of cycles: 50PCS <table border="1" data-bbox="1136 1496 1484 1706"> <thead> <tr> <th>Phase</th><th>Temperature($^{\circ}\text{C}$)</th><th>Time(min)</th></tr> </thead> <tbody> <tr> <td>1</td><td>$-25 \pm 2^{\circ}\text{C}$</td><td>$30 \pm 3$</td></tr> <tr> <td>2</td><td>Room Temp.</td><td>15</td></tr> <tr> <td>3</td><td>$+85 \pm 2^{\circ}\text{C}$</td><td>$30 \pm 3$</td></tr> <tr> <td>4</td><td>Room Temp.</td><td>15</td></tr> </tbody> </table>	Phase	Temperature($^{\circ}\text{C}$)	Time(min)	1	$-25 \pm 2^{\circ}\text{C}$	30 ± 3	2	Room Temp.	15	3	$+85 \pm 2^{\circ}\text{C}$	30 ± 3	4	Room Temp.	15
Phase	Temperature($^{\circ}\text{C}$)	Time(min)															
1	$-25 \pm 2^{\circ}\text{C}$	30 ± 3															
2	Room Temp.	15															
3	$+85 \pm 2^{\circ}\text{C}$	30 ± 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: $40 \pm 5^{\circ}\text{C}$. Applied current: rated current. Duration: $500 \pm 12\text{hrs}$. Measured at room temperature after placing for 2 to 3hrs. 湿度：90~95%RH. 温度： $40 \pm 5^{\circ}\text{C}$. 须加电流：额定电流。 放置时间： $500 \pm 12\text{hrs}$.															

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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.

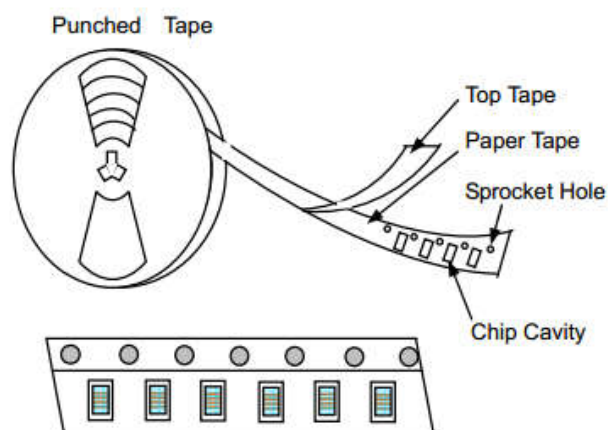
Tape Carrier Packaging:

Packaging code: T

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

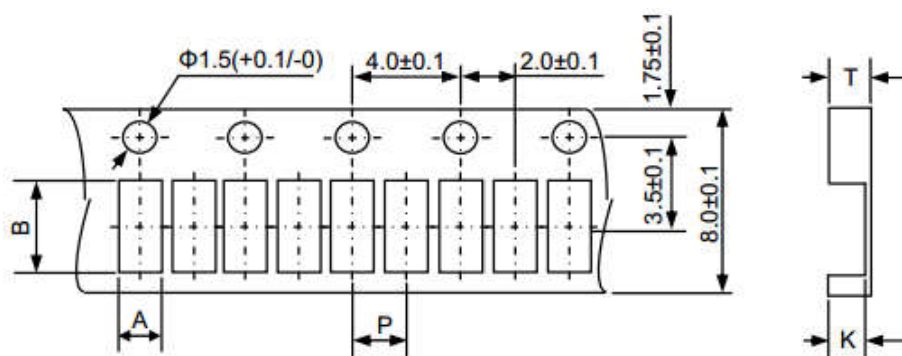
Type	0603
Tape	Punched Tape
Quantity	4K

(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±0.10	1.90±0.10	4.0±0.05	1.08±0.10	1.12±0.10

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(3) Leader and blank portion

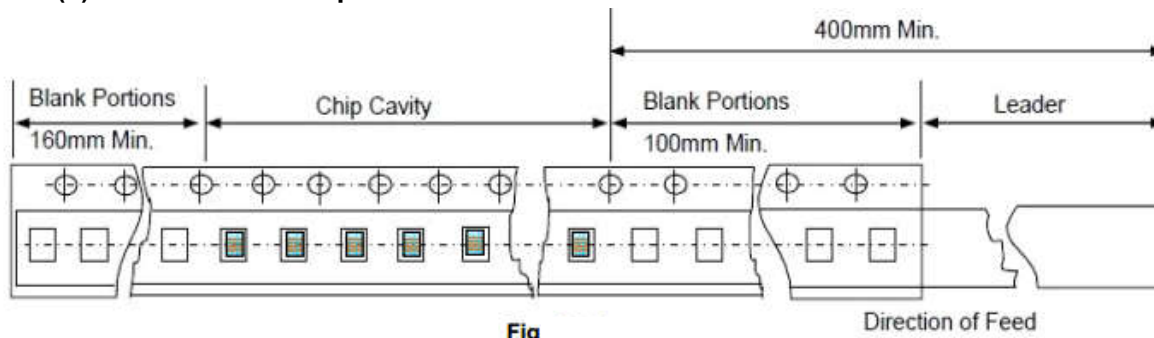
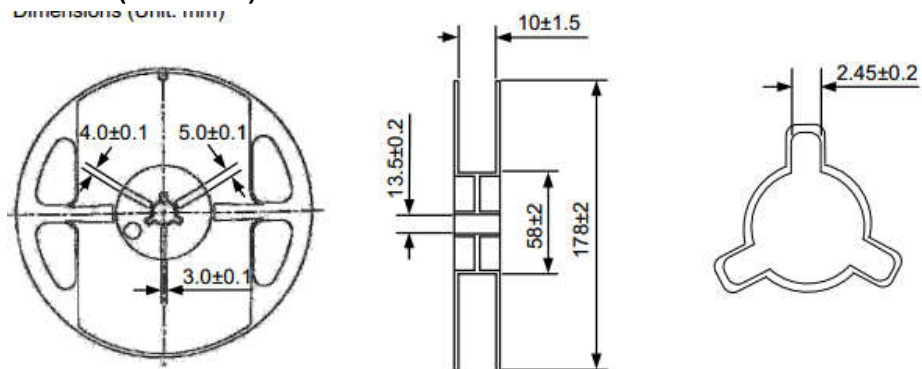


Fig. 7.1-5

(4) Reel Dimensions (Unit: mm)



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

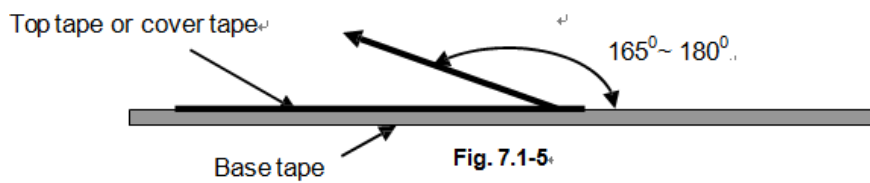


Fig. 7.1-5