



ISO9001 & ISO14001 & TS16949 **CHILISIN ELECTRONICS CORP.**

RoHS & Halogen Free & REACH Compliance.

SPECIFICATION FOR APPROVAL

CUSTOMER : _____

CUSTOMER P/N : _____

OUR DWG No : _____

QUANTITY : 0 **Pcs.** **DATE :** 2015/7/15

ITEM : CPY201209T-4R7M-NP03

SPECIFICATION ACCEPTED BY:	
COMPONENT ENGINEER	
ELECTRICAL ENGINEER	
MECHANICAL ENGINEER	
APPROVED	
REJECTED	

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<p>奇力新電子(河南)有限公司 Chilisin Electronics (Henan) Co., Ltd. XiuWu Xian, industry gathering area JiaoZuo, Henan China Postal Code:454350 TEL:+86-391-717-0682 FAX:+86-391-717-0666</p>	<p>奇力新電子(蘇州)有限公司 CHILISIN ELECTRONICS(SUZHOU)CO.,LTD NO.10, Zhu Yuan Road, Suzhou New District, Suzhou,P.R.C. TEL : 00286512-8255568 FAX : 00286512-8255568 E-mail : suzhou@chilisin.com.tw</p>

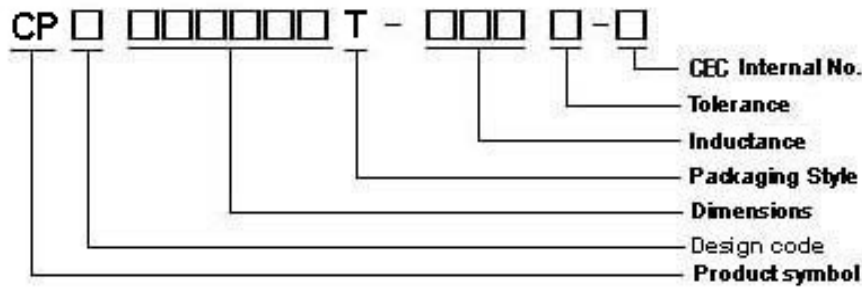
DRAWN BY Annie	CHECKED BY 邱明傑 Joseph.Chiu	APPROVED BY JACKY鍾 jacky.chung
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CPY201209T Series Specification

1 Scope: This specification applies to Multilayer Ferrite chip inductors

2 Part Numbering: Product Identification



3 Rating:

Operating Temperature: -40°C ~ 105°C (Including self-temperature rise)

Storage Temperature: -40°C ~ 85°C (after PCB)

-5°C ~ 40°C, Humidity 40% ~ 70% (before PCB)

4 Marking:

No Marking

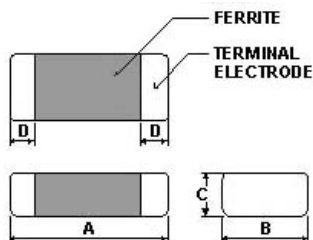
5 Standard Testing Condition

	Unless otherwise specified	In case of doubt
Temperature	Ordinary Temperature(15 to 35°C)	20±2°C
Humidity	Ordinary Humidity(25 to 85% RH)	60 to 70 % RH



CPY201209T Series Specification

6 Configuration and Dimensions:



Dimensions in mm

TYPE	CP201209
A	2.00±0.20
B	1.25±0.20
C	0.90±0.20
D	0.50±0.30

7 ELECTRICAL CHARACTERISTICS :

Part No.	Inductance (uH)	Test Freq. (MHZ)	RDC (Ω)Max.	Rated Current (mA)Max.	Tolerance (±%)
CPY201209T-4R7□-NP03	4.7	1 MHZ,200 mV	0.27	1100	20,30

NOTE: □-tolerance M=±20% / T=±30%

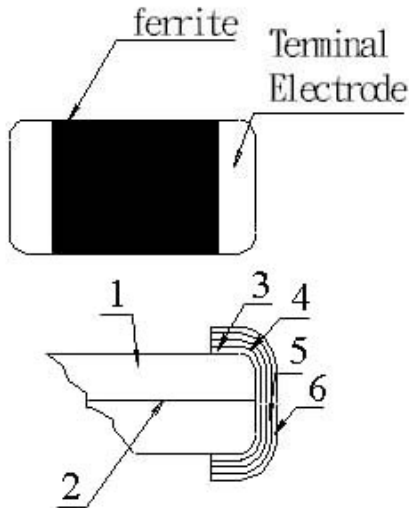
- 1.Operating temperature range – 4 0 °C ~ 1 0 5 °C (Including self - temperature rise)
- 2.Rate Current : Applied the current to coils, the temperature rise shall not be more than 30°C

"-N" FOR COMPLETELY LEAD FREE TYPE(INCLUDING FERRITE BODY & SOLDER)

CPY201209T Series Specification

8 CPY201209T Series

8.1 Construction:



8.2 Material List:

NO	PART	MATERIAL
1	Ferrite Substance	NiO-CuO-ZnO-Ferrite
2	Silver electrode	Ag
3	Silver electrode	Ag
4	Cu plating	Cu
5	Ni plating	Ni
6	Sn plating	Sn



CPY201209T Series Specification

9 Reliability Of Ferrite Multilayer Chip Inductor

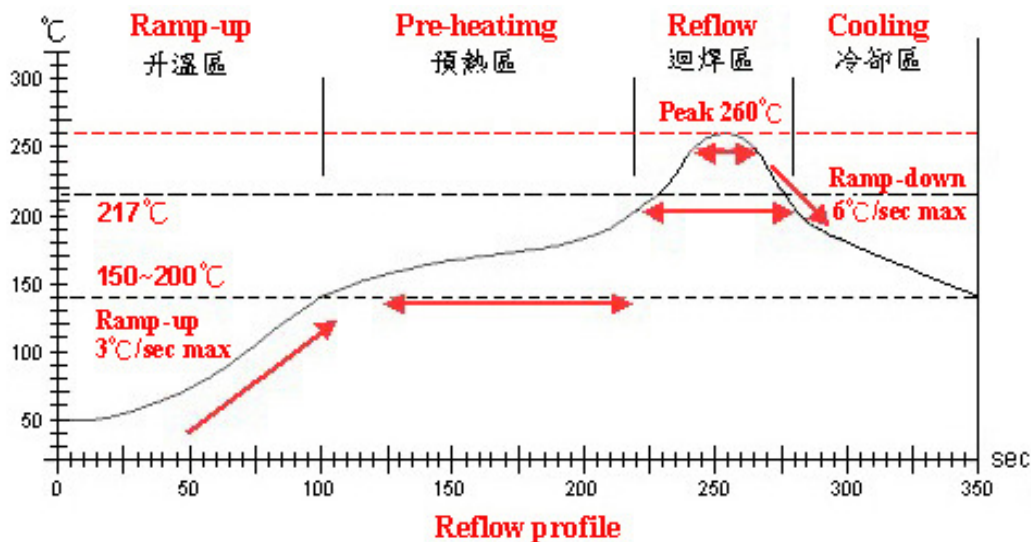
1-1.Mechanical Performance

No	Item	Specification	Test Method
1-1-1	Flexure Strength	The forces applied on the right conditions must not damage the terminal electrode and the ferrite	Test device shall be soldered on the substrate Substrate Dimension: 100x40x1.6mm Deflection: 2.0mm Keeping Time: 30sec *For 100505, substrate dimension is 100x40x0.8mm
1-1-2	Vibration		Test device shall be soldered on the substrate Oscillation Frequency: 10 to 55 to 10Hz for 1min Amplitude: 1.5mm Time: 2hrs for each axis (X, Y & Z), total 6hrs
1-1-3	Resistance to Soldering Heat	Appearance: No damage More than 75% of the terminal electrode should be covered with solder. Inductance: within $\pm 20\%$ of initial value	Pre-heating: 150°C, 1min Solder Composition: Sn/Pb = 63/37 Solder Composition: Sn/Ag3.0/Cu0.5(Pb-Free) Solder Temperature: 260 \pm 5°C Immersion Time: 10 \pm 1sec
1-1-4	Solder ability	The electrodes shall be at least 95% covered with new solder coating	Pre-heating: 150°C, 1min Solder Composition: Sn/Pb = 63/37 Solder Temperature: 220 \pm 5°C Solder Composition: Sn/Ag3.0/Cu0.5(Pb-Free) Solder Temperature: 245 \pm 5°C (Pb-Free) Immersion Time: 4 \pm 1sec

1-2.Environmental Performance

No	Item	Specification	Test Method		
1-2-1	Temperature Cycle	Appearance: No damage Inductance: within $\pm 20\%$ of initial value	One cycle:		
			Step	Temperature (°C)	Time (min)
			1	-25 \pm 3	30
			2	25 \pm 2	3
			3	85 \pm 3	30
4	25 \pm 2	3			
			Total: 100cycles Measured after exposure in the room condition for 24hrs		
1-2-2	Humidity Resistance		Temperature: 40 \pm 2°C Relative Humidity: 90 ~ 95% / Time: 1000hrs Measured after exposure in the room condition for 24hrs		
1-2-3	High Temperature Resistance		Temperature: 85 \pm 3°C Relative Humidity: 20% Applied Current: Rated Current / Time: 1000hrs Measured after exposure in the room condition for 24hrs		
1-2-4	Low Temperature Resistance		Temperature: -25 \pm 3°C Relative Humidity: 0% / Time: 1000hrs Measured after exposure in the room condition for 24hrs		

CPY201209T Series Specification



Lead-Free(LF) 標準溫度分析範圍

Refer to J-STD-020C

管制項目 Item.	升温區 Ramp-up	預熱區 Pre-heating	迴焊區 Reflow	Peak Temp	冷卻區 Cooling
溫度範圍 Temp.scope	R.T. ~ 150°C	150°C ~ 200°C	217°C	260±5°C	Peak Temp. ~ 150°C
標準時間 Time spec.	—	60 ~ 180 sec	60 ~ 150sec	20 ~ 40 sec	—
實際時間 Time result	—	75 ~ 100 sec	90 ~ 120sec	20 ~ 35 sec	—

NOTE :

1. Re-flow possible times : within 2 times
2. Nitrogen adopted is recommended while in re-flow



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CPY201209T Series Specification

10 TEST DATA FOR PREPRODUCTION SAMPLES

QF-1419

DESCRIPTION: CPY201209T-4R7M-NP03

MEAS. Item	L (uH)	RDC (Ω)	A m/m	B m/m	C m/m	D m/m				
Spec Customer	4.7±20%									
Suggest		0.27+0	2.0±0.2	1.25±0.2	0.9±0.2	0.5±0.3				
Test Freq. (MHz)	1 MHz 200 mV									
1	4.19	0.171	2.01	1.27	0.91	0.54				
2	4.56	0.172	2.02	1.27	0.89	0.53				
3	4.81	0.171	2.01	1.27	0.92	0.56				
4	4.61	0.169	1.99	1.28	0.93	0.54				
5	4.55	0.172	1.99	1.28	0.93	0.52				
6	4.22	0.167	2.02	1.26	0.92	0.55				
7	4.58	0.167	2.04	1.27	0.92	0.56				
8	4.62	0.177	2.03	1.26	0.91	0.54				
9	4.81	0.169	1.99	1.26	0.89	0.51				
10	4.61	0.168	1.99	1.27	0.93	0.52				
11										
12										
13										
14										
15										
X	4.556	0.1703	2.009	1.269	0.915	0.537				
R	0.62	0.01	0.05	0.02	0.04	0.05				
CUSTOMER										
SAMPLE										

TEST INSTRUMENT:
 HP4291A RF IMPEDANCE / MATERIAL ANALYZER FOR L
 CHEN HWA 502BC / HP4338B FOR RDC

APPEARANCE AND DIMENSIONS :
 SPEC : MEET ITEM 6.
 TEST METHOD : VISUAL INSPECTION AND MEASURED WITH SILDE CALIPERS.

TESTING CONDITIONS :

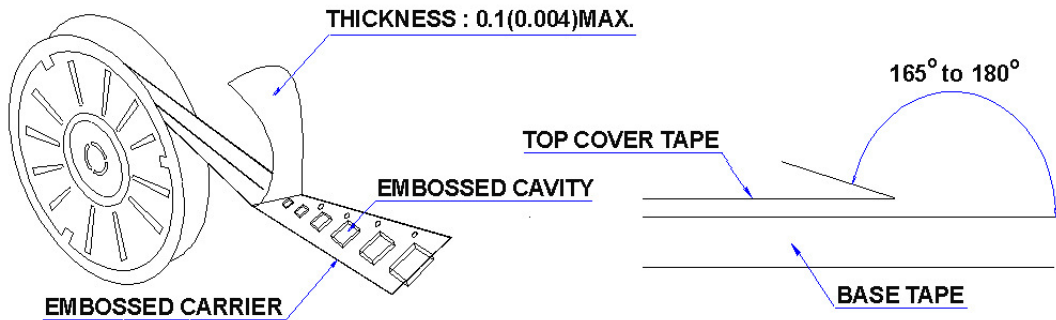
	Unless otherwise specified	In case of doubt
Temperature	Ordinary Temperature (15 to 35°C)	20 ± 2 °C
Humidity	Ordinary Humidity (25 to 85 %RH)	60 to 70 %RH

CPY201209T Series Specification

11 PACKAGING

11.1 Packaging -Cover tape

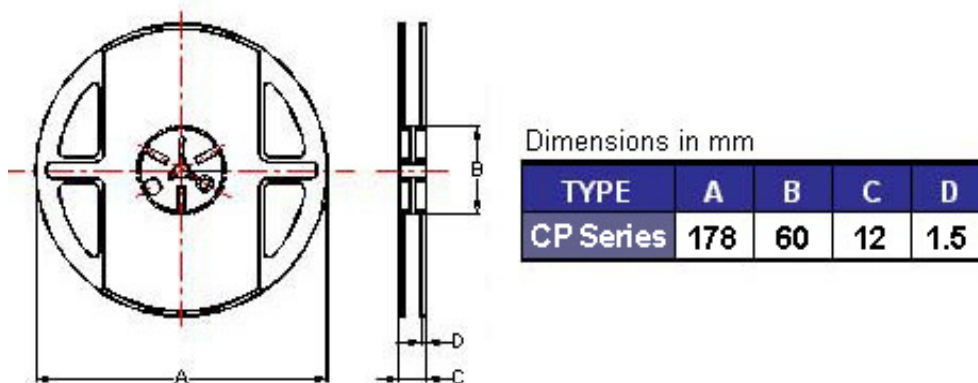
The force for tearing off cover tape is 10 to 100 grams in the arrow direction.



11.2 Packaging Quantity

TYPE	BULK	PCS/REEL
CP160808	✓	4000
CP201209	✓	4000
CP201212	✓	3000
CP321611	✓	3000

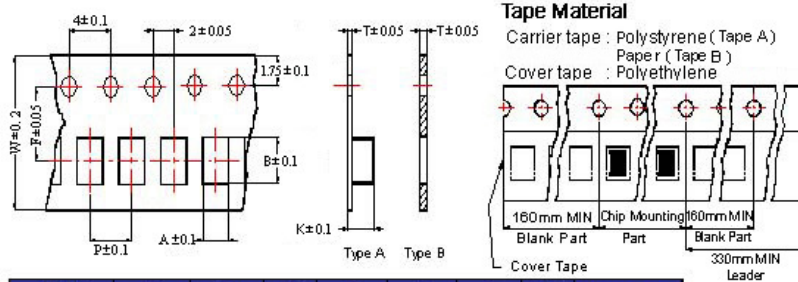
11.3 Reel Dimensions



CPY201209T Series Specification

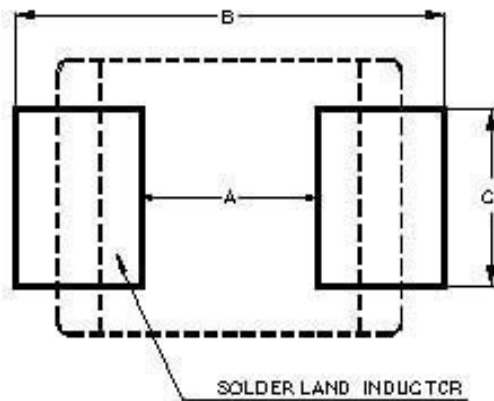
11 PACKAGING

11.4 Tape Dimensions in mm



TYPE	A	B	T	W	P	F	K	Tape Typ.
CP160808	1.05	1.85	0.95	8	4	3.5		B
CP201209	1.50	2.30	0.97	8	4	3.5		B
CP201212	1.35	2.25	0.22	8	4	3.5	1.35	A
CP321611	1.88	3.50	0.22	8	4	3.5	1.27	A

12 Recommended Pattern



Dimensions in mm

TYPE	A	B	C
CP160808	0.7 ~ 0.8	1.8 ~ 2.0	0.6 ~ 0.8
CP201209	1.0 ~ 1.2	2.6 ~ 4.0	1.0 ~ 1.2
CP201212	1.0 ~ 1.2	2.6 ~ 4.0	1.0 ~ 1.2
CP321611	2.0	4.2 ~ 5.2	1.2

13 Note:

1. Please make sure that your product is has been evaluated and confirmed against your specifications when our product is mounted to your product.
2. Do not knock nor drop.
3. All the items and parameters in this product specification have been prescribed on the premise that our product is used for the purpose, under the condition and in the environment agreed upon between you and us. You are requested not to use our product deviating from such agreement.
4. Please keep the distance between transformer/coil and other components (refer to the standard IEC 950)



CPY201209T Series Specification

14 Curve:

