

# SPECIFICATION FOR APPROVAL

## 承 認 書

Description : Magnetic Buzzer  
Kingstate Part No. : KSSGJ4D20  
Customer's Model No. : \_\_\_\_\_  
Specification No. : TKS-7082  
Number Of The Edition : 1.5

| CUSTOMER'S APPROVED SIGNATURE |  |  |
|-------------------------------|--|--|
|                               |  |  |



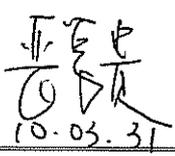
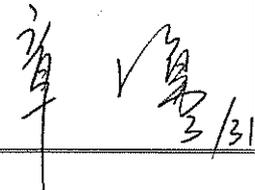
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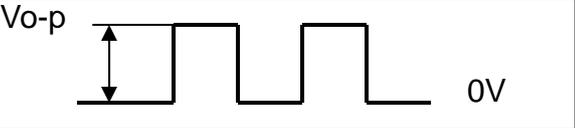
| Approved by   | Checked by | Issued by   |
|---|------------|---|
| <br>10.03.31 | 蔡宗叔 4/21   | <br>3/31 |

## A. SCOPE 範疇

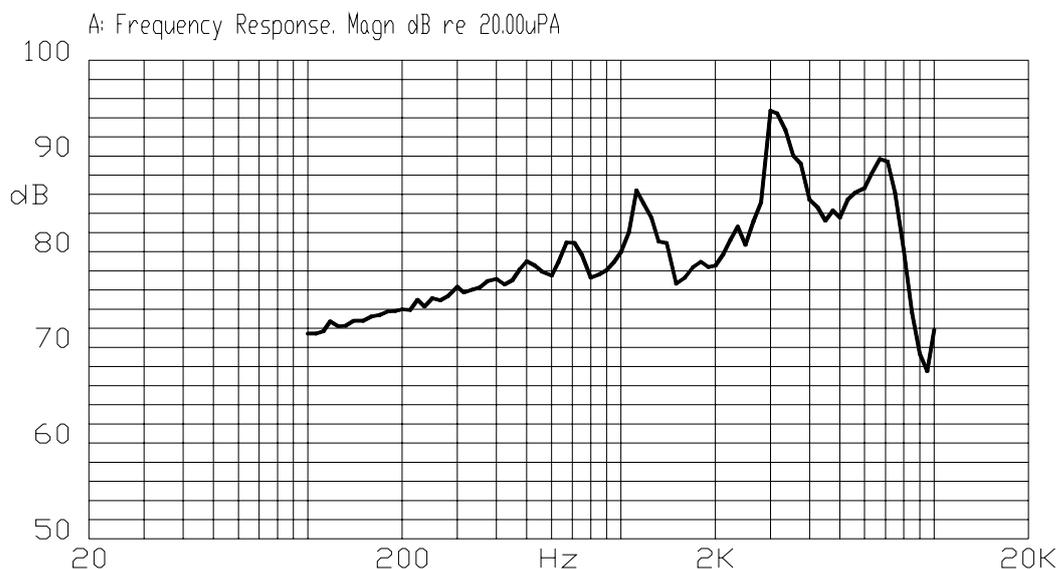
This specification applies magnetic buzzer, **KSSGJ4D20**

此規格書適用於電磁式蜂鳴器, **KSSGJ4D20**

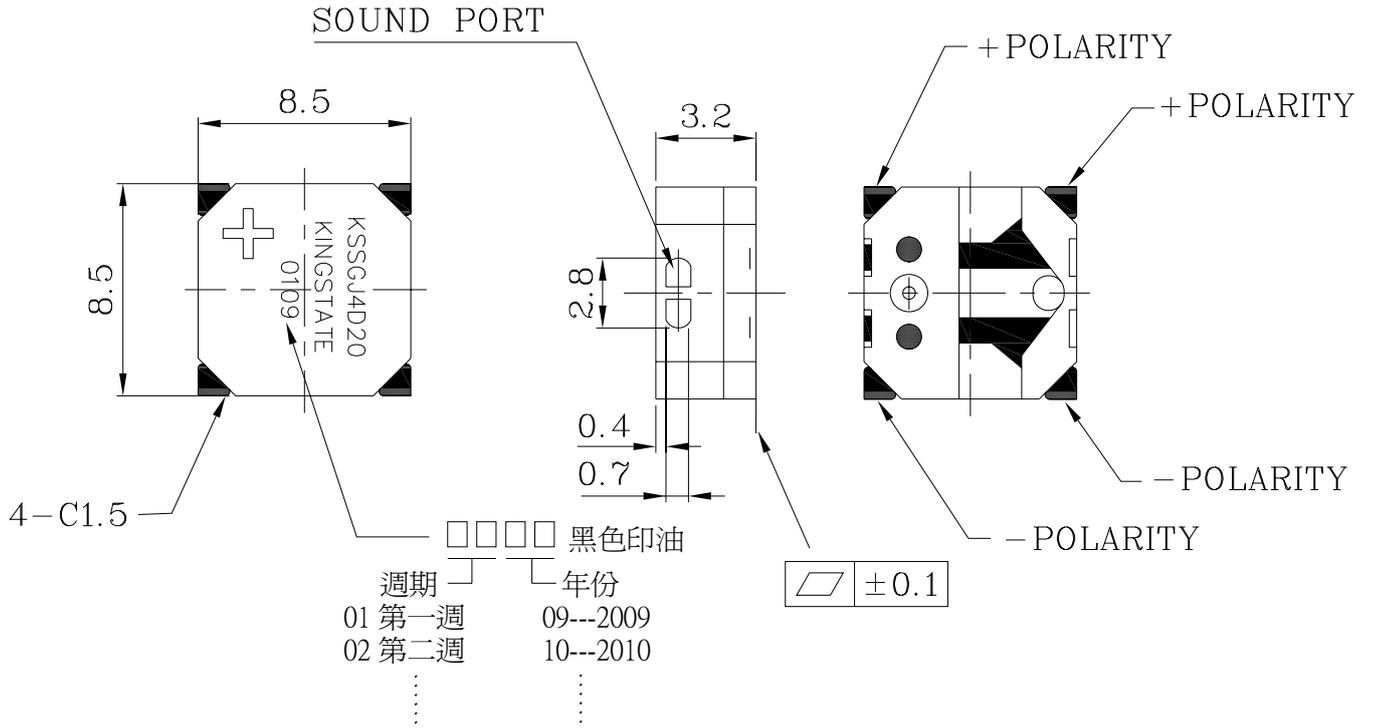
## B. SPECIFICATION 規格

| No. | Item   | Unit               | Specification                | Condition   |
|-----|--|--------------------|------------------------------|---|
| 1   | Rated Voltage<br>額定電壓                          | Vo-p               | 3.6                          |                                     |
| 2   | Operating Volt.<br>操作電壓                        | Vo-p               | 3.0~5.0                      |   |
| 3   | Mean Current<br>平均耗電流                          | mA                 | Max. 80                      | Applying rated voltage, 3100Hz square wave, 1/2duty<br>施以額定電壓, 3100Hz, 方波, 50% 負載                                     |
| 4   | Coil Resistance<br>直流阻抗                        | $\Omega$           | $20 \pm 3$                   |   |
| 5   | Sound Output<br>輸出音壓                           | dBA                | Min.90<br>(Typical 97)       | Distance at 5cm(A-weight). Applying rated voltage 3100Hz, square wave, 1/2duty<br>在 5 公分處, 施以額定電壓, 3100Hz, 方波, 50% 負載 |
| 6   | Rated Frequency<br>額定頻率                        | Hz                 | 3100                         |   |
| 7   | Operating Temp.<br>操作溫度                        | $^{\circ}\text{C}$ | -30 ~ +70                    |   |
| 8   | Storage Temp.<br>儲存溫度                          | $^{\circ}\text{C}$ | -40 ~ +85                    |   |
| 9   | Dimension<br>尺寸                                | mm                 | L8.5 x W8.5 x H3.2           | See attached drawing.<br>請參照外觀尺寸圖   |
| 10  | Weight<br>重量                                   | gram               | 0.7                          |   |
| 11  | Material<br>材質                                 |                    | L.C.P (White)                |   |
| 12  | Terminal<br>端子                                 |                    | SMD type<br>(鍍化金/Plating Au) | See attached drawing.<br>請參照外觀尺寸圖   |
| 13  | Environmental<br>Protection Regulation<br>環保法規 |                    | RoHS                         |   |

## C. TYPICAL FREQUENCY RESPONSE CURVE 頻率響應曲線



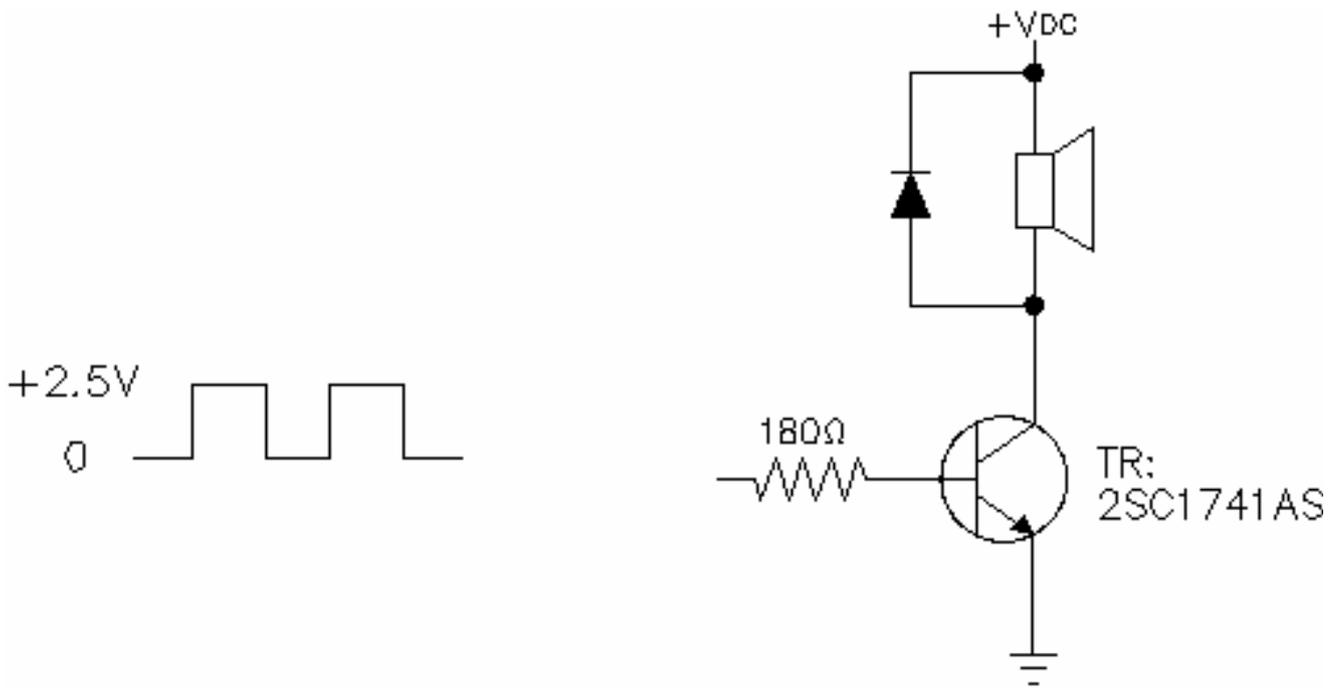
**D. APPEARANCE DRAWING 外觀尺寸圖**



**Tol :  $\pm 0.5$**

**Unit : mm**

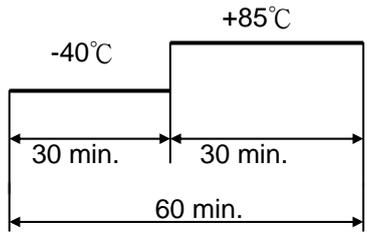
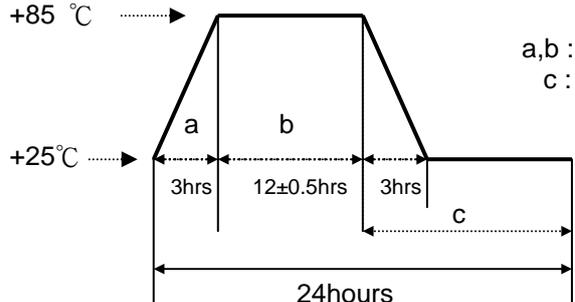
**E. MEASUREMENT METHOD 測量方式**



## F. MECHANICAL CHARACTERISTICS 機械特性

| No. | Item                                 | Test condition   | Evaluation standard  |
|-----|--------------------------------------|--|--|
| 1   | Solderability<br>焊錫附著性               | Lead terminals are immersed in solder bath of $+270\pm 5^{\circ}\text{C}$ for $3\pm 1$ second.<br>端子置於錫膏內, 錫膏溫度: $+270\pm 5^{\circ}\text{C}$ . 焊接時間: $3\pm 1$ 秒.   | 95% surface of lead pads must be covered with fresh solder<br>錫膏須覆蓋端子上方 95%  |
| 2   | Soldering Heat Resistance<br>焊錫耐熱性   | The product is followed the reflow temperature curve to test its reflow thermostability.<br>產品依照迴焊溫度曲線測試迴焊耐熱性.   | No interference in operation<br>操作上無任何不良   |
| 3   | Terminal Mechanical Strength<br>端子強度 | Lead pads shall be soldered on the pc board, and the force 9.8N (1.0kg) shall be applied behind the part for 10 seconds.<br>將端子焊在 PC 板上後, 對單體施以 9.8N(1.0kg)拉力 10 秒.  | No damage and cutting off<br>端子不鬆動, 不脫落.   |
| 4   | Vibration<br>振動測試                    | Buzzer shall be measured after being applied vibration of amplitude of 1.5mm with 10 to 55hz band of vibration frequency to each of 3 per-pendicular directions for 2 hours.<br>振動週波數 10~55HZ、全振幅 1.5mm 於 X.Y.Z 3 個方向, 各 2 小時. | After the test the part shall meet specifications with-out any damage in appearance and the SPL should be in $\pm 10\text{dBA}$ compared with initial one. |
| 5   | Drop test<br>落下測試                    | The part only shall be dropped from a height of 75cm onto a 40mm thick wooden board 3 times in 3 axes (X.Y.Z). (a total of 9 times).<br>單體從 75 公分高處, X.Y.Z.3 個方向, 各 3 回, 落於 40mm 厚木板上.   | 經測試後, 單體除音壓外, 外觀及電氣特性須符合規格. 輸出音壓變化量須在 $\pm 10\text{dBA}$ 內.  |

## G. ENVIRONMENT TEST 環境測試

| No. | Item                               | Test condition  | Evaluation standard  |
|-----|------------------------------------|---|--|
| 1   | High temp. test<br>高溫測試            | After being placed in a chamber at $+85^{\circ}\text{C}$ for 96 hours.<br>置於 $+85^{\circ}\text{C}$ 環境中 96 小時  | After the test the part shall meet specifications with-out any degradation in appearance and performance except SPL. after 4 hours at $+25^{\circ}\text{C}$ . the SPL should be in $\pm 10\text{dBA}$ compared with initial one. |
| 2   | Low temp. test<br>低溫測試             | After being placed in a chamber at $-40^{\circ}\text{C}$ for 96 hours.<br>置於 $-40^{\circ}\text{C}$ 環境中 96 小時  |  |
| 3   | Thermal Shock<br>熱衝擊試驗             | The part shall be subjected to 10 cycles. One cycle shall consist of;<br>對單體施以熱衝擊試驗 10 次循環, 其循環內容如圖示<br>   |  |
| 4   | Temp./ Humidity Cycle<br>溫度/溼度循環測試 | The part shall be subjected to 10 cycles. One cycle shall be 24 hours and consist of;<br>單體承受溫度/溼度循環測試 10 次. 其循環內容如圖示<br><br>a, b : 90~98%RH<br>c : 80~98%RH | 經測試後, 靜置於 $+25^{\circ}\text{C}$ (室溫) 環境中 4 小時後, 單體除音壓外, 外觀及電氣特性須符合規格. 輸出音壓變化量須在 $\pm 10\text{dBA}$ 內.  |

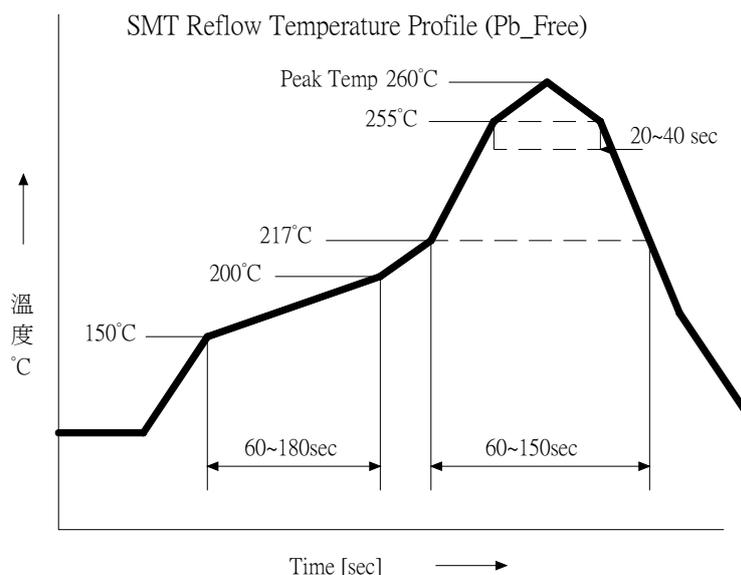
## H. RELIABILITY TEST 信賴性測試

| No. | Item                        | Test condition   | Evaluation standard   |
|-----|-----------------------------|--|---|
| 1   | Operating life test<br>壽命測試 | <p>1. Continuous life test 高溫壽命測試(連續)<br/>The part shall be subjected to 72 hours at +55°C with 3.6V , 3100Hz applied.<br/>在+55°C環境下, 輸入 3.6V , 3100Hz 連續操作 72 小時.</p> <p>2. Intermittent life test 室溫壽命測試(間歇)<br/>A duty cycle of 1 minute on, 1 minutes off, a minimum of 10000 times at room temp.( +25±10°C) with 3.6V , 3100Hz applied.<br/>在室溫下(+25±10°C), 輸入 3.6V , 3100Hz 通電 1 分鐘/斷電 1 分鐘, 測試 10000 次循環.</p> | <p>After the test the part shall meet specifications with-out any degradation in appearance and performance except SPL after 4 hours at +25°C. the SPL should be in ±10dBA compared with initial one.</p> <p>經測試後, 靜置於+25°C (室溫)環境中 4 小時後, 單體除音壓外, 外觀及電氣特性須符合規格. 輸出音壓變化量須在±10dBA 內.</p> |

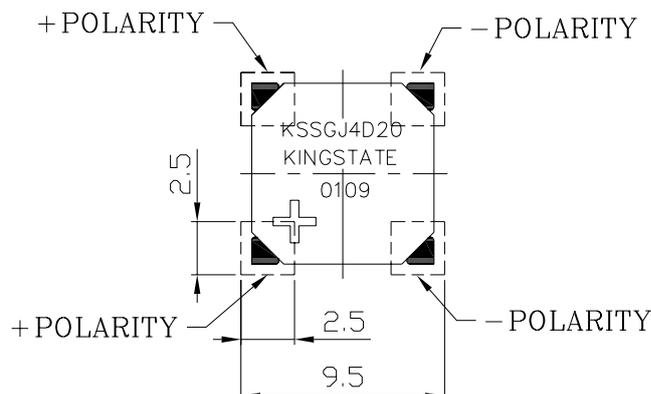
### TEST CONDITION.

|                          |   |                             |                      |                            |
|--------------------------|---|-----------------------------|----------------------|----------------------------|
| Standard Test Condition  | : | a) Temperature : +5 ~ +35°C | b) Humidity : 45-85% | c) Pressure : 860-1060mbar |
| 一般測試條件                   | : | a) 溫度 : +5 ~ +35°C          | b) 濕度 : 45-85%       | c) 氣壓 : 860-1060mbar       |
| Judgement Test Condition | : | a) Temperature : +25 ± 2°C  | b) Humidity : 60-70% | c) Pressure : 860-1060mbar |
| 爭議時測試條件                  | : | a) 溫度 : +25 ± 2°C           | b) 濕度 : 60-70%       | c) 氣壓 : 860-1060mbar       |

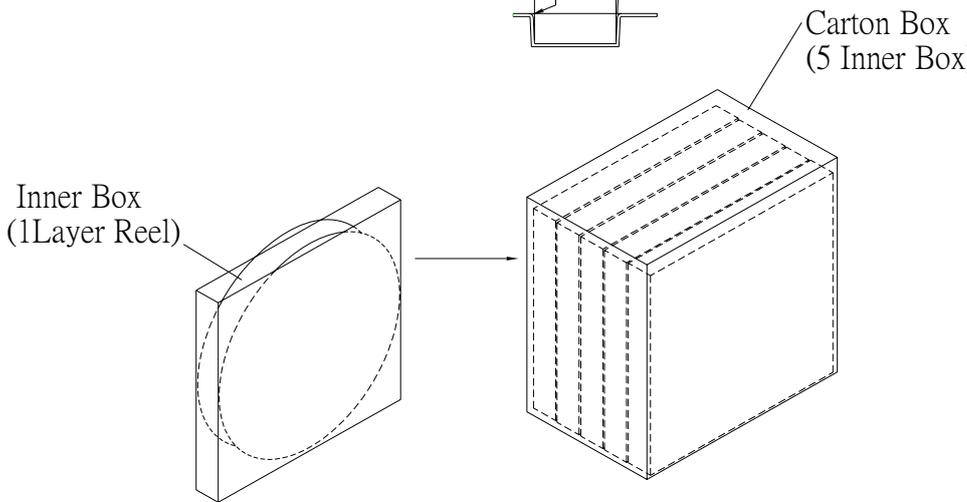
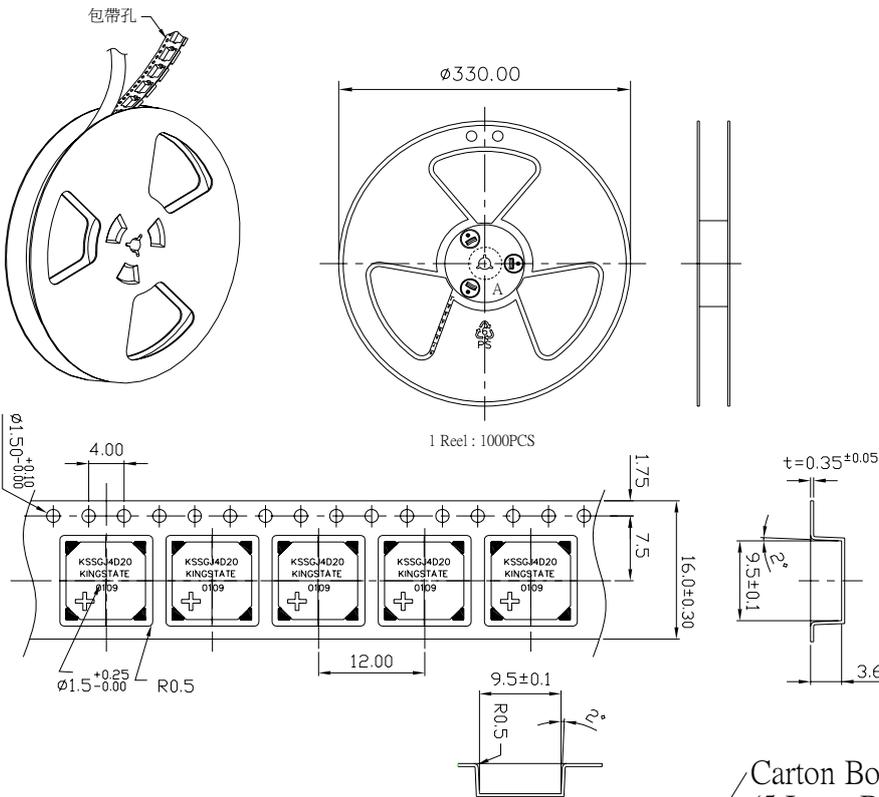
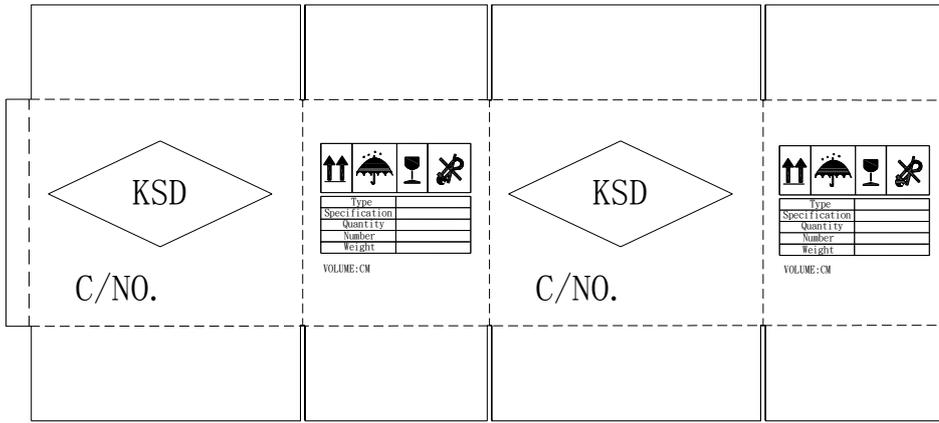
## I. Recommended Temperature Profile For Reflow Oven 建議迴焊爐溫度曲線



## J. Recommended land pattern 建議基板設計尺寸圖



# K. PACKING STANDARD 包裝規格



|            |                   |                   |
|------------|-------------------|-------------------|
| Inner Box  | 340mmx340mmx33mm  | 1x1000PCS=1000PCS |
| Carton Box | 350mmx175mmx355mm | 5x1000PCS=5000PCS |