

SPECIFICATION FOR APPROVAL

承 認 書

Description : Magnetic Buzzer

Kingstate Part No. : KSSG23J12

Customer's Model No. : _____

Specification No. : TKS-5014

Number Of The Edition : 1.1

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



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| Approved by | Checked by | Issued by |
|----------------|----------------|-------------------|
| 2011.03.16 | 2011.03.16 | Merry 03/16/11 |

A. SCOPE 範疇

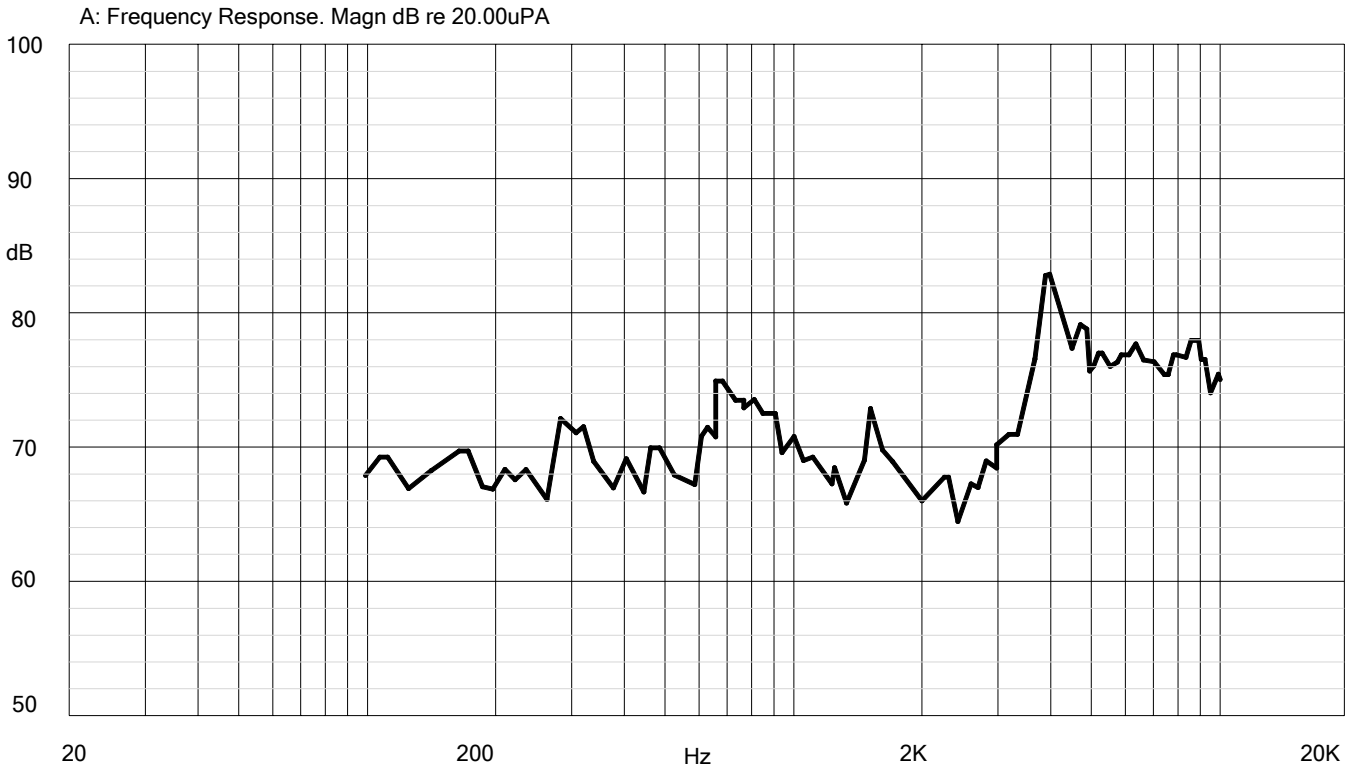
This specification applies magnetic buzzer, **KSSG23J12**

此規格書適用於電磁式蜂鳴器, **KSSG23J12**

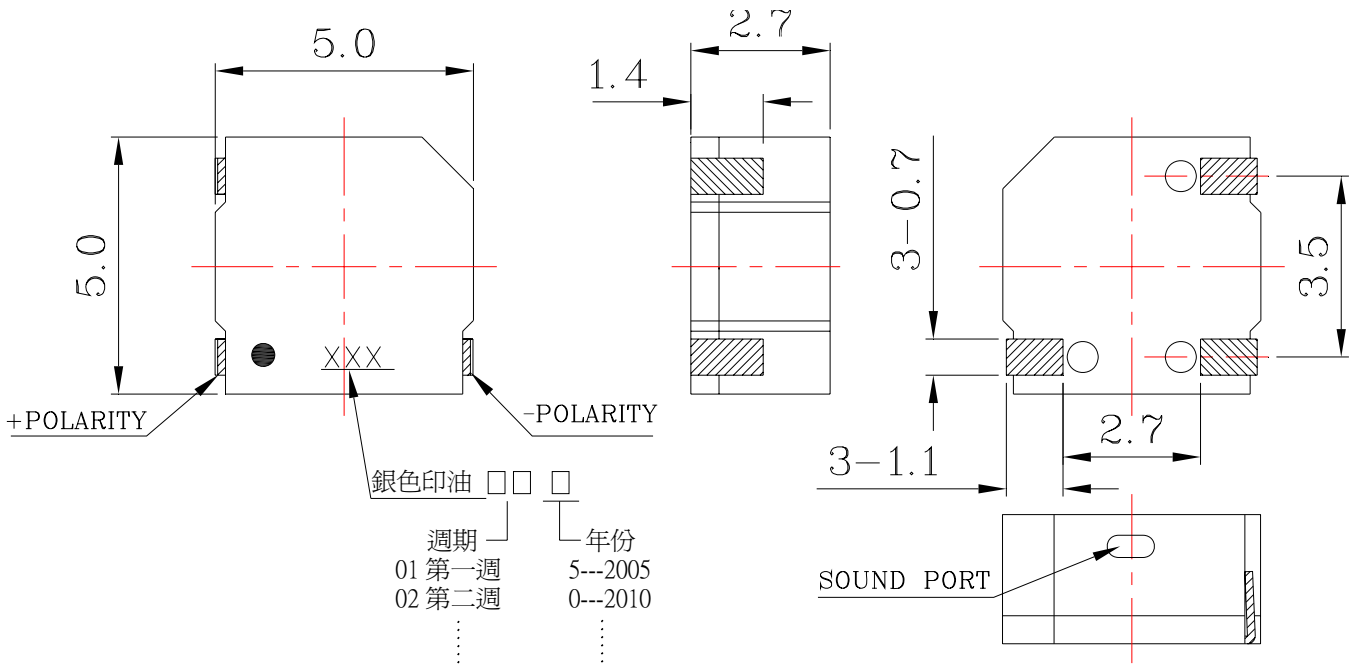
B. SPECIFICATION 規格

| No. | Item | Unit | Specification | Condition |
|-----|--|--------------------|------------------------------|---|
| 1 | Rated Voltage 額定電壓 | Vo-p | 3.0 |  |
| 2 | Operating Volt. 操作電壓 | Vo-p | 2.0 ~ 4.0 | |
| 3 | Mean Current 平均耗電流 | mA | Max. 110 | Applying rated voltage, 4000Hz square wave, 1/2duty 施以額定電壓, 4000Hz, 方波, 50% 負載 |
| 4 | Coil Resistance 直流阻抗 | Ω | 12 \pm 3 | |
| 5 | Sound Output 輸出音壓 | dBA | Min. 75 | Distance at 10cm (A-weight). Applying rated voltage 4000Hz, square wave, 1/2duty 在 10 cm 處, 施以額定電壓, 4000Hz, 方波, 50% 負載 |
| 6 | Rated Frequency 額定頻率 | Hz | 4000 | |
| 7 | Operating Temp. 操作溫度 | $^{\circ}\text{C}$ | -30 ~ +70 | |
| 8 | Storage Temp. 儲存溫度 | $^{\circ}\text{C}$ | -40 ~ +80 | |
| 9 | Dimension 尺寸 | mm | L5.0 x W5.0 x H2.5 | See attached drawing. 請參照外觀尺寸圖 |
| 10 | Weight 重量 | gram | 0.3 | |
| 11 | Material 材質 | | L.C.P (Black) | |
| 12 | Terminal 端子 | | SMD type (鍍全錫/Plating Sn) | See attached drawing. 請參照外觀尺寸圖 |
| 13 | Environmental Protection Regulation 環保法規 | | RoHS | |
| 14 | Storage life 保存期限 | month | 6 | 6 months preservation at room temp. (25 \pm 3 $^{\circ}\text{C}$), Humidity 40% 在室溫下 25 \pm 3 $^{\circ}\text{C}$, 濕度 40% 以下可保存 6 個月. |

C. TYPICAL FREQUENCY RESPONSE CURVE 頻率響應曲線

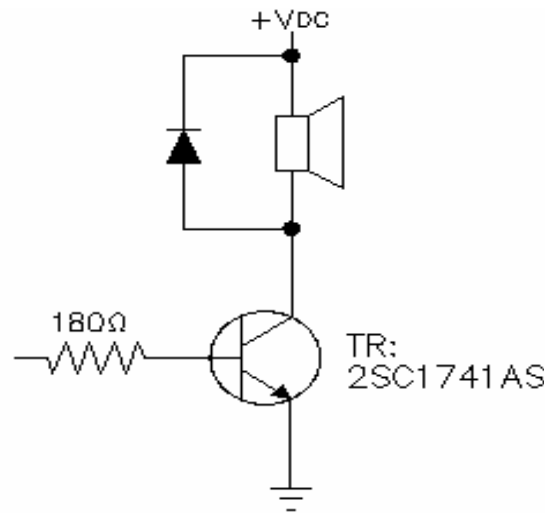


D. APPEARANCE DRAWING 外觀尺寸圖

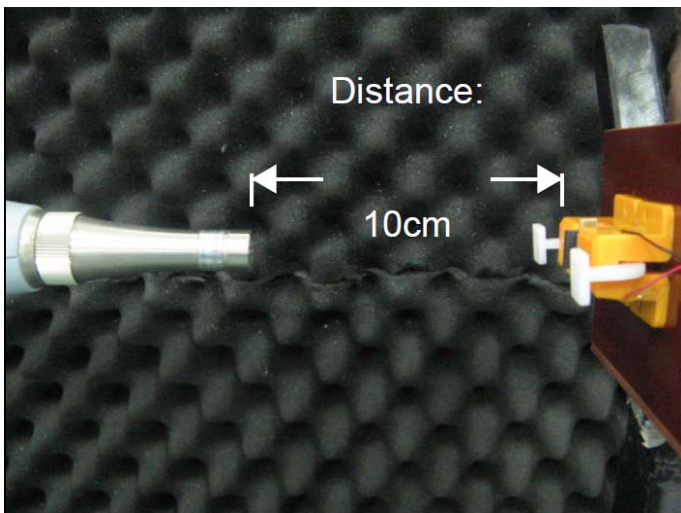
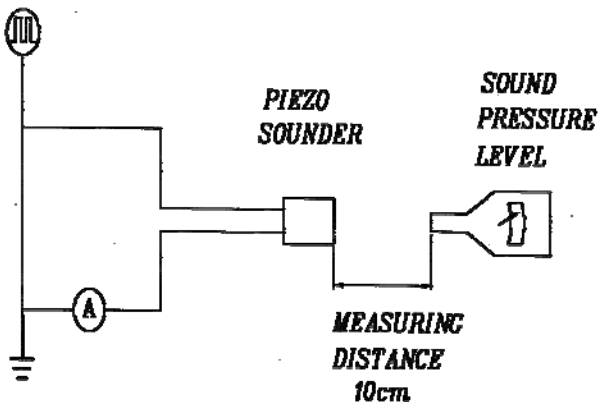


Tol: ±0.5
Unit: mm

E. MEASUREMENT METHOD 測量方式



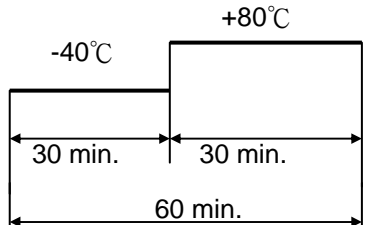
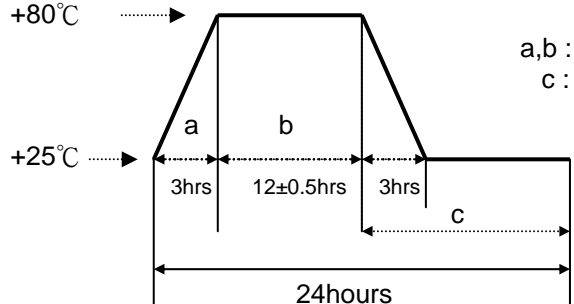
F. INSPECTION FIXTURE 測試架



G. 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 $+260\pm 5^{\circ}\text{C}$ for 3 ± 1 second. 端子置於錫膏內, 錫膏溫度: $+260\pm 5^{\circ}\text{C}$. 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 6 hours. 振動週波數 10~55HZ、全振幅 1.5mm 於 X.Y.Z 3 個方向, 各 6 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 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 $\pm 10\text{dBA}$ 內. |

H. 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 $+80^{\circ}\text{C}$ for 48 hours. 置於 $+80^{\circ}\text{C}$ 環境中 48 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 低溫測試 | After being placed in a chamber at -40°C for 48hours. 置於 -40°C 環境中 48 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 $+25^{\circ}\text{C}$ (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. |

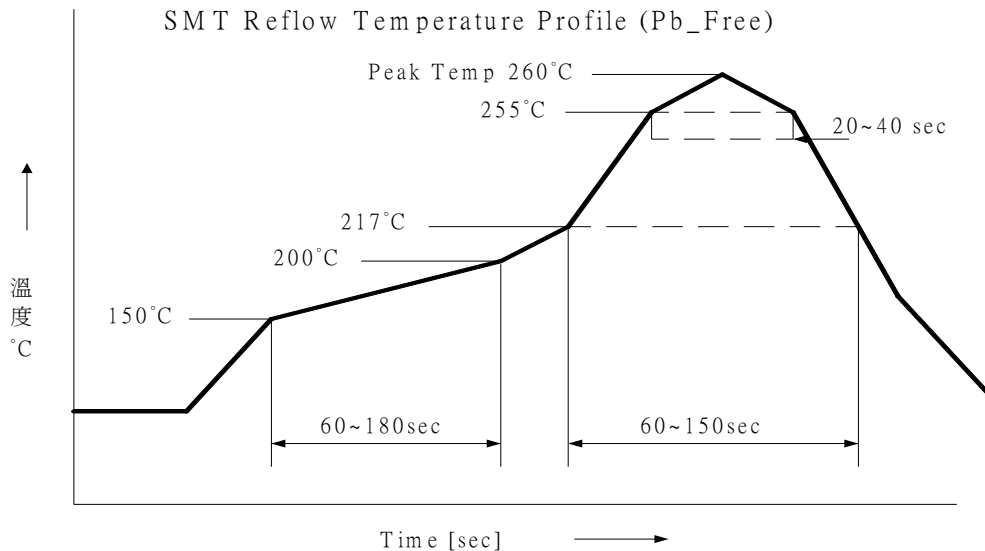
I. RELIABILITY TEST 信賴性測試

| No. | Item | Test condition | Evaluation standard |
|-----|-----------------------------|--|---|
| 1 | Operating life test 壽命測試 | 1. Ordinary temperature 室溫壽命測試 The part shall be subjected to 100 hours at room temperature (+25±10°C)下，輸入 3.0V, 4000HZ 連續操作 100 小時。 2. High temperature 高溫壽命測試 The part shall be subjected to 50 hours at +55°C with 3.0V, 4000HZ applied. 在+55°C環境下，輸入 3.0V, 4000HZ 連續操作 50 小時。 3. Low temperature 低溫壽命測試 The part shall be subjected to 50 hours at -30°C with 3.0V, 4000HZ applied. 在-30°C環境下，輸入 3.0V, 4000HZ 連續操作 50 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°C. the SPL should be in ±10dBA compared with initial one. 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 |

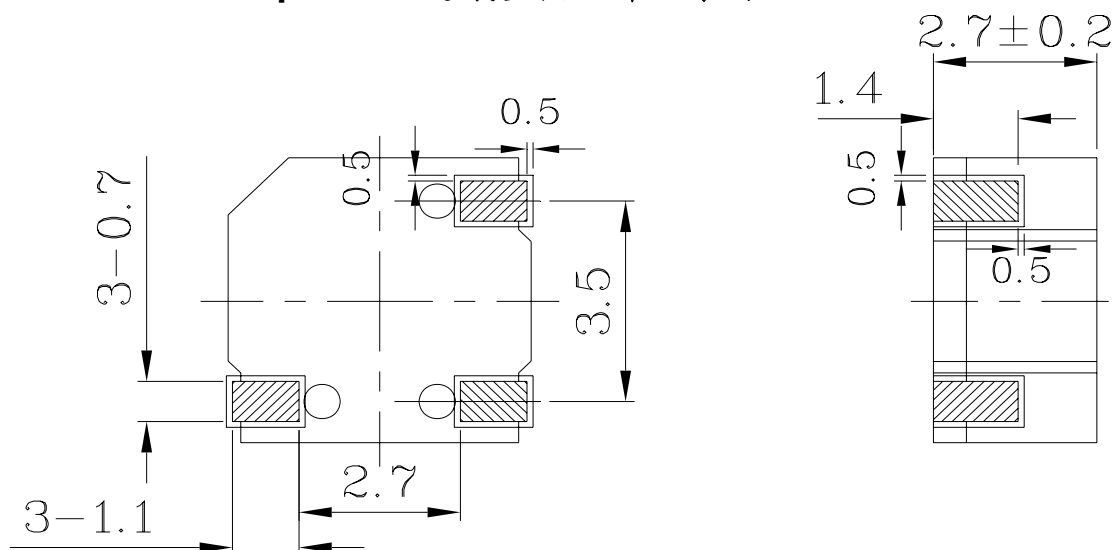
TEST CONDITION.

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
 Judgment 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

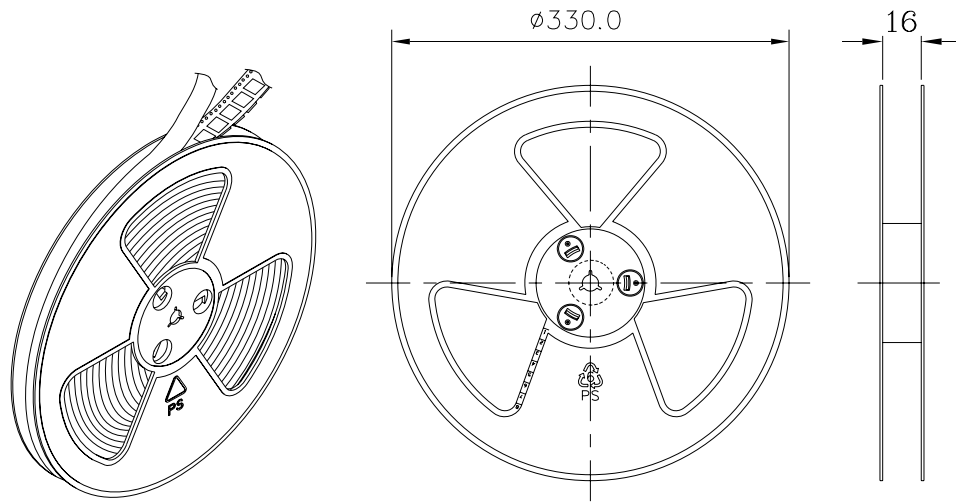
J. Recommended Temperature Profile For Reflow Oven 建議迴焊爐溫度曲線



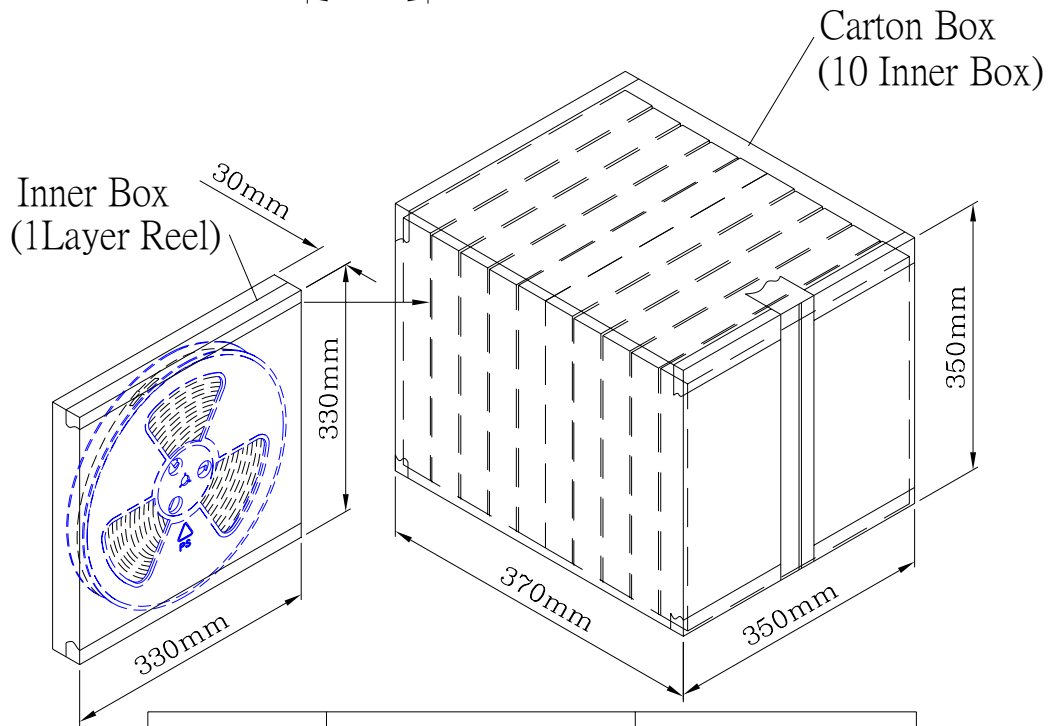
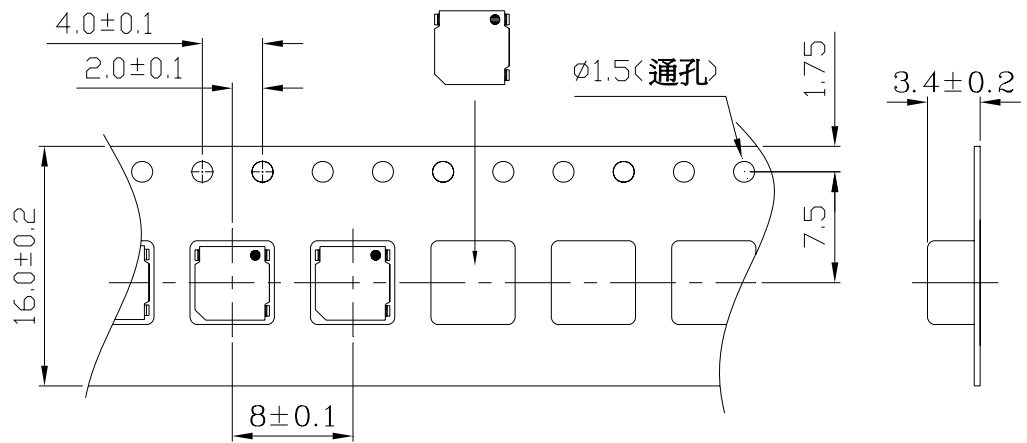
K. Recommended land pattern 建議基板設計尺寸圖



L. PACKING STANDARD 包裝規格



1 Reel : 2500PCS



| | | |
|------------|-------------------|----------------------|
| Inner Box | 330mmx330mmx30mm | 1x2500PCS=2500PCS |
| Carton Box | 350mmx350mmx370mm | 10x2500PCS=25,000PCS |