

## Specification Sheet for Approved

Customer Name:	
Customer Part No.:	
Ceaiya Part No:	CMPI1770 Series
Spec No:	L1770

### 【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	2025-06-06	New release	/	Li qing hui

# Specification Sheet for SMD Power Inductor

## 1. Scope

This specification applies to the CMPI1770 Series of wire wound SMD power inductor.

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

1) Description:

CMPI1770 series of Wire wound SMD power inductor.

2) Product Identification (Part Number)

CMPI      1770      -      220      M  
①                      ②                      ③                      ④

① Product Series

② Choke Size

③ Initial Inductance(L @ 0A): 220=22 $\mu$ H

④ Inductance Tolerance:M= $\pm 20\%$

## 3. Electrical Characteristics

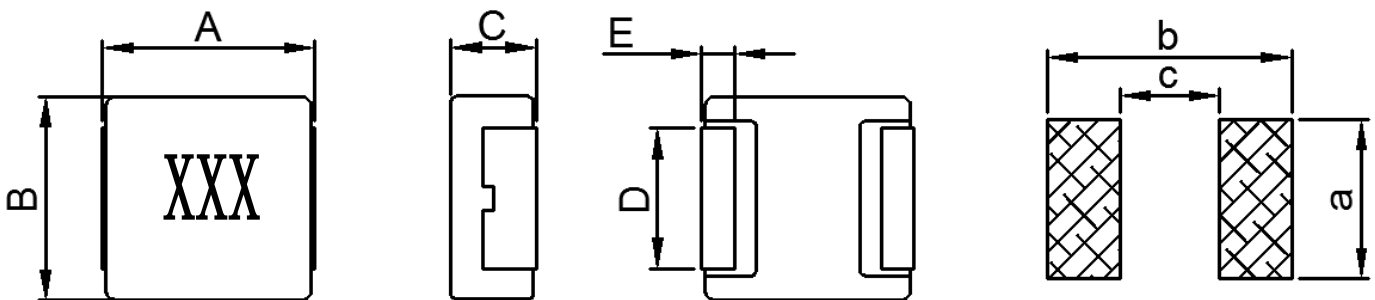
1) Operating temperature range (individual chip without packing): -40 $^{\circ}$ C ~ +125 $^{\circ}$ C (Including Self-heating) .

2) Storage temperature range (On PCB ): -40 $^{\circ}$ C ~ +125 $^{\circ}$ C

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

### MECHANICAL PARAMETERS

### RECOMMENDED PCB LAYOUT



A	B	C	D	E	a	b	c
17.5	17.0	7.0	12.0	2.5	12.3	18.2	11.2
$\pm 1.0$	$\pm 0.50$	Max	$\pm 0.50$	$\pm 0.50$	Typ.	Typ.	Typ.

### Notes:

1. Marking :Ink Marking
2. Stamping XXX :inductor
3. Dimensions of recommended PCB layout are reference only.
4. Do not route traces nor place vias underneath the inductor. Proper layout is required.

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### 5. Electrical Characteristics

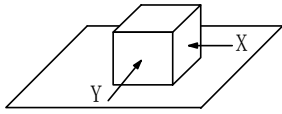
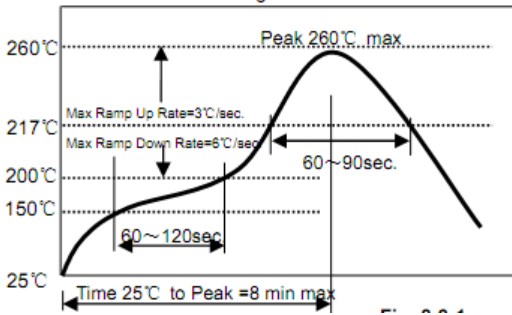
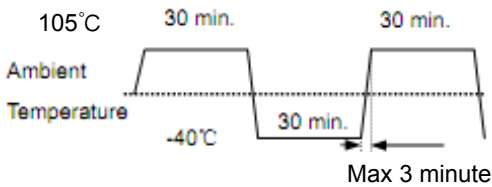
Part Number	L0(uH) ±20%	DCR(mΩ) @25°C		Isat(Amp)	Irms(Amp)
		Max.	Typ.	Typ.	Typ.
CMPI1770-2R2M	2.2	2.65	2.30	34.0	29.0
CMPI1770-3R3M	3.3	3.95	3.29	30.0	24.0
CMPI1770-4R7M	4.7	5.00	4.30	24.0	21.0
CMPI1770-6R8M	6.8	7.60	6.55	21.0	17.0
CMPI1770-100M	10	11.0	9.00	19.0	12.0
CMPI1770-150M	15	17.0	14.1	14.5	11.0
CMPI1770-220M	22	26.0	20.0	11.5	8.5
CMPI1770-330M	33	37.0	30.8	10.0	8.0
CMPI1770-470M	47	47.0	39.1	7.5	6.0
CMPI1770-680M	68	85.0	70.8	6.5	5.2
CMPI1770-101M	100	130.0	108.3	5.0	3.7

#### Notes:

1. Initial Inductance (L0) Test Parameters:100KHz,1.0V,I<sub>dc</sub>=0.0A,+25°C
2. Rated current: Isat or Irms, whichever is smaller;
3. Isat: DC current at which the inductance drops 30% from its value without saturation.
4. Irms: DC current that causes the temperature rise ( $\Delta T = 40^{\circ}\text{C}$ ) from ambient temperature.
5. Absolute maximum voltage: 60V DC

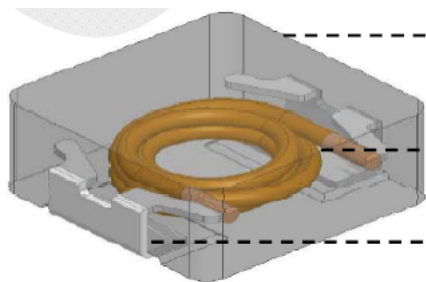
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## 6. Reliability Test

Items	Requirements	Test Methods and Remarks
6.1 Terminal Strength	<p>No removal or split of the termination or other defects shall occur.</p>  <p>Fig.6.1-1</p>	<p>1) Solder the inductor to the testing jig (glass epoxy board shown in Fig.6.1-1) using eutectic solder. Then apply a force in the direction of the arrow.</p> <p>2) 10N force.</p> <p>3) Keep time: 5±2s</p>
6.2 High Temperature	<p>1. No visible mechanical damage.</p> <p>2. Inductance change: Within ±10%</p>	<p>1) Storage Temperature :125±5℃</p> <p>2) Duration : 96 ±4 Hours</p> <p>3) Recovery : then measured at room ambient temperature after placing 24 hours.</p>
6.3 Low Temperature	<p>1. No visible mechanical damage</p> <p>2. Inductance change: Within ±10%</p>	<p>1) Temperature and time: -40±5℃</p> <p>2) Duration: 96±4 hours</p> <p>3) Recovery : then measured at room ambient temperature after placing 24 hours.</p>
6.4 Vibration test	<p>1. No visible mechanical damage.</p> <p>2. Inductance change: Within ±10%</p>	<p>1) Frequency range:10Hz~55Hz~10Hz</p> <p>2) Amplitude:1.5mm p-p</p> <p>3) Direction:X,Y,Z</p> <p>4) Time:1 minute/cycle,2hours per axis</p>
6.5 High Temperature Storage Tested	<p>1. No visible mechanical damage.</p> <p>2. Inductance change: Within ±10%</p>	<p>1) Storage Temperature :60±2℃</p> <p>2) Relative Humidity :90-95%</p> <p>3) Duration : 96 ±4 Hours</p> <p>4) Recovery : then measured at room ambient temperature after placing 24 hours.</p>
6.6 Resistance to Soldering Heat	<p>1. No visible mechanical damage.</p> <p>2. Inductance change: Within ±10%</p>  <p>Fig.6.6-1</p>	<p>1) Re-flowing Profile: Please refer to Fig.6.6-1</p> <p>2) Test board thickness: 1.0mm</p> <p>3) Test board material: glass epoxy resin</p> <p>4) The chip shall be stabilized at normal condition for 1~2 hours before measuring</p>
6.7 Thermal Shock	<p>1. No visible mechanical damage.</p> <p>2. Inductance change: Within ±10%</p>  <p>Fig.6.7-1</p>	<p>1) Temperature and time: -40±3℃ for 30±3 min→105℃ for 30±3min, please refer to Fig.6.7-1.</p> <p>2) Transforming interval: Max, 3 minutes</p> <p>3) Tested cycle: 100 cycles</p> <p>4) The chip shall be stabilized at normal condition for 1~2 hours before measuring</p>

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## 7. MATERIAL LIST



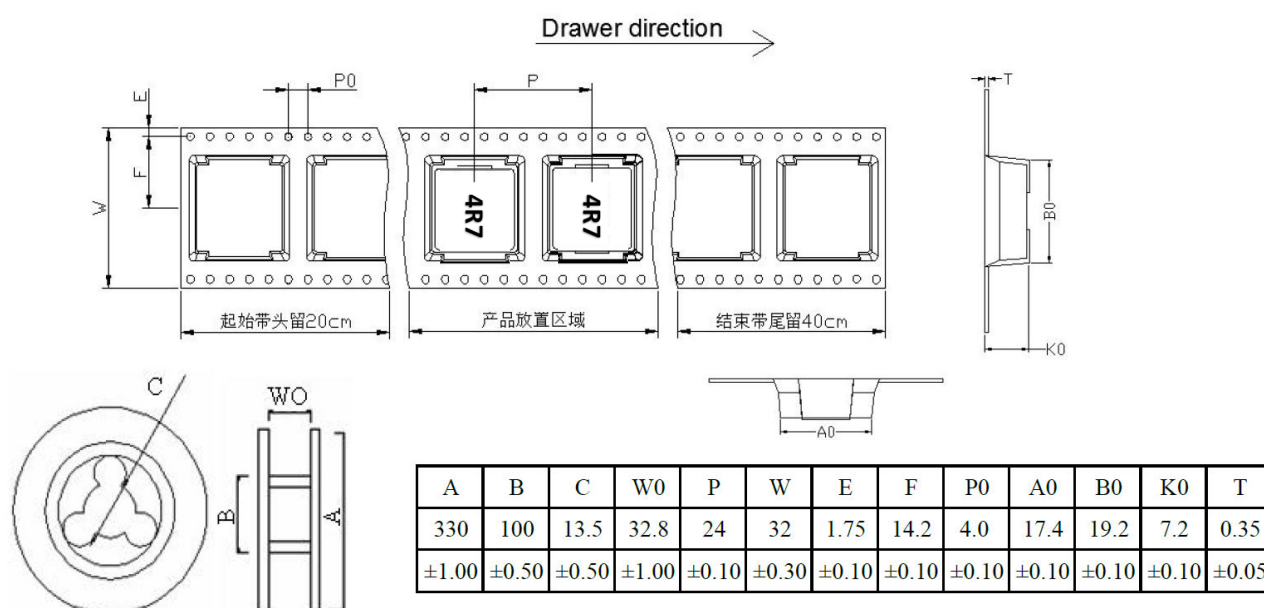
→ Core: Metal composite core

→ Coil: Copper wire

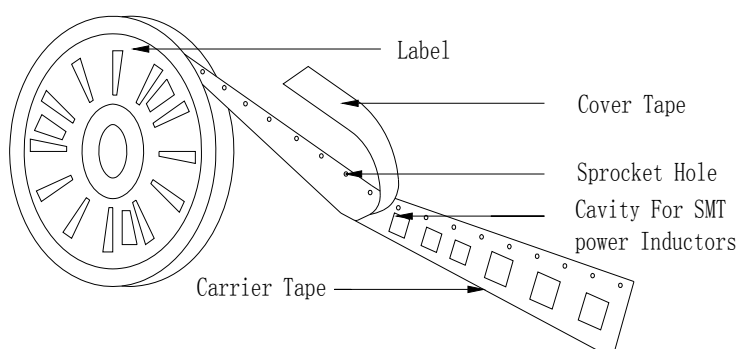
→ Electrode: Cu+Ni+Sn

## 8. PACKAGE INFORMATION-mm

### 8.1 Tape & Reel Packaging Dimensions



### 8.2 Reel dimensions(mm)



### 8.3 Taping Quantity

200pieces/Reel