盛群產品使用須知
The using guideline of HOLTEK’ s products

壹、目的 :

A、PURPOSE:

建立盛群產品使用手冊,以方便客戶正確的儲存及生產。

To edit the manual for HOLTEK’ s Products, and to ensure the well storage and manufacturing at customer side.

貳、適用範圍

B、SCOPE:

適用於所有盛群生產的產品。

Applying for all HOLTEK’ s products.

參、定義:無

C.DEFINITION: N/A

肆、權責:

D.RESPONSIBILITY:

一、品保處:

1. QRA Division:

制定/變更本份手冊

To edit and revise this document.

二、業務單位:

2. Sales Division:

收集/提供客戶需要的資訊

To collect and provide the information customer need.

伍、內容:

E. CONTENT:

一、盛群產品的儲存條件及保固年限

1. The storage condition and service life of Holtek’ s products.

(一).盛群出貨的產品包括晶圓,晶粒及構裝成品三類,其儲存條件(含外部包裝在內)為

1.1 The outgoing products in Holtek are wafers, chips, and package IC, all of the storage conditions with packing are following.

1.溫度: 22℃±5℃

1.1.1 temperature: 22℃±5℃

2.溼度: 50%RH±15%RH

1.1.2 humidity: 50%RH±15%RH

備註:盛群庫房的晶圓儲存條件因為儲存機台的問題,而有所調整,請參閱”5050-001 成品伴成品管理程序。

Note: due to the criteria of storage facility, the wafer storage condition is adjusted to certain extent in Holtek’ s warehouse.

(二).盛群產品的保固年限為

1.2 The warranty period

1.晶圓,晶粒:出貨後 1 年內。

1.2.1 Wafer and chip: Under one year after product delivery.

2.構裝成品: 出貨後 1 年內。

1.2.2 Package IC: Under one year after product delivery.

3.COF/TCP: 出貨後 1 年內。

1.2.3 COF/TCP: Under one year after product delivery.

二、盛群產品的包裝及拆封後使用注意事項

2. The packing types and the items for attention after unpacking.

(一).盛群產品出貨的小箱包裝可分為三種

2.1 Three types of package with carton for Holtek’s shipping.

1.乾燥包裝: 適用於 QFP/LQFP/TQFP/QFN 產品。

2.1.1 Dry packing: apply for QFP/LQFP/TQFP/QFN

2.真空包裝: 適用於晶粒及大部分的 SMD 產品。

2.1.2 Vacuum packing: apply for chips and SMD products.

3.無包裝: 適用於 DIP,TO 系列等插腳式產品及小部份 SMD 產品。

2.1.3 Without packing: apply for Through-hole products and some SMD products.

備註:盛群各封裝種類的包裝方式請參閱盛群網站”包裝/紙箱尺寸資訊”。

Note: The detail of packing type, please refer the information of ”Packing and Carton dimension” by HOLTEK website.

(二).拆封後使用注意事項

2.2 Items for attention after unpacking

1.乾燥包裝: 拆封後 7 日使用完畢。

2.2.1 Dry packing: Use it within 7 days after unpacking.

2.真空包裝: 拆封後 7 日使用完畢。

2.2.2 Vacuum packing: Use it within 7 days after unpacking.

3.如果乾燥包裝產品和真空包裝產品未能在 7 日內使用完畢,建議以 110℃的烤箱烘烤 12 小時後重新包裝儲存(晶粒/COF/TCP 僅需檢驗後上真空包裝,不需要烘烤)。

2.2.3 For dry or vacuum packing products, if it can’t be used within 7 days. Please re-pack it after 110℃ baking by 12 hrs(Chip/COF/TCP do not need baking).

三、盛群的產品回溯

3. Product tracing:

(一).盛群內部: 我們可以由批號或是 DATE CODE 來查詢生產資料。

3.1 Internal tracing: the production information can be searched by lot number or date code.

(二).出貨產品: 可以由出貨單號及批號/DATE CODE 來回溯生產資料。

3.2 Shipped products: trace by shipping ticket, lot number and date code.

備註:批號/DATE CODE 是附在出貨標籤上,而標籤是貼在小箱/捲帶上面。

Note: Lot number and date code shows on shipping label where it’s stacked on carton or reel.

四、盛群產品過錫爐條件

4. IR reflow condition for Holtek’s products:

(一).表面黏著產品(遵照 JEDEC 規範 J-STD-020D)

4.1 SMD products (according to JEDEC criteria J-STD-020D):

Table 1- IR reflow condition

Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Eutectic Assembly
Average Ramp-up rate	3℃/second max.	3℃/second max
Preheat	100℃-150℃	150℃-200℃
	60-120 seconds	60-120seconds
Time maintained above	183℃	217℃
	60-150seconds	60-150seconds
Peak Temperature	See table 2	See table 3
Time within 5C of actual peak Temp.	20 seconds	30 seconds
Ramp-down rate	6℃/second max	6℃/second max
Time 25C to Peak Temperature	6 minutes max	8 minutes max

Table 2 – peak temperature for Sn-Pb product

Package thickness	Volume mm^3 <350	Volume mm^3 ≧350
<2.5mm	240 +0/-5℃	225 +0/-5℃
≧2.5mm	225 +0/-5℃	225 +0/-5℃

Table 3 – peak temperature for Pb-free product

Package thickness	Volume mm^3 <350	Volume mm^3 350-2000	Volume mm^3 ≧2000
<1.6mm	260 +0℃	260 +0℃	260 +0℃
1.6mm – 2.5mm	260 +0℃	250 +0℃	245 +0℃
≧2.5mm	250 +0℃	245 +0℃	245 +0℃

(二)插件式產品

Through-hole products

Solder technique simulation	Solder temperature(℃)	Time(s)
Solder iron	350±10	4-5
Solder dip	260±5	10±1
Wave : Topside	260±5	20±1
Wave : Bottomside	260±5	10±1

五、EOS/ESD 的防護

5. Protection against the EOS and ESD

(一). EOS 的防護

5.1 Protection against the EOS:

1.人員

5.1.1 People:

(1)客戶需要建立自己的操作手冊。
5.1.1.1 Edit the acceptable SOP by customer self.
(2)相關人員需要接受適當的訓練,並依據操作手冊進行生產及測試。
5.1.1.2 Take appropriate training, and follow the SOP to manufacturing and testing
(3)人員需要配戴隔離靜電的裝備,以避免靜電破壞生產產品。
5.1.1.3 Anti-ESD accouterment wearing to avoid the ESD damaged the products.

2.機器設備
5.1.2 Equipments:
(1)要接地。
5.1.2.1 Equipments are properly grounded.
(2)要有過電壓保護裝置。
5.1.2.2 Overload protection
(3)適當的散熱處理。
5.1.2.3 Properly heat dissipation.
(4)定期保養。
5.1.3.4 Regular maintenance

3.正確地測試元件及電路板
5.1.3 Correct testing component and PCB
(1)確認測試方式是否超過元件的最大規格(根據供應商提供的資料)。
5.1.3.1 To confirm the testing condition under the component’ s criteria .
(2)檢查是否有過高的干擾電壓存在。
5.1.3.2 To ensure there is no higher noise.
(3)確認電路板的元件是否有浮焊。
5.1.3.3 To confirm no soldering defect on PCB.
(4)測試時需確認機器接頭是否鬆脫。
5.1.3.4 To ensure there are no loose connections.

(二).ESD 的防護
5.2 Protection against the ESD

1.確認 IC 及電路板靜電防護電路的設計符合要求。
5.2.1 To confirm the ESD circuit is properly designed in the IC and PCB layout.

2.工作人員需要接受適當的靜電防護訓練,並在工作中配戴靜電環及穿著靜電衣鞋等裝備來隔絕靜電。
5.2.2 The operator should take the appropriate ESD protection training and wear the anti-static electricity ring, clothes and shoes.

3.架構一個有效的靜電防護環境
5.2.3 Outfit an effective workshop
(1)溼度控制在 50%RH±15%RH 內。
5.2.3.1 Humidity controlled under 50%RH±15%
(2)使用靜電防護的地板及桌墊。
5.2.3.2 Anti-static electricity floor and mat applying.
(3)生產機器設備需要有良好的接地設施。
5.2.3.3 Well grounding to equipment and machines.
(4)使用抗靜電材料的載具來搬運生產元件。
5.2.3.4 Anti-static electricity tools to carry the manufacturing components.
(5)必要時,使用離子風扇來消除局部區域的靜電。
5.2.3.5 Use the ionizer to remove the partial ESD if necessary.

六、 COB 鋁線拉力測試規格

6. Aluminum wire pull test spec for COB

(一) 測試條件

6.1 Test condition

1. 使用 1.2mil 鋁線。

6.1.1 Use 1.2mil Aluminum wire.

2. Sample size 需 5 顆以上。

6.1.2 Sample size is 5ea at least.

3. 總打線數需大於 20 條。

6.1.3 Total bonding wire of test samples need to lager than 20wires.

(二) 拉力測試規格

6.2 Wire pull test spec.

1. 拉力值需大於 5 克。

6.2.1 Wire pull test value ≧ 5gram.

2. Pad metal peeling 總數(拉力測試值 > 10 克除外)需小於測試 sample 總 wire bonding 數的 15%。

6.2.2 The sum of pad metal peeling(excluding wire pull test value > 10g) ≦ 15% of the sum of wire bonding of test samples).

陸、參考文件:無

F. Reference document: N/A

柒、資料保存:無

G. Data retention: N/A