



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

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

## SPECIFICATION FOR APPROVAL

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

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

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

**QUANTITY :** 0 Pcs. **DATE :** 2013/06/11

**ITEM :** UPB160808T-600Y-N

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

<p><b>奇力新電子股份有限公司</b>          CHILISIN ELECTRONICS CORP.          NO.29,LANE 301,TEHHSIN ROAD,HUKOU,          HSINCHU,TAIWAN,303,          REPUBLIC OF CHINA          TEL : (03) 599-2646          FAX : (03) 599-9176          E-mail : Sales@chilisin.com.tw          http : //www.chilisin.com.tw</p> <p><b>台北營業處</b>  <b>Taipei Office</b>          1F., No.2, Aly. 1, Ln. 235, Baoqiao Rd.,          Xindian Dist., New Taipei City 231, Taiwan          TEL : +886-2-6629-5588~9          FAX : +886-2-6629-0088          E-mail : Sales@chilisin.com.tw</p>	<p><b>東莞奇力新電子有限公司</b>          Chilisin Electronics (Dongguan) Co., Ltd.          No. 78, Puxing Rd., Yuliangwei Administration Area,          Qingxi Town, Dongguan City, Guangdong,China          TEL : +86-769-8773-0251~3          FAX : +86-769-8773-0232          E-mail : cect@chilisin.com.tw</p> <p><b>奇力新電子(蘇州)有限公司</b>          Chilisin Electronics (Suzhou) Co., Ltd.          No.143,Song Shan Rd., Suzhou New District,          Suzhou,China          Postal Code:215129          TEL:+86-512-6841-2350          FAX:+86-512-6841-2356          E-mail : suzhou@chilisin.com.tw</p>
---	---

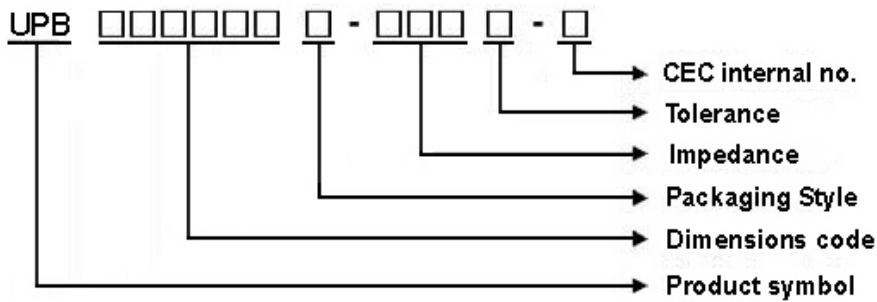
  

<b>DRAWN BY</b> 陳瑞揚 ryan.chen	<b>CHECKED BY</b> 張麗玲 ll.chang	<b>APPROVED BY</b> 陳瑞揚 ryan.chen
----------------------------------	-----------------------------------	-------------------------------------

# UPB160808T Series Specification

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

**2** Part Numbering: Product Identification



**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:

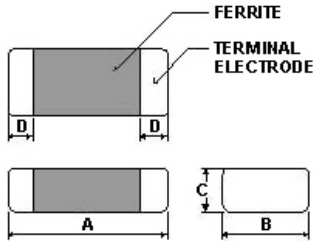


**5** Standard Testing Condition

	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

# UPB160808T Series Specification

## 6 Configuration and Dimensions:



Dimensions in mm

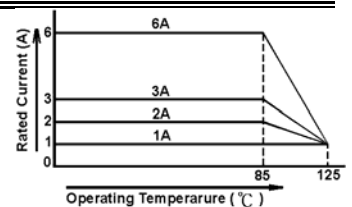
TYPE	UPB160808
A	1.6±0.15
B	0.8±0.15
C	0.8±0.15
D	0.3±0.20

## 7 ELECTRICAL CHARACTERISTICS :

Part No.	Impedance (Ω)	Test Freq.	RDC (Ω)Max.	Rated Current (mA)Max.
UPB160808T-100□-N	10	100 MHz,200 mV	0.01	5000
UPB160808T-300□-N	30	100 MHz,200 mV	0.015	4500
UPB160808T-600□-N	60	100 MHz,200 mV	0.02	4000
UPB160808T-700□-N	70	100 MHz,200 mV	0.02	4000
UPB160808T-101□-N	100	100 MHz,200 mV	0.03	3000
UPB160808T-121□-N	120	100 MHz,200 mV	0.03	3000
UPB160808T-181□-N	180	100 MHz,200 mV	0.05	2000
UPB160808T-221□-N	220	100 MHz,200 mV	0.04	2500

**NOTE:** □-tolerance Y=±25% / T=±30%

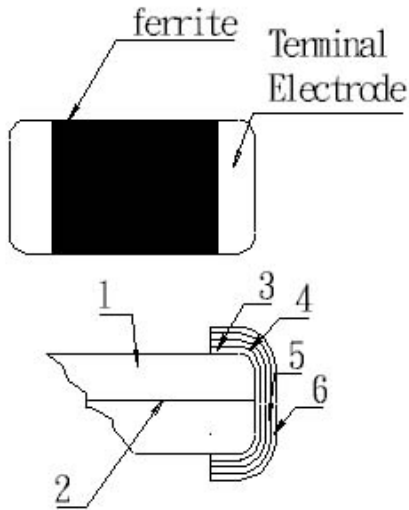
1. Operating temperature range - 5 5°C ~ 1 2 5°C (Including self - temperature rise)
  2. Rate Current : Applied the current to coils, the temperature rise shall not be more than 30°C
  3. As for PB/UPB type. Rated Current is derated as left figure depending on the operating temperature.
- "-N" FOR COMPLETELY LEAD FREE TYPE(INCLUDING FERRITE BODY & SOLDER)



# UPB160808T Series Specification

## 8 UPB160808T Series

### 8.1 Construction:

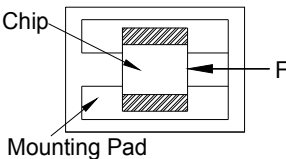


### 8.2 Material List:

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

# UPB160808T Series Specification

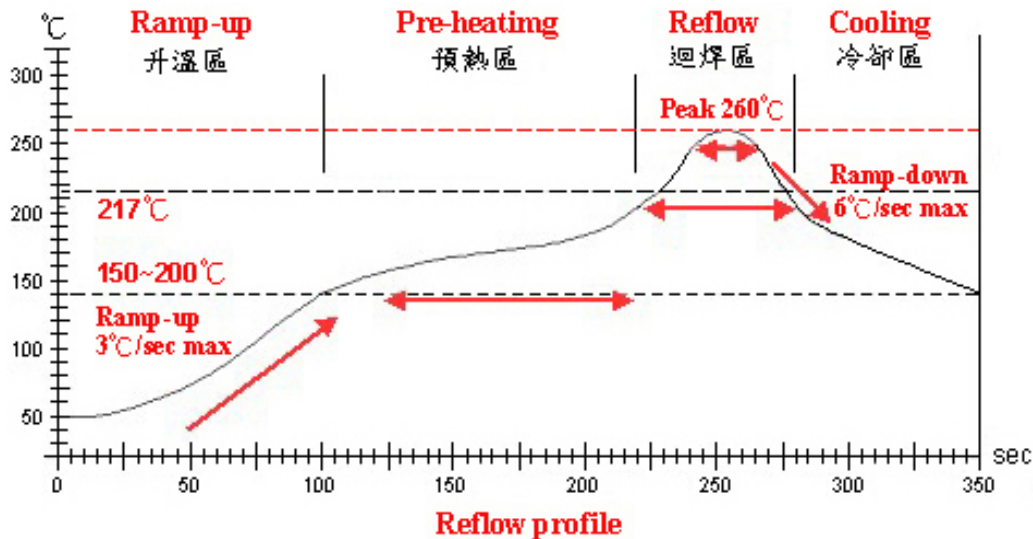
**9 Reliability Of Ferrite Multilayer Chip Bead**
**1-1.Mechanical Performance**

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	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. 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" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <thead> <tr> <th style="width: 5%;">Step</th> <th style="width: 30%;">Temperature (°C)</th> <th style="width: 65%;">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																
1-2-2	Humidity Resistance	Total: 100cycles Measured after exposure in the room condition for 24hrs 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: 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															

# UPB160808T 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 :

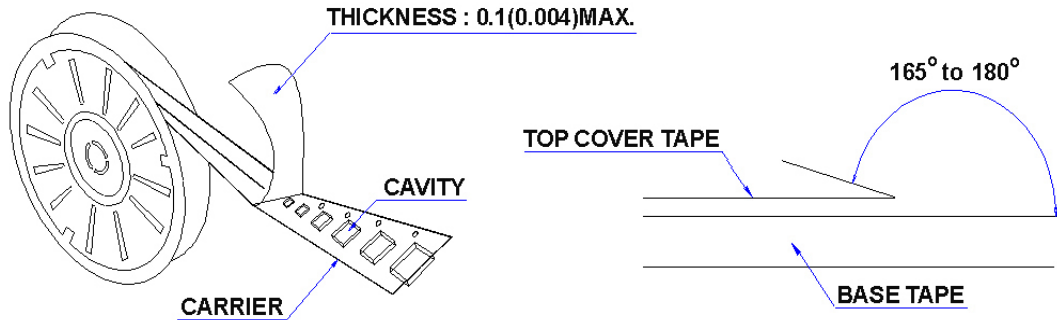
1. Re-flow possible times : within 2 times
2. Nitrogen adopted is recommended while in re-flow

# UPB160808T Series Specification

## 11 PACKAGING

### 11.1 Packaging -Cover tape

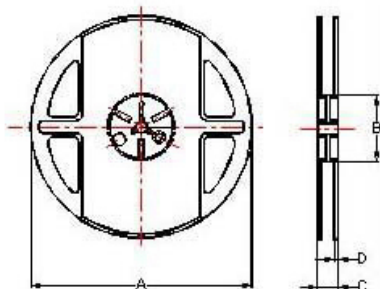
The force for tearing off cover tape is 10 to 100 grams in the arrow direction.



### 11.2 Packaging Quantity

TYPE	BULK	PCS/REEL
UPB060303	✓	15000
UPB100505	✓	10000
UPB160805	✓	10000
UPB160808	✓	4000
UPB201209	✓	4000

### 11.3 Reel Dimensions



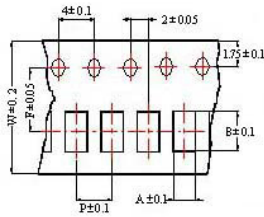
Dimensions in mm

TYPE	A	B	C	D
UPB060303	178	60	12	1.5
UPB100505	178	60	12	1.5
UPB160805	178	60	12	1.5
UPB160808	178	60	12	1.5
UPB201209	178	60	12	1.5

# UPB160808T Series Specification

## 11 PACKAGING

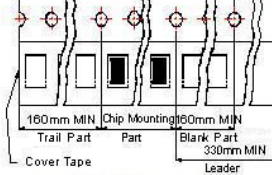
### 11.4 Tape Dimensions in mm



#### Tape Material

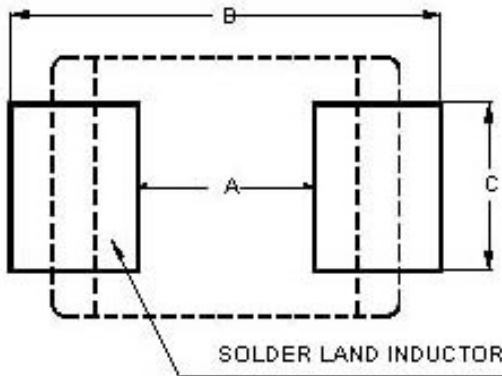
Carrier tape : Paper

Cover tape : Polyethylene



TYPE	A	B	T	W	P	F
UPB060303	0.38	0.67	0.45	8	2	3.5
UPB100505	0.65	1.15	0.60	8	2	3.5
UPB160805	1.05	1.85	0.75	8	2	3.5
UPB160808	1.05	1.85	0.95	8	4	3.5
UPB201209	1.50	2.30	0.97	8	4	3.5

## 12 Recommended Pattern



Dimensions in mm

TYPE	A	B	C
UPB060303	0.2 ~ 0.3	0.75~1.05	0.3
UPB100505	0.4	1.2 ~ 1.4	0.5
UPB160805	0.7 ~ 0.8	1.8 ~ 2.0	0.6 ~ 0.8
UPB160808	0.7 ~ 0.8	1.8 ~ 2.0	0.6 ~ 0.8
UPB201209	1.0 ~ 1.2	2.6 ~ 4.0	1.0 ~ 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)



# UPB160808T Series Specification

14 Curve:

