

## Specification Sheet for Approved

Customer Name:	
Customer Part No.:	
Ceaiya Part No:	CMPI0518 Series
Spec No:	L0518

## 【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	2024-05-23	New release	/	Li qing hui

# Specification Sheet for SMD Power Inductor

## 1. Scope

This specification applies to the CMPI0518 Series of wire wound SMD power inductor.

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

1) Description:

CMPI0518 series of Wire wound SMD power inductor.

2) Product Identification (Part Number)

CMPI      0518      -      1R0      M  
①                      ②                      ③                      ④

① Product Series

② Choke Size

③ Initial Inductance(L @ 0A):1R0=1.0μH

④ Inductance Tolerance:M=±20%

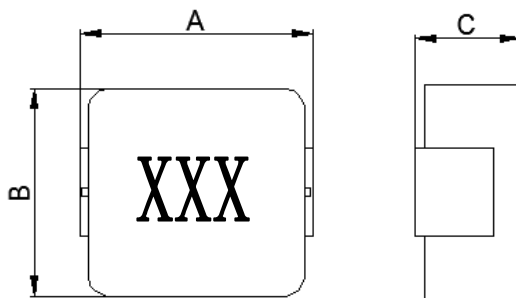
## 3. Electrical Characteristics

1) Operating temperature range (individual chip without packing): -40℃ ~ +125℃ (Including Self-heating) .

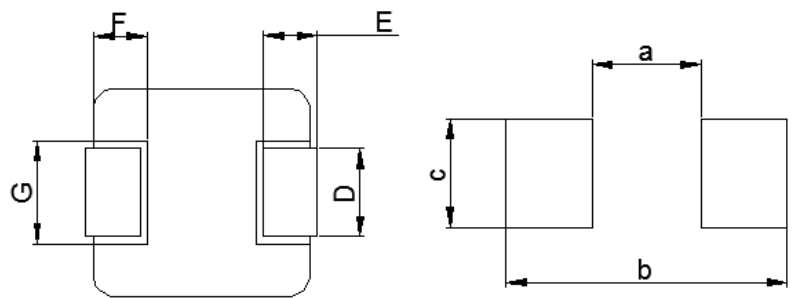
2) Storage temperature range (On PCB ): -40℃ ~ +125℃

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

### MECHANICAL PARAMETERS



### RECOMMENDED PCB LAYOUT



A	B	C	D	E	F	G	a	b	c
5.50	5.20	2.0	2.20	1.20	1.50	2.50	2.20	6.00	2.50
±0.30	±0.20	Max.	±0.30	±0.30	Typ.	Typ.	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

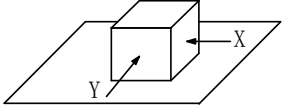
Part Number	L0(uH) ±20%	DCR(mΩ) @25°C		Isat(Amp) Typ.	Irms(Amp) Typ.
		Max.	Typ.		
CMPI0518-R47M	0.47	9.0	7.7	15.5	10.5
CMPI0518-R56M	0.56	10	8.0	15.0	9.5
CMPI0518-R68M	0.68	14	12	12.0	9.0
CMPI0518-1R0M	1.0	17	15	9.0	8.0
CMPI0518-1R5M	1.5	26	21	8.0	7.0
CMPI0518-2R2M	2.2	35	30	6.5	5.0
CMPI0518-3R3M	3.3	58	52	5.0	4.5
CMPI0518-4R7M	4.7	85.0	78	4.0	3.5
CMPI0518-5R6M	5.6	120	107	3.8	2.8
CMPI0518-6R8M	6.8	120	107	3.4	2.8
CMPI0518-100M	10	155	140	3.0	2.5

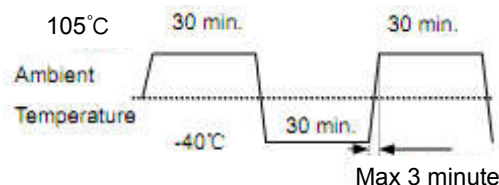
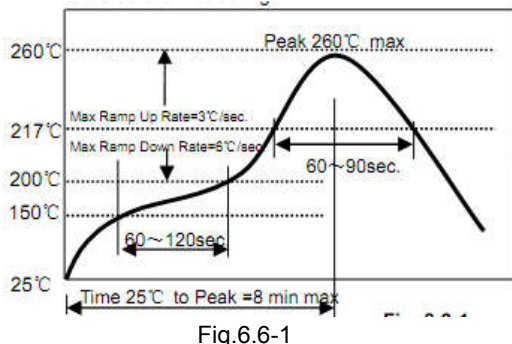
### Notes:

1. Initial Inductance (L0) Test Parameters:100KHz,1V,Idc=0.0A,+25°C
2. All test data is referenced to 25°C ambient;
3. Rated current: Isat or Irms, whichever is smaller;
4. Isat(A): DC current at which the inductance drops approximate 30% from its value without current;
5. Irms(A): DC current that causes the temperature rise ( $\Delta T = 40^{\circ} \text{C}$ ) from  $25^{\circ} \text{C}$  ambient.

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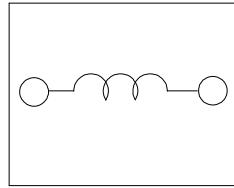
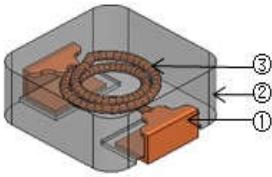
## 6. Reliability Test

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



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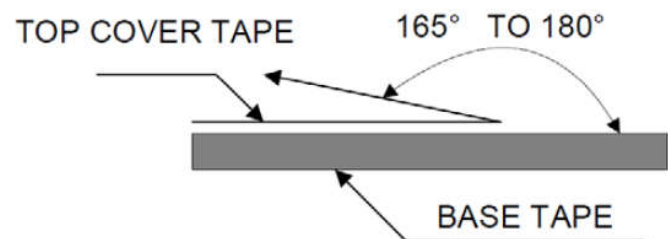
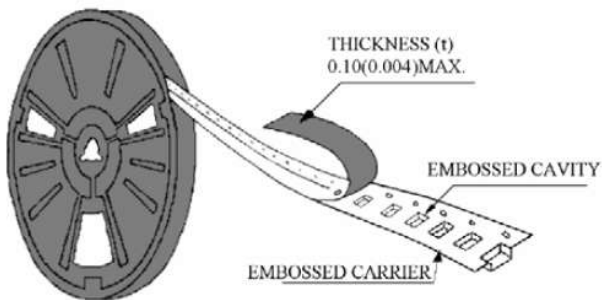
## 7. MATERIAL LIST



NO.	Part Name	Material
1	Electrode	Cu+Sn plating
2	Core	Metal composite core
3	Coil	Copper wire, 220°C

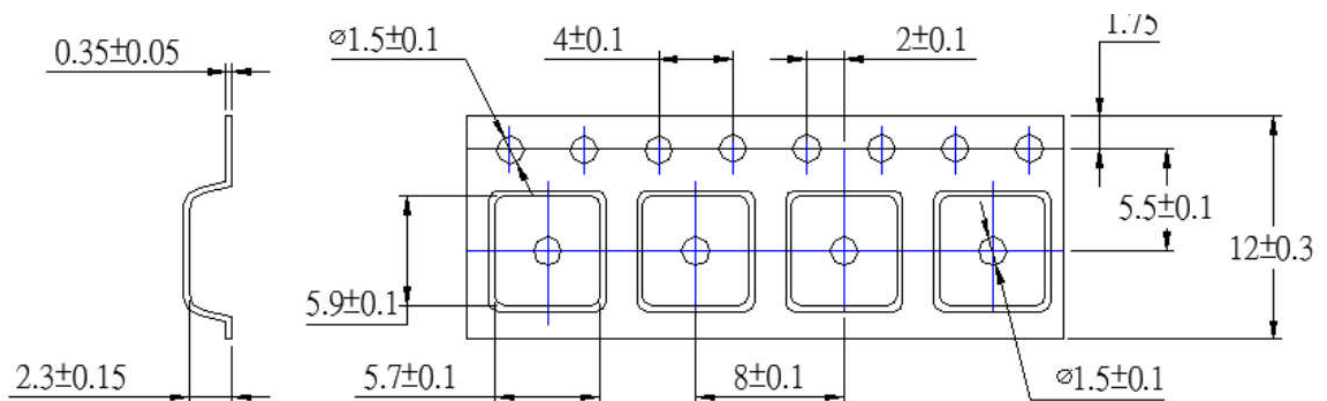
## 8. PACKAGE INFORMATION-mm

### Peel-off Force

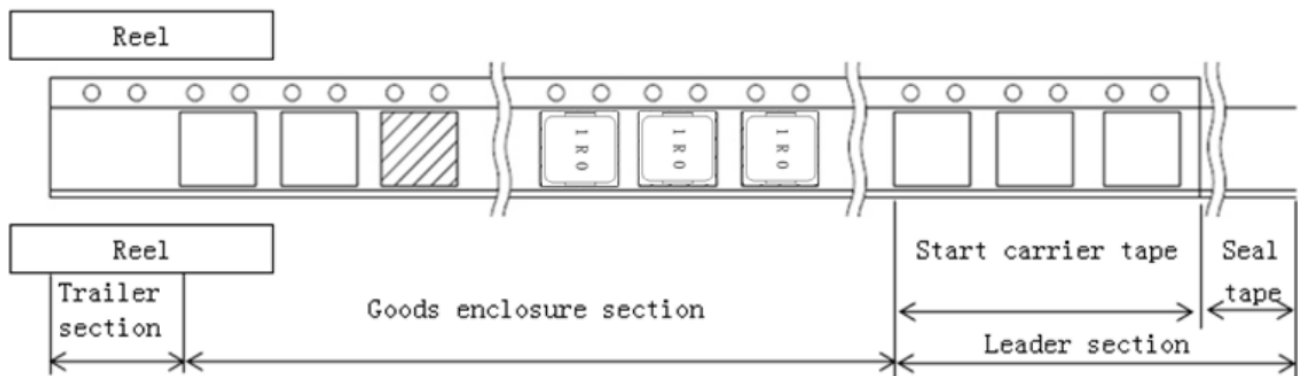


The force for peeling off cover tape is 10 to 70 grams in the arrow direction.

### 8.1 Tape Packaging Dimensions

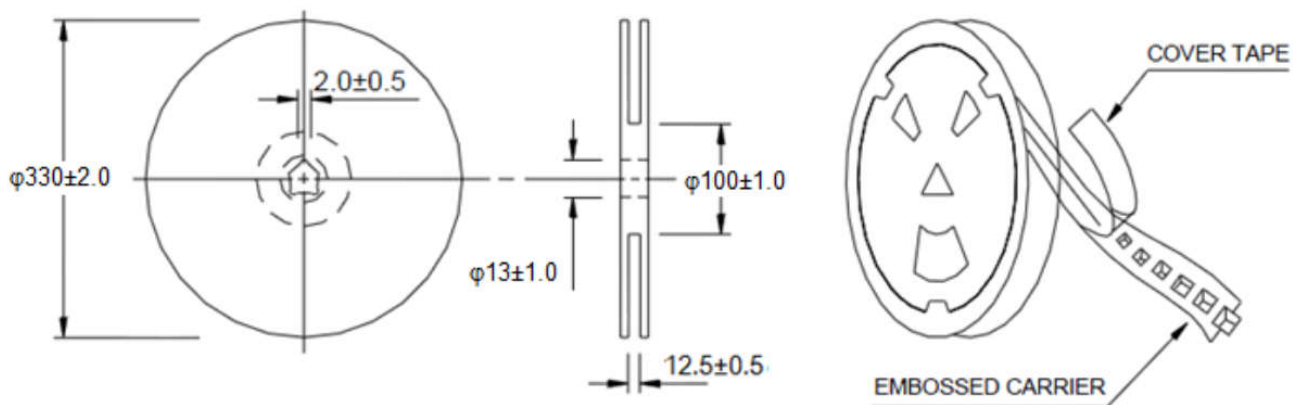


## 8.2 Taping dimension and tape direction, Leader ,Trailer, section dimension



Leader section	Min.400mm
Carrier tape start size	Min.100mm
Trailer section size	Min.160mm

## 8.3 Reel Dimensions



## 8.4 Taping Quantity

2000pieces/Reel,

## 8.5 Carton

Pizza packaging: 3Reel/ Pizza Box

External Packaging :3 Boxes/Carton