



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

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

## SPECIFICATION FOR APPROVAL

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

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

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

**QUANTITY :** 0 Pcs. **DATE :** 2013/01/15

**ITEM :** GBK160808T-SERIES

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

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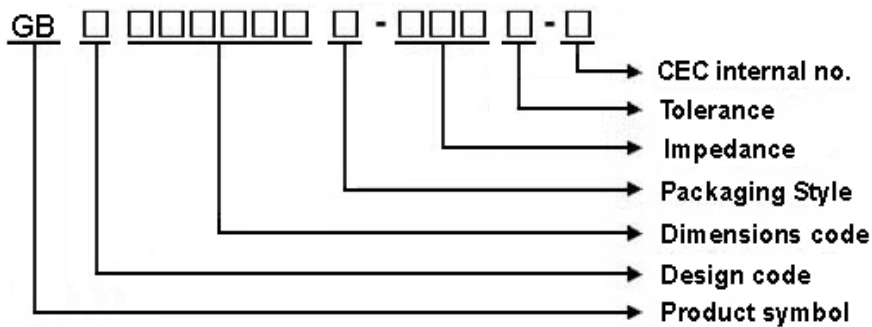
  

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# GBK160808T Series Specification

**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:

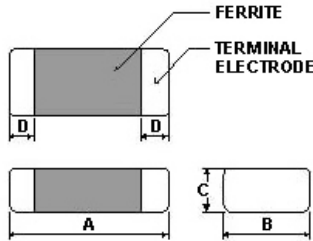


**5** Standard Testing Condition

	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

# GBK160808T Series Specification

## 6 Configuration and Dimensions:



Dimensions in mm

TYPE	GBK160808
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.
GBK160808T-100□-N	10	100 MHz,200 mV	0.03	1000
GBK160808T-300□-N	30	100 MHz,200 mV	0.06	800
GBK160808T-600□-N	60	100 MHz,200 mV	0.06	600
GBK160808T-750□-N	75	100 MHz,200 mV	0.1	600
GBK160808T-101□-N	100	100 MHz,200 mV	0.15	600
GBK160808T-121□-N	120	100 MHz,200 mV	0.15	600
GBK160808T-221□-N	220	100 MHz,200 mV	0.18	400
GBK160808T-301□-N	300	100 MHz,200 mV	0.25	400
GBK160808T-451□-N	450	100 MHz,200 mV	0.3	400
GBK160808T-601□-N	600	100 MHz,200 mV	0.3	400
GBK160808T-751□-N	750	100 MHz,200 mV	0.45	300
GBK160808T-102□-N	1000	100 MHz,200 mV	0.45	300
GBK160808T-152□-N	1500	100 MHz,200 mV	0.7	150

**NOTE:** □-tolerance Y=±25% / T=±30%

1. Operating temperature range – 5 5℃ ~ 1 2 5℃ (Including self - temperature rise)

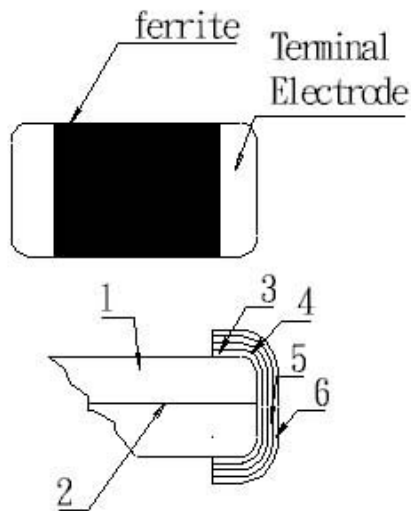
2. Rate Current : Applied the current to coils, the temperature rise shall not be more than 30℃

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

# GBK160808T Series Specification

## 8 GBK160808T Series

### 8.1 Construction:

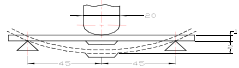
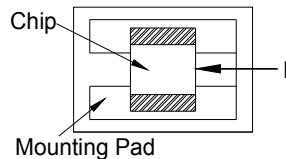


### 8.2 Material List:

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

# GBK160808T Series Specification

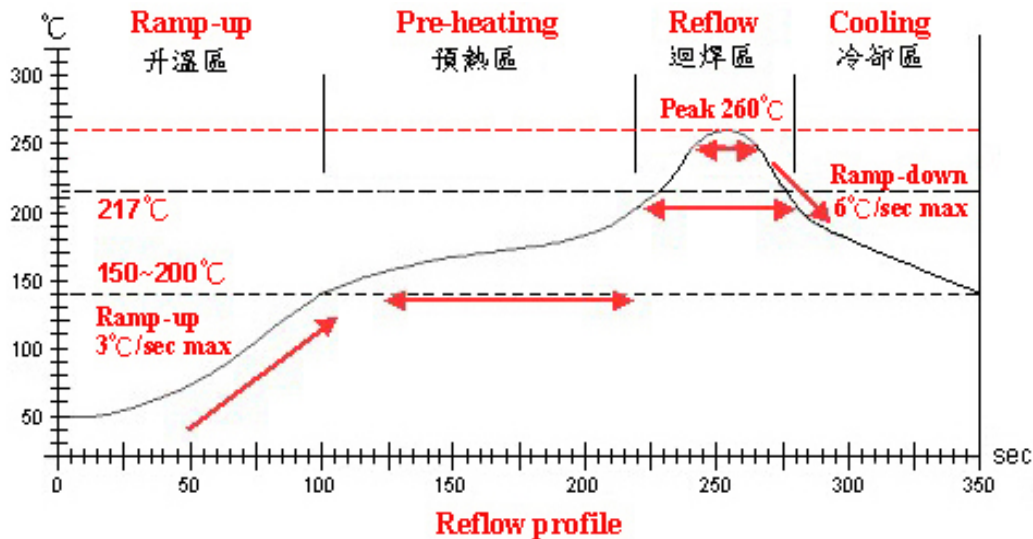
**9 Reliability Of Ferrite Multilayer Chip Bead**
**1-1.Mechanical Performance**

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		
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;"> <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> Total: 100cycles Measured after exposure in the room condition for 24hrs	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	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																

# GBK160808T 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 :

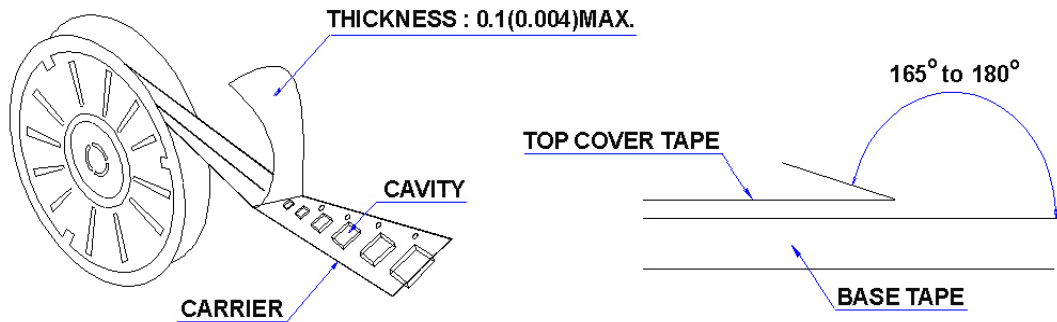
1. Re-flow possible times : within 2 times
2. Nitrogen adopted is recommended while in re-flow

# GBK160808T Series Specification

## 11 PACKAGING

### 11.1 Packaging -Cover tape

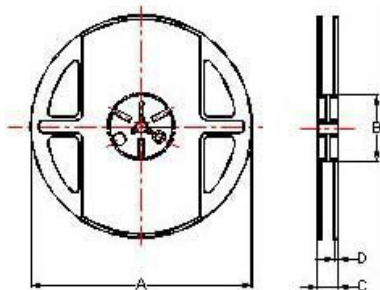
The force for tearing off cover tape is 10 to 100 grams in the arrow direction.



### 11.2 Packaging Quantity

TYPE	BULK	PCS/REEL
GB160808	✓	4000
GB201209	✓	4000

### 11.3 Reel Dimensions



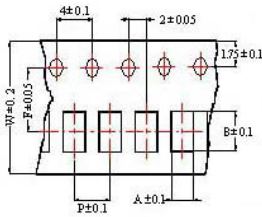
Dimensions in mm

TYPE	A	B	C	D
GB160808	178	60	12	1.5
GB201209	178	60	12	1.5

# GBK160808T Series Specification

## 11 PACKAGING

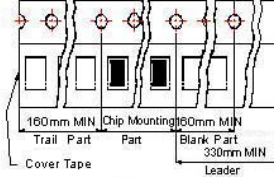
### 11.4 Tape Dimensions in mm



#### Tape Material

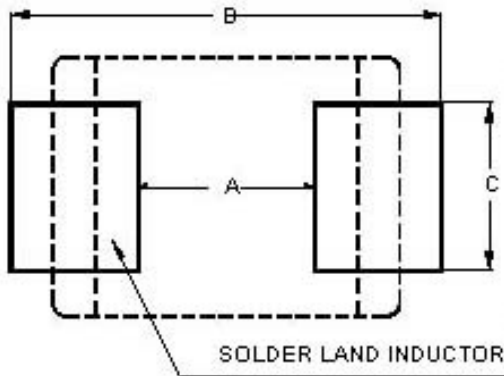
Carrier tape : Paper

Cover tape : Polyethylene



TYPE	A	B	T	W	P	F
GB160808	1.05	1.85	0.95	8	4	3.5
GB201209	1.50	2.30	0.97	8	4	3.5

## 12 Recommended Pattern



Dimensions in mm

TYPE	A	B	C
GB160808	0.7 ~ 0.8	1.8 ~ 2.0	0.6 ~ 0.8
GB201209	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)