



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

**Lead-Free & RoHs Compliance!!**

## **SPECIFICATION FOR APPROVAL**

**CUSTOMER :** \_\_\_\_\_

**CUSTOMER P/N :** \_\_\_\_\_

**OUR DWG No :** \_\_\_\_\_

**QUANTITY :** 0 **Pcs.**     **DATE :** 2013/04/12

**ITEM :** UPB321611T-SERIES

<b>SPECIFICATION ACCEPTED BY:</b>	
<b>COMPONENT ENGINEER</b>	
<b>ELECTRICAL ENGINEER</b>	
<b>MECHANICAL ENGINEER</b>	
<b>APPROVED</b>	
<b>REJECTED</b>	

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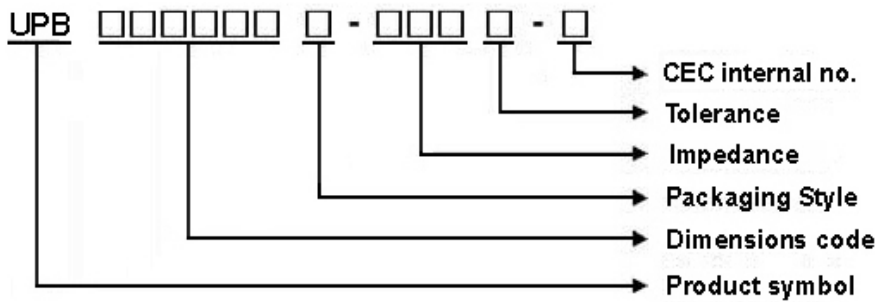
  

<b>DRAWN BY</b> 趙燕玲 annie	<b>CHECKED BY</b> 趙燕玲 annie	<b>APPROVED BY</b> 詹嘉皓 allen.chan
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# UPB321611T Series Specification

**1** Scope: This specification applies to MULTILAYER FERRITE CHIP BEADS

**2** Part Number: UPB321611T-SERIES



**3** Rating:

Operating Temperature:  $-5.5^{\circ}\text{C} \sim 125^{\circ}\text{C}$  (Including self - temperature rise)

Storage Temperature:  $-5.5^{\circ}\text{C} \sim 125^{\circ}\text{C}$  (after PCB)

$-5^{\circ}\text{C} \sim 40^{\circ}\text{C}$ , Humidity 40% ~ 70% (before PCB)

**4** Marking:

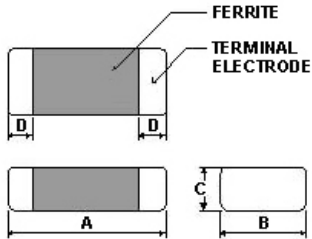


**5** Standard Testing Condition

	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

# UPB321611T Series Specification

## 6 Configuration and Dimensions:



Dimensions in mm

TYPE	UPB321611
A	3.2±0.20
B	1.6±0.20
C	1.1±0.20
D	0.5±0.30

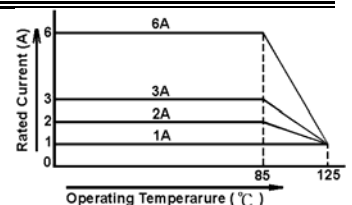
ERIES

## 7 ELECTRICAL CHARACTERISTICS :

Part No.	Impedance (Ω)	Test Freq.	RDC (Ω)Max.	Rated Current (mA)Max.
UPB321611T-110□-N	11	100 MHz,200 mV	0.012	6000
UPB321611T-300□-N	30	100 MHz,200 mV	0.012	6000
UPB321611T-600□-N	60	100 MHz,200 mV	0.012	6000
UPB321611T-800□-N	80	100 MHz,200 mV	0.012	6000
UPB321611T-101□-N	100	100 MHz,200 mV	0.012	6000
UPB321611T-121□-N	120	100 MHz,200 mV	0.012	6000
UPB321611T-151□-N	150	100 MHz,200 mV	0.02	4500
UPB321611T-181□-N	180	100 MHz,200 mV	0.02	4500
UPB321611T-221□-N	220	100 MHz,200 mV	0.02	4500

**NOTE:** □-tolerance Y=±25% / T=±30%

1. Operating temperature range - 5 5°C ~ 1 2 5°C (Including self - temperature rise)
2. Rate Current : Applied the current to coils, the temperature rise shall not be more than 30°C
3. As for PB/UPB type. Rated Current is derated as left figure depending on the operating temperature.

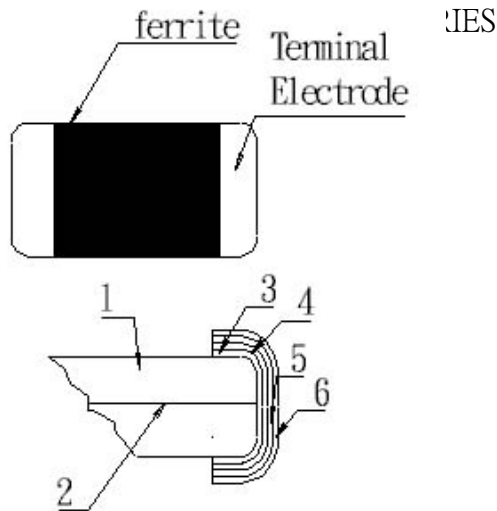


"-N" FOR COMPLETELY LEAD FREE TYPE(INCLUDING FERRITE BODY & SOLDER)

# UPB321611T Series Specification

## 8 UPB321611T Series

### 8.1 Construction:



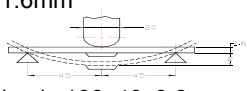
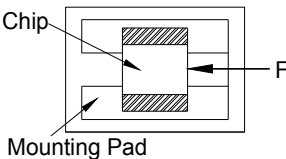
### 8.2 Material List:

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

# UPB321611T Series Specification

## 9 Reliability Of Ferrite Multilayer Chip Bead

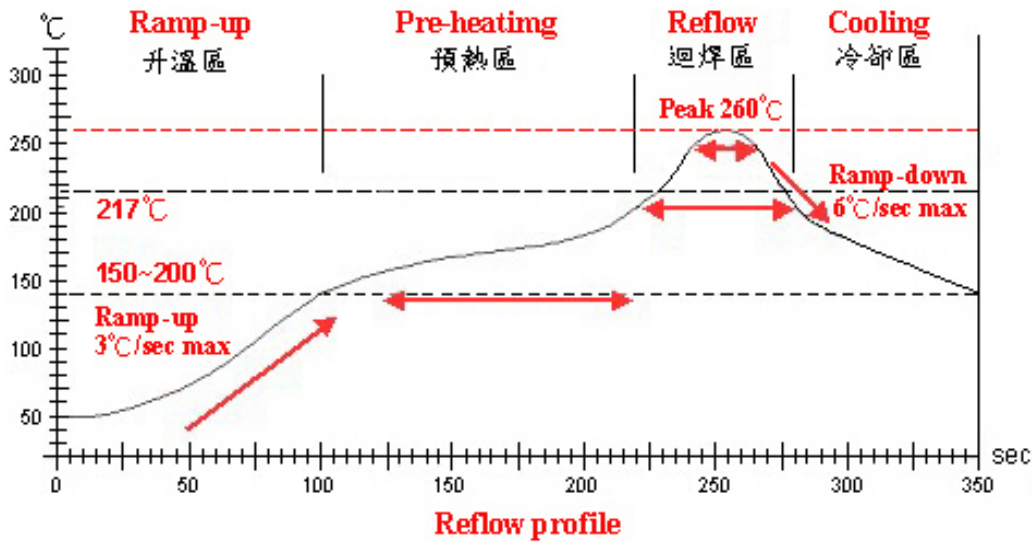
### 1-1.Mechanical Performance

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	UPB321611T-SERIES Substrate Dimension: 100x40x1.6mm Deflection: 2.0mm Keeping Time: 30sec *For 100505, substrate dimension is 100x40x0.8mm 
1-1-2	Vibration		
1-1-3	Resistance to Soldering Heat	Appearance: No damage More than 75% of the terminal electrode should be covered with solder. Impedance : within $\pm 30\%$ of initial value	Pre-heating: 150°C, 1min 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/Ag3.0/Cu0.5(Pb-Free) Solder Temperature: 245 $\pm$ 5°C (Pb-Free) Immersion Time: 4 $\pm$ 1sec
1-1-5	Terminal Strength Test	No split termination 	Test device shall be soldered on the substrate, then apply a force in the direction of the arrow. Force : 5N Keeping Time: 10 $\pm$ 1sec

### 1-2.Environmental Performance

No	Item	Specification	Test Method															
1-2-1	Temperature Cycle	Appearance: No damage Impedance: within $\pm 30\%$ of initial value	One cycle:															
			<table border="1"> <thead> <tr> <th>Step</th> <th>Temperature (°C)</th> <th>Time (min)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-55<math>\pm</math>3</td> <td>30</td> </tr> <tr> <td>2</td> <td>25<math>\pm</math>2</td> <td>3</td> </tr> <tr> <td>3</td> <td>125<math>\pm</math>3</td> <td>30</td> </tr> <tr> <td>4</td> <td>25<math>\pm</math>2</td> <td>3</td> </tr> </tbody> </table>	Step	Temperature (°C)	Time (min)	1	-55 $\pm$ 3	30	2	25 $\pm$ 2	3	3	125 $\pm$ 3	30	4	25 $\pm$ 2	3
			Step	Temperature (°C)	Time (min)													
			1	-55 $\pm$ 3	30													
			2	25 $\pm$ 2	3													
3	125 $\pm$ 3	30																
4	25 $\pm$ 2	3																
Total: 100cycles																		
Measured after exposure in the room condition for 24hrs																		
Temperature: 40 $\pm$ 2°C																		
1-2-2	Humidity Resistance		Relative Humidity: 90 ~ 95% / Time: 1000hrs Measured after exposure in the room condition for 24hrs															
1-2-3	High Temperature Resistance		Temperature: 125 $\pm$ 3°C / Relative Humidity: 0% Applied Current: Rated Current /Time: 1000hrs Measured after exposure in the room condition for 24hrs															
1-2-4	Low Temperature Resistance		Temperature: -55 $\pm$ 3°C Relative Humidity: 0% / Time: 1000hrs Measured after exposure in the room condition for 24hrs															
			Measured after exposure in the room condition for 24hrs															

# UPB321611T 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	预热區 Pre-heating	迴焊區 Reflow	Peak Temp	冷却區 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

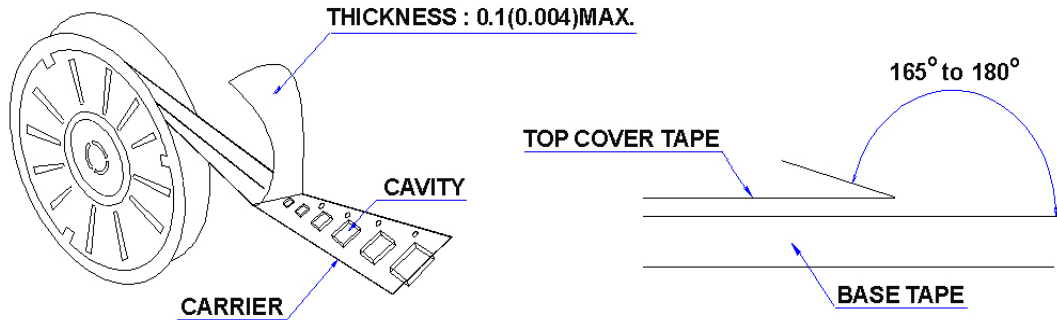
# UPB321611T Series Specification

## 11 PACKAGING

### 11.1 Packaging -Cover tape

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

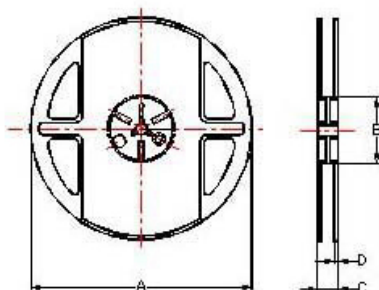
UPB321611T-SERIES



### 11.2 Packaging Quantity

TYPE	BULK	PCS/REEL
UPB201212	✓	3000
UPB321611	✓	3000
UPB451616	✓	2000
UPB453215	✓	1000

### 11.3 Reel Dimensions



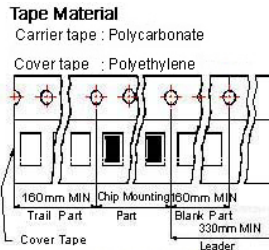
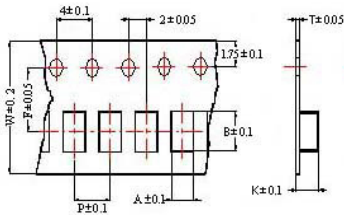
Dimensions in mm

TYPE	A	B	C	D
UPB201212	178	60	12	1.5
UPB321611	178	60	12	1.5
UPB451616	178	60	16	1.4
UPB453215	178	60	16	1.4

# UPB321611T Series Specification

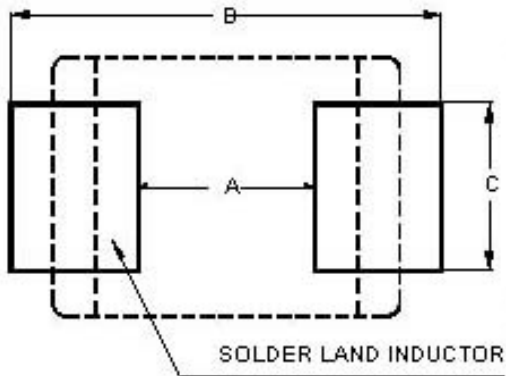
## 11 PACKAGING

### 11.4 Tape Dimensions in mm



TYPE	A	B	T	W	P	F	K
UPB201212	1.35	2.25	0.22	8	4	3.5	1.35
UPB321611	1.88	3.50	0.22	8	4	3.5	1.27
UPB451616	1.93	4.95	0.24	12	4	5.5	1.93
UPB453215	3.66	4.95	0.24	12	8	5.5	1.85

## 12 Recommended Pattern



Dimensions in mm

TYPE	A	B	C
UPB201212	1.0 ~ 1.2	2.6 ~ 4.0	1.0 ~ 1.2
UPB321611	2	4.2 ~ 5.2	1.2
UPB451616	3	5.5 ~ 6.5	1.2
UPB453215	3	5.5 ~ 6.5	2.4

## 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)