Specification Sheet for Approved

Customer Name:	
Customer Part No.:	
Ceaiya Part No:	CMPI0412 系列
Spec No:	L0412

【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	2021-09-01	New release	Internal changes	Li qin hui

1. Scope

This specification applies to the CMPI0412 Series of wire wound SMD power inductor.

2. Product Description and Identification (Part Number)

1) Description:

CMPI0412 series of Wire wound SMD power inductor.

2) Product Identification (Part Number)

CMPI	0412	-	1R0	M
①	②		③	④

① Product Series

② ChokeSize

③ InitialInductance(L@ 0A):1R0=1.0μH

④ InductanceTolerance:M=L+/-20%

3. Electrical Characteristics

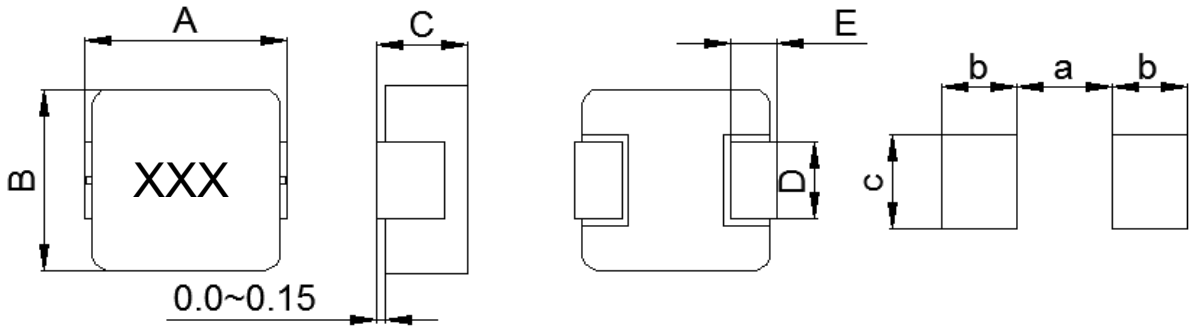
1） Operating temperature range (individual chip without packing): -40℃ ~ +125℃ （Including Self-heating）.

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

4. Shape and Dimensions (Unit:mm)

Dimensions and recommended PCB pattern for reflow soldering, please see

MECHANICALPARAMETERS RECOMMENDEDPCBLAYOUT



A	B	C	D	E	a	b	c
4.50	4.20	1.0	2.0	0.8	2.2	1.5	2.5
±0.35	±0.25	±0.2	±0.30	±0.30	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.

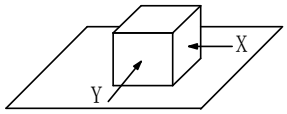
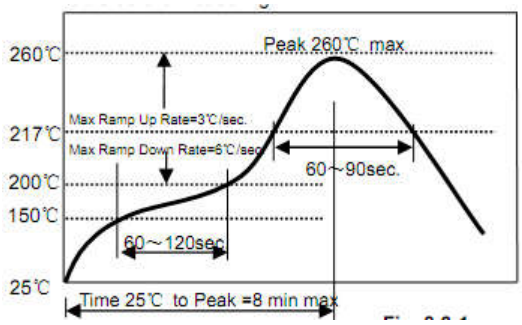
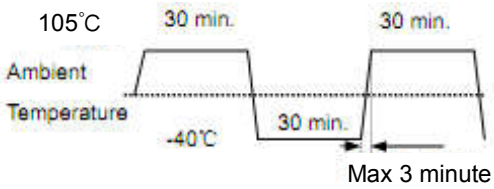
5. Electrical Characteristics

Part Number	L0(uH) ±20%	DCR(mΩ) @25℃		Isat(Amp) Typ.	Irms(Amp) Typ.
		Max.	Typ.		
CMPI0412-R47M	0.47	21	19	6.8	6.0
CMPI0412-R68M	0.68	36	32	6.0	4.7
CMPI0412-1R0M	1.0	47	43	5.5	4.5
CMPI0412-1R5M	1.5	75	68	4.0	3.25
CMPI0412-2R2M	2.2	85	79.3	3.0	2.75
CMPI0412-3R3M	3.3	160	145	2.7	2.0
CMPI0412-4R7M	4.7	200	175	2.2	1.8

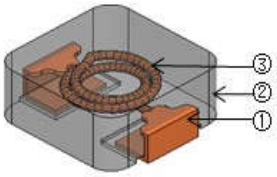
Notes:

1. Initial Inductance (L_0) Test Parameters: 100KHz,1V,Idc=0.0A,+25℃
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 (△T =40° C) from 25° C ambient.

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 Fing.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) TRecovery : 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%  Fig.6.6-1	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%  Fig.6.7-1	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 minute 3) Tested cycle: 100 cycles 4) The chip shall be stabilized at normal condition for 1~2 hours before measuring

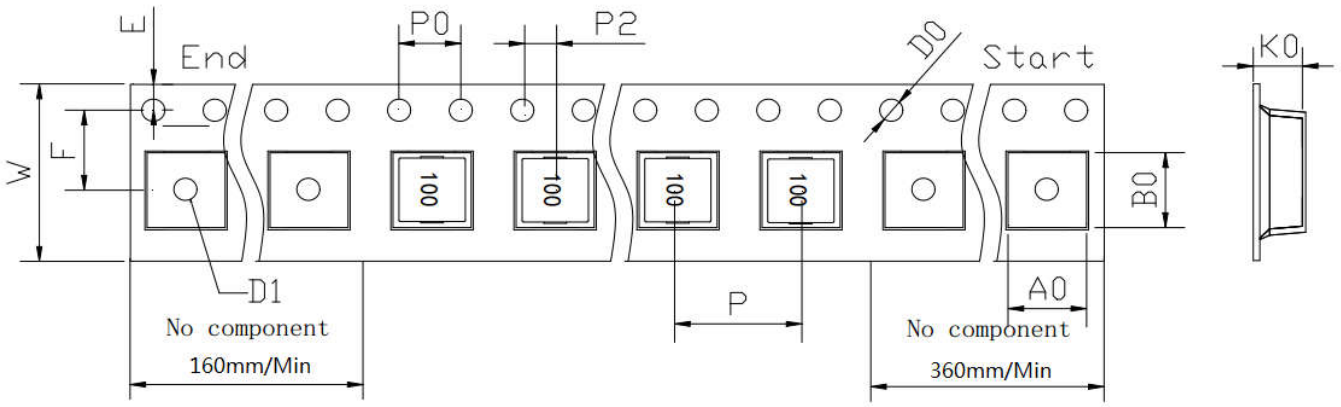
7. MATERIALLIST



NO.	Part Name	Material
1	Electrode	Cu+Snplating
2	Core	Metalcompositecore
3	Coil	Copperwire,220℃

8. PACKAGE INFORMATION-mm

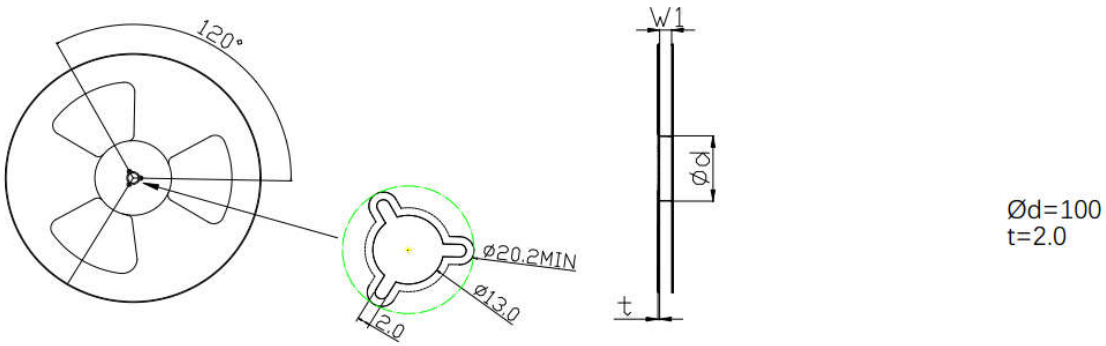
8.1Tape Packaging Dimensions



Item	W	A0	B0	K0	P	F	E	D0	D1	P0	P2	T
DIM	12.0	4.4	4.9	1.5	8.0	5.5	1.75	1.5	1.5	4.0	2.0	0.35
Tole	±0.3	Typ.	Typ.	Typ.	±0.1	±0.1	±0.1	±0.1	±0.0	±0.1	±0.1	Typ.

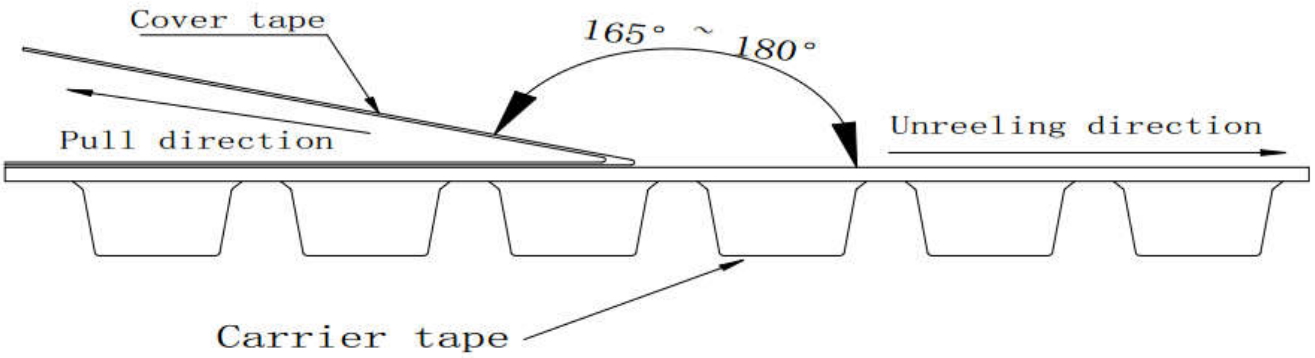
8.2 Reel Dimensions

直径 Diameter：330mm（13'）



盖带剥离条件 Cover tape peel off condition

- 盖带剥离力度为0.1~1.3N。Cover Tape peel force shall be 0.1 to 1.3N.
- 参考剥离速度300±10mm/分钟。Reference peel speed 300±10mm/min.



8.3 Taping Quantity

4000pieces/Reel,

8.4 Carton

Pizza packaging: 3Reel/ Pizza Box

External Packaging :3 Boxes/Carton

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