

SPECIFICATION FOR APPROVAL

承 認 書

Description : Magnetic Buzzer

Kingstate Part No. : KSSGJ4B20

Customer's Model No. : _____

Specification No. : TKS-7066

Number Of The Edition : 1.2

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

志豐電子股份有限公司 KINGSTATE ELECTRONICS CORP.

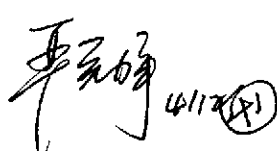


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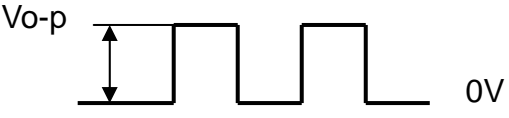
<http://www.kingstate.com.tw>

| Approved by | Checked by | Issued by |
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|  | 王 銳 2005.04.12 | Fei 4/12/05' |

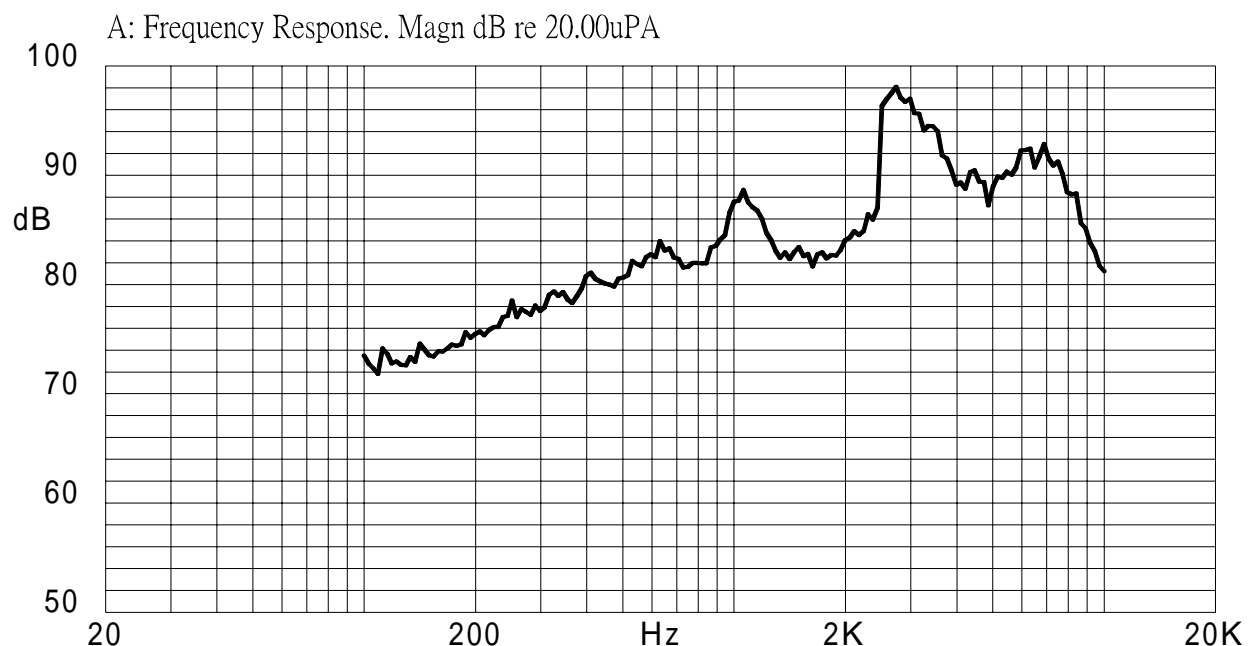
A. SCOPE 範疇

This specification applies magnetic buzzer, **KSSGJ4B20**
 此規格書適用於電磁式蜂鳴器, **KSSGJ4B20**

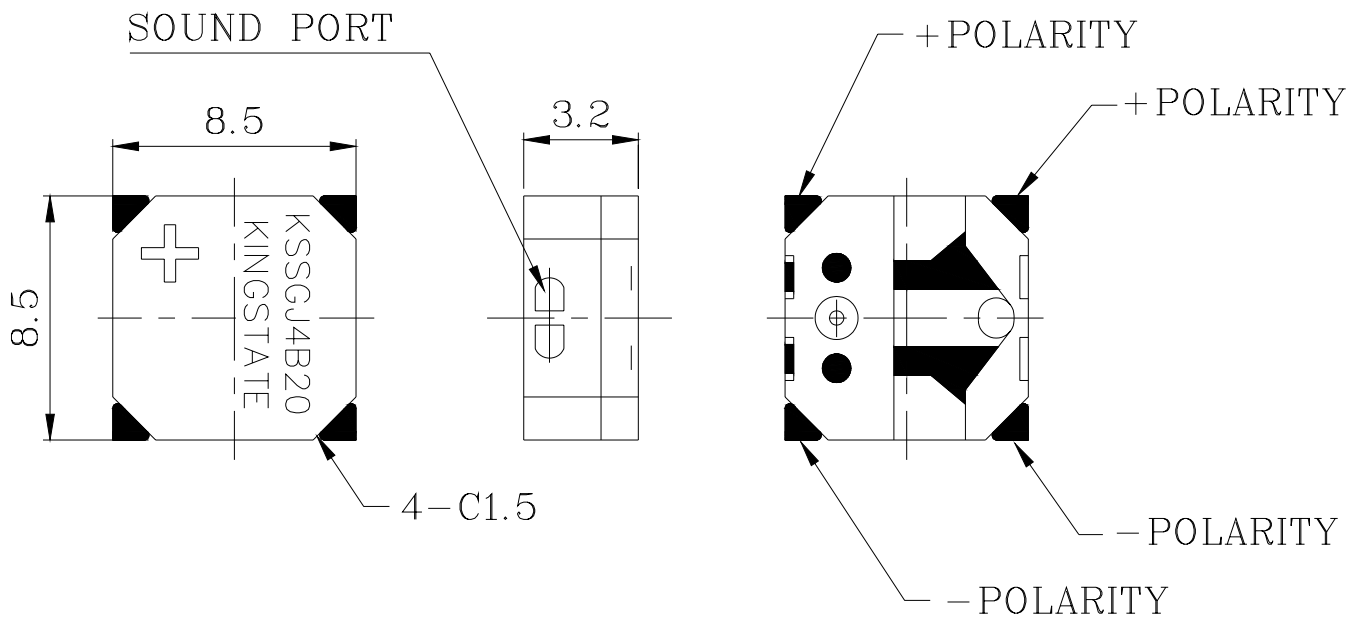
B. SPECIFICATION 規格

| No. | Item | Unit | Specification | Condition |
|-----|--|------|------------------------------|--|
| 1 | Rated Voltage 額定電壓 | Vo-p | 3.6 |  |
| 2 | Operating Volt. 操作電壓 | Vo-p | 3.0~5.0 | |
| 3 | Mean Current 平均耗電流 | mA | Max. 80 | Applying rated voltage, 2730Hz square wave, 1/2duty 施以額定電壓, 2730Hz, 方波, 50% 負載 |
| 4 | Coil Resistance 直流阻抗 | | 20 ± 3 | |
| 5 | Sound Output 輸出音壓 | dBA | Min.90 (Typical 97) | Distance at 5cm (A-weight). Applying rated voltage 2730Hz, square wave, 1/2duty 在 5 公分處, 施以額定電壓, 2730Hz, 方波, 50% 負載 |
| 6 | Rated Frequency 額定頻率 | Hz | 2730 | |
| 7 | Operating Temp. 操作溫度 | | -30 ~ +70 | |
| 8 | Storage Temp. 儲存溫度 | | -40 ~ +85 | |
| 9 | Dimension 尺寸 | mm | L8.5 x W8.5 x H3.2 | See attached drawing. 請參照外觀尺寸圖 |
| 10 | Weight 重量 | gram | 0.7 | |
| 11 | Material 材質 | | L.C.P (White) | |
| 12 | Terminal 端子 | | SMD type (鍍化金/Plating Au) | See attached drawing. 請參照外觀尺寸圖 |
| 13 | Environmental Protection Regulation 環保法規 | | RoHS | |

C. TYPICAL FREQUENCY RESPONSE CURVE 頻率響應曲線

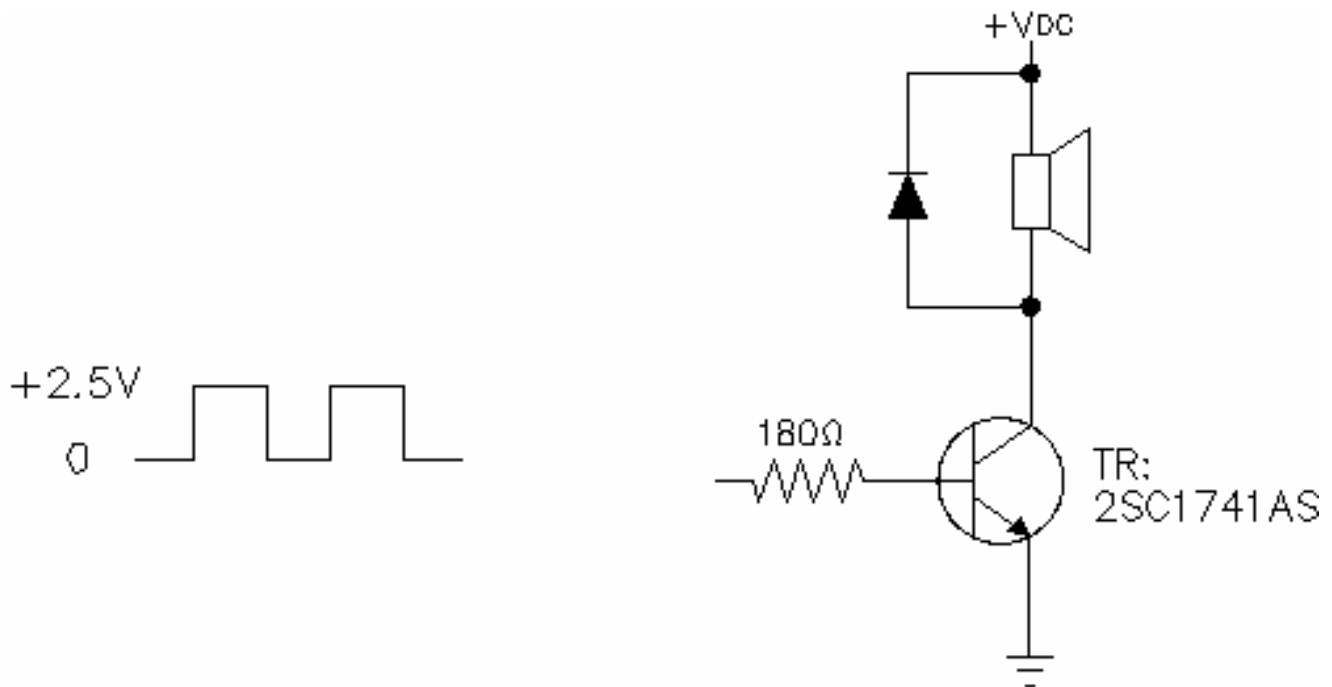


D. APPEARANCE DRAWING 外觀尺寸圖



Tol : ± 0.5
Unit : mm

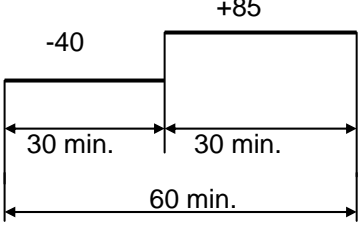
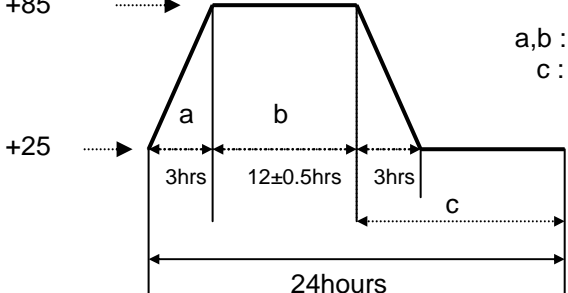
E. MEASUREMENT METHOD 測量方式



F. MECHANICAL CHARACTERISTICS 機械特性

| No. | Item | Test condition | Evaluation standard |
|-----|--------------------------------------|---|--|
| 1 | Solderability 焊錫附著性 | Lead terminals are immersed in solder bath of $+270\pm 5$ for 3 ± 1 second. 端子置於錫膏內,錫膏溫度: $+270\pm 5$. 焊接時間: 3 ± 1 秒. | 95% surface of lead pads must be covered with fresh solder 錫膏須覆蓋端子上方 95% |
| 2 | Soldering Heat Resistance 焊錫耐熱性 | The product is followed the reflow temperature curve to test its reflow thermostability. 產品依照迴焊溫度曲線測試迴焊耐熱性. | No interference in operation 操作上無任何不良 |
| 3 | Terminal Mechanical Strength 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. 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 端子不鬆動, 不脫落. |
| 4 | Vibration 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. 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 ± 10 dBa compared with initial one. |
| 5 | Drop test 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). 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 ± 10 dBa 內. |

G. ENVIRONMENT TEST 環境測試

| No. | Item | Test condition | Evaluation standard |
|-----|------------------------------------|---|--|
| 1 | High temp. test 高溫測試 | After being placed in a chamber at $+85$ for 96 hours. 置於 $+85$ 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 $+25$. the SPL should be in ± 10 dBa compared with initial one. |
| 2 | Low temp. test 低溫測試 | After being placed in a chamber at -40 for 96 hours. 置於 -40 環境中 96 小時 | |
| 3 | Thermal Shock 熱衝擊試驗 | The part shall be subjected to 10 cycles. One cycle shall consist of; 對單體施以熱衝擊試驗 10 次循環,其循環內容如圖示  | |
| 4 | Temp./ Humidity Cycle 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; 單體承受溫度/溼度循環測試 10 次.其循環內容如圖示  | 經測試後,靜置於 $+25$ (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 ± 10 dBa 內. |

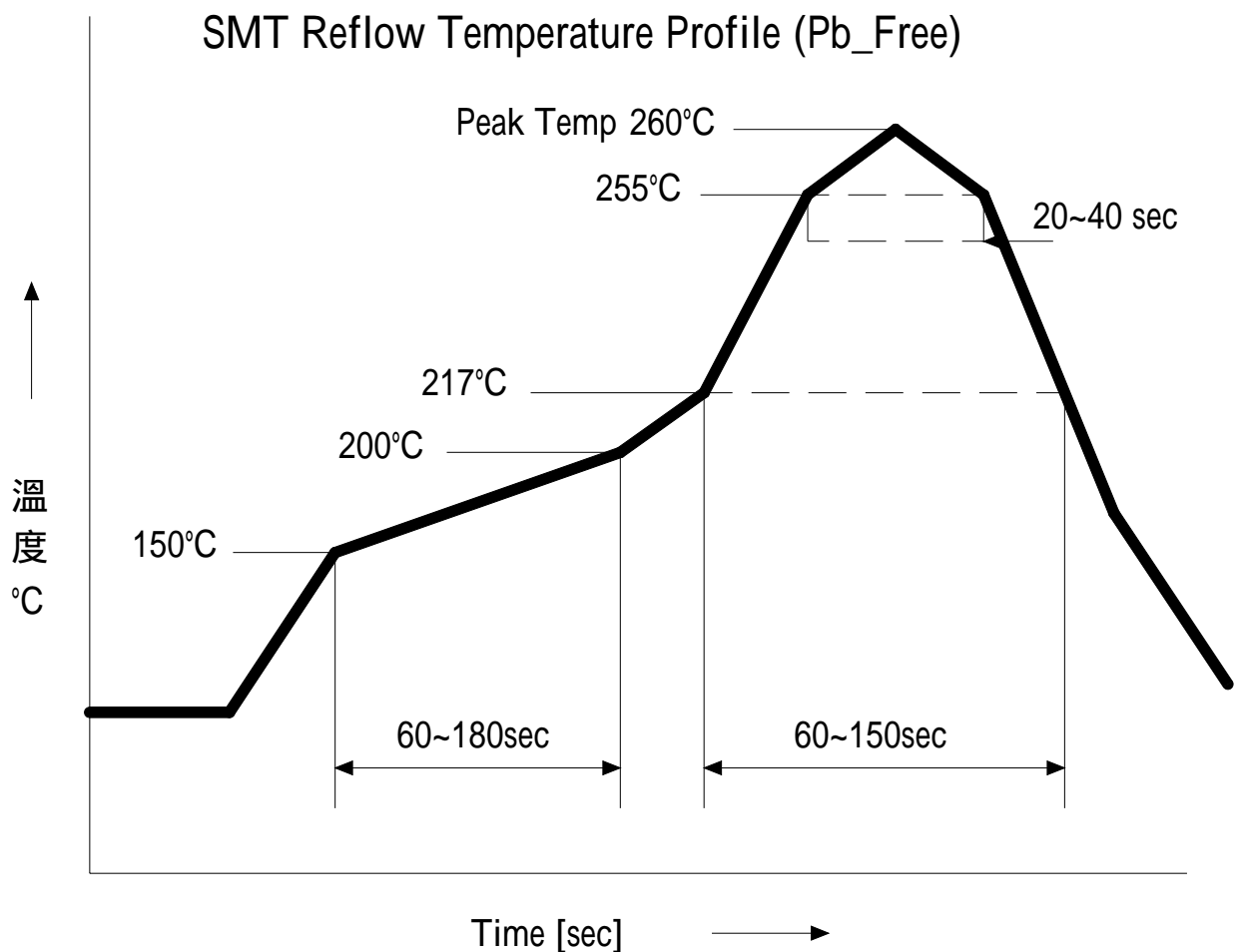
H. RELIABILITY TEST 信賴性測試

| No. | Item | Test condition | Evaluation standard |
|-----|-----------------------------|---|--|
| 1 | Operating life test 壽命測試 | <p>1. Continuous life test 高溫壽命測試(連續) The part shall be subjected to 72 hours at +55 with 3.6V , 2730Hz applied. 在+55 環境下,輸入 3.6V , 2730Hz 連續操作 72 小時.</p> <p>2. Intermittent life test 室溫壽命測試(間歇) A duty cycle of 1 minute on, 1 minutes off, a minimum of 10000 times at room temp.(+25±10) with 3.6V , 2730Hz applied. 在室溫下(+25±10), 輸入 3.6V , 2730Hz 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 . the SPL should be in ±10dBA compared with initial one.</p> <p>經測試後, 靜置於+25 (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> |

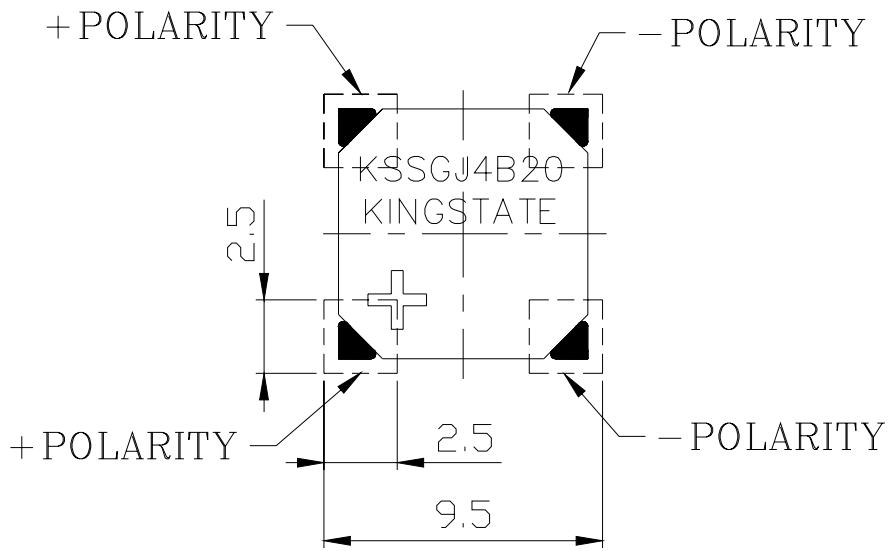
TEST CONDITION.

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

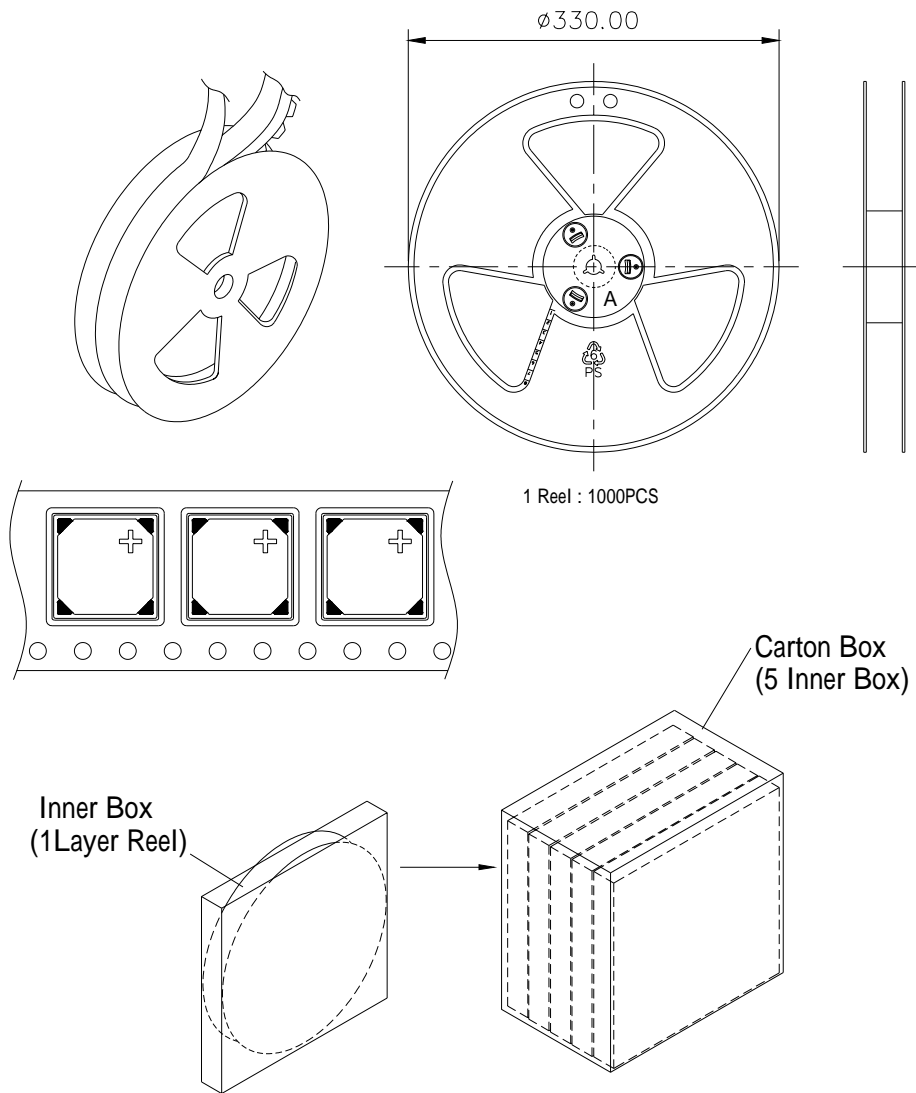
I. Recommended Temperature Profile For Reflow Oven 建議迴焊爐溫度曲線



J. Recommended land pattern 建議基板設計尺寸圖



K. PACKING STANDARD 包裝規格



| | | |
|------------|-------------------|-------------------|
| Inner Box | 340mmx340mmx40mm | 1x1000PCS=1000PCS |
| Carton Box | 350mmx175mmx355mm | 5x1000PCS=5000PCS |