

SPECIFICATION FOR APPROVAL

承 認 書

Description : Magnetic Buzzer

Singatron Part No. : SEB1203-42

Customer's Model No. : _____

Specification No. : DRO-5182

Number Of The Edition : 1.2

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

SINGATRON ENT. CO., LTD.

13925 Magnolia Avenue

Chino, California 91710

United States of America

Tel: (909) 464-1883

Fax: (909) 464-1884

Website: www.singatron.com

| Approved by | Checked by | Issued by |
|-------------|------------|--------------------|
| | | merry 05/31/13' |

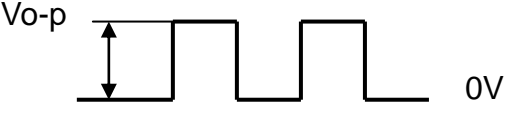


A. SCOPE 範疇

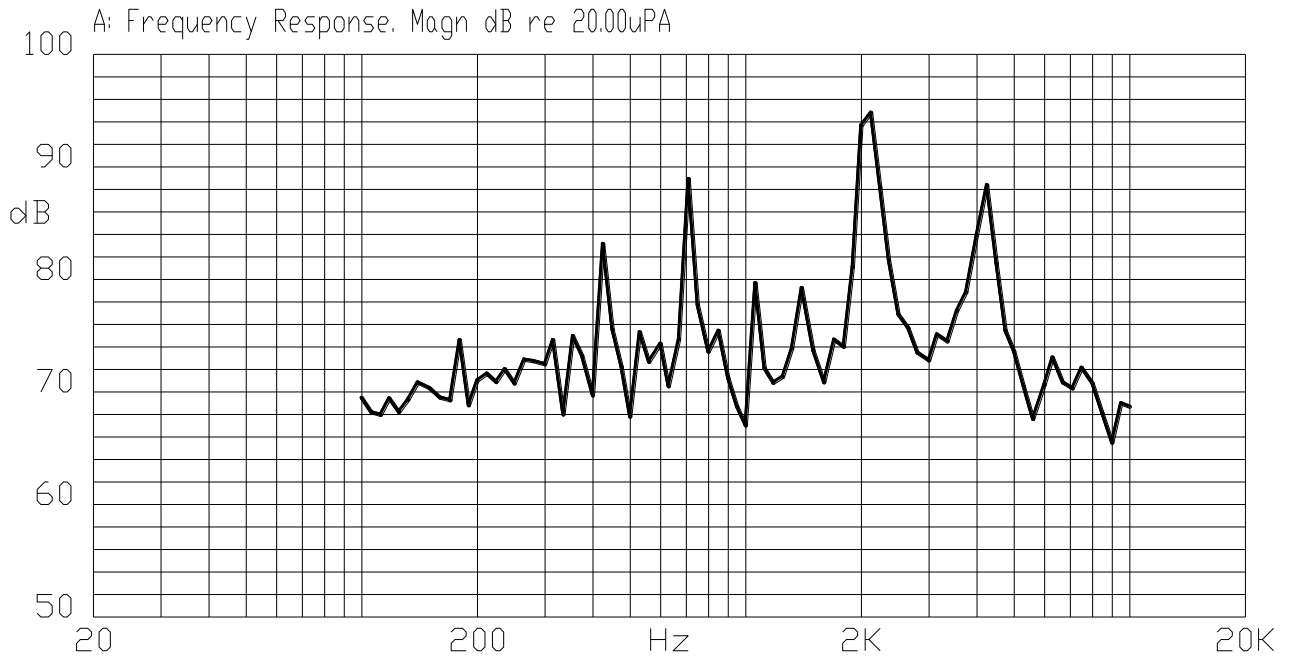
This specification applies magnetic buzzer, **SEB1203-42**

此規格書適用於電磁式蜂鳴器, **SEB1203-42**

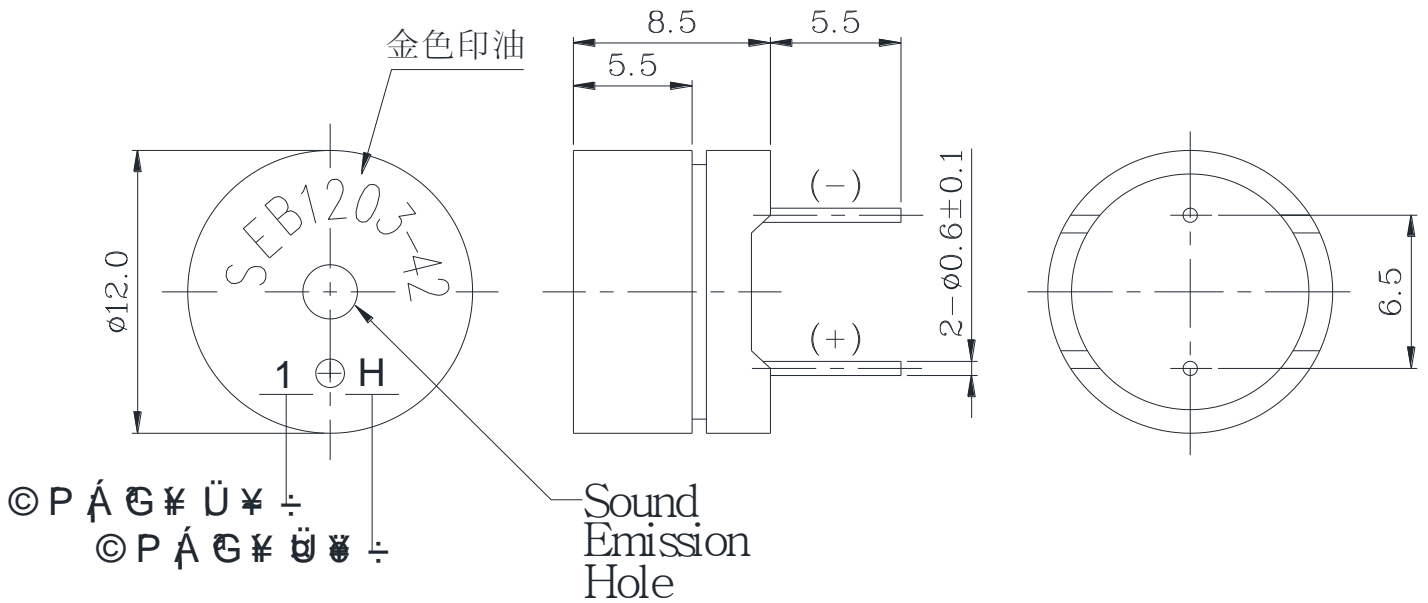
B. SPECIFICATION 規格

| No. | Item | Unit | Specification | Condition |
|-----|--|--------------------|------------------------------|---|
| 1 | Rated Voltage 額定電壓 | Vo-p | 3.5 |  |
| 2 | Operating Volt. 操作電壓 | Vo-p | 3.0~5.0 | |
| 3 | Mean Current 平均耗電流 | mA | Max. 35 | Applying rated voltage, 2048Hz square wave, 1/2duty 施以額定電壓, 2048Hz, 方波, 50%負載 |
| 4 | Coil Resistance 直流阻抗 | Ω | 42.0 ± 6.3 | |
| 5 | Sound Output 輸出音壓 | dBA | Min.85 (Typical 91) | Distance at 10cm(A-weight free air). Applying rated voltage 2048Hz, square wave, 1/2duty 在自由音場 10 公分處, 施以額定電壓, 2048Hz, 方波, 50%負載 |
| 6 | Rated Frequency 額定頻率 | Hz | 2048 | |
| 7 | Operating Temp. 操作溫度 | $^{\circ}\text{C}$ | -20 ~ +60 | |
| 8 | Storage Temp. 儲存溫度 | $^{\circ}\text{C}$ | -30 ~ +70 | |
| 9 | Dimension 尺寸 | mm | $\phi 12.0 \times H8.5$ | See attached drawing. 請參照外觀尺寸圖 |
| 10 | Weight 重量 | gram | 1.4 | |
| 11 | Material 材質 | | PPO(Black) | |
| 12 | Terminal 端子 | | Pin 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

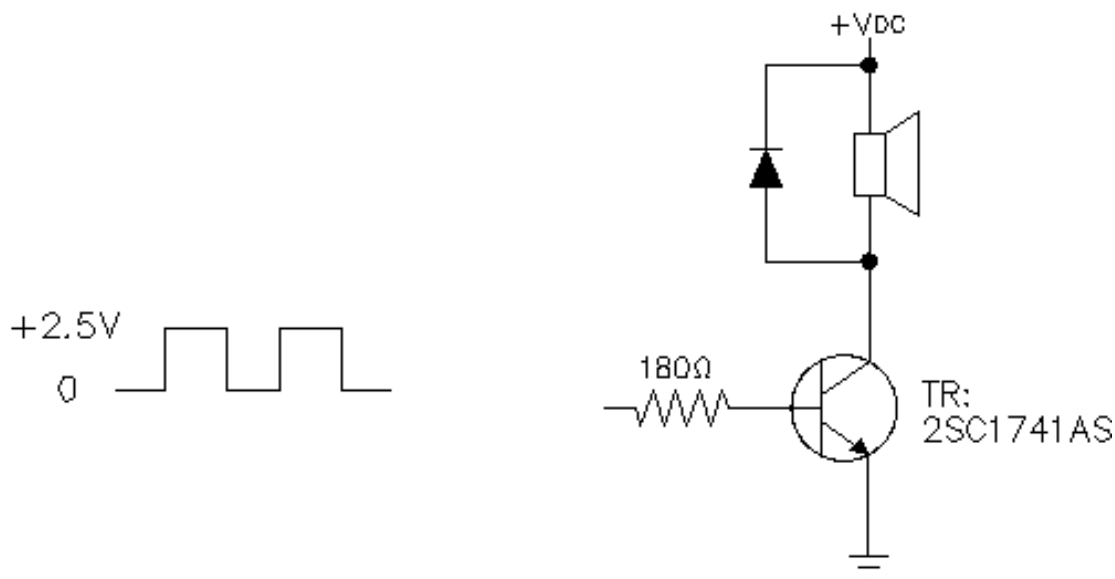


D. APPEARANCE DRAWING 外觀尺寸圖



Tol: ± 0.5
Unit: mm

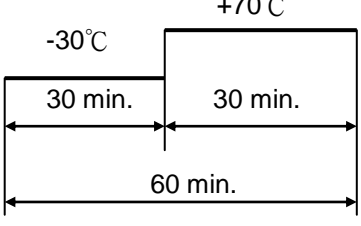
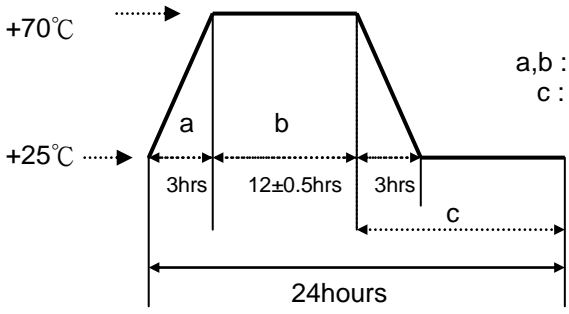
E. MEASUREMENT METHOD 測量方式



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 rosin for 5 seconds and then immersed in solder bath of +270±5°C for 3±1 seconds. 端子部份浸入松香溶液 5 秒後,再浸入+270±5°C 熔融焊錫槽中 3±1 秒. | 90% min. lead terminals shall be wet with solder. (Except the edge of terminal) 浸入端子部份附著焊錫 90%以上.(末端斷面不算) |
| 2 | Soldering Heat Resistance 焊錫耐熱性 | Lead terminal are immersed up to 1.5mm from sounder's body in solder bath of +260±5°C for 3±1 seconds. 距離端子根部 1.5mm 的位置,浸入+260±5°C 的焊錫槽 3±1 秒. | No interference in operation 操作上無任何不良 |
| 3 | Terminal Mechanical Strength 端子強度 | The force 10 seconds of 9.8N (1.0kg) is applied to each terminal in axial direction. 各端子的軸方向施以 9.8N (1.0kg) 的力量 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 ±10dBA 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±10dBA 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 +70°C for 96 hours. 置於+70°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°C the SPL should be in $\pm 10\text{dBA}$ 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，外觀及電氣特性須符合規格。輸出音壓變化量須在 $\pm 10\text{dBA}$ 內。 |
| 2 | Low temp. test 低溫測試 | After being placed in a chamber at -30°C for 96 hours. 置於-30°C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  | |

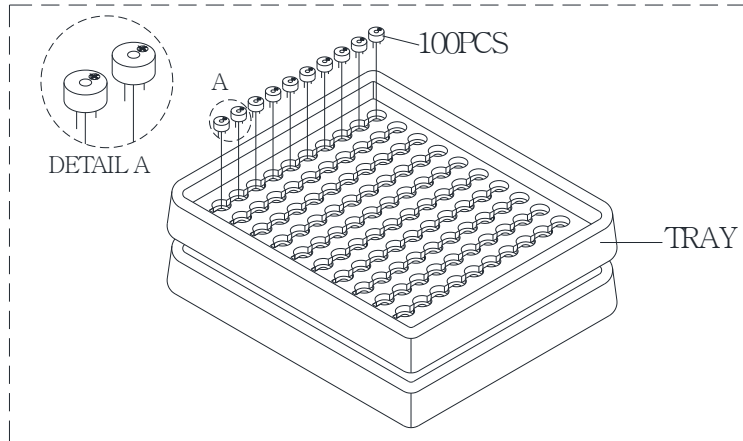
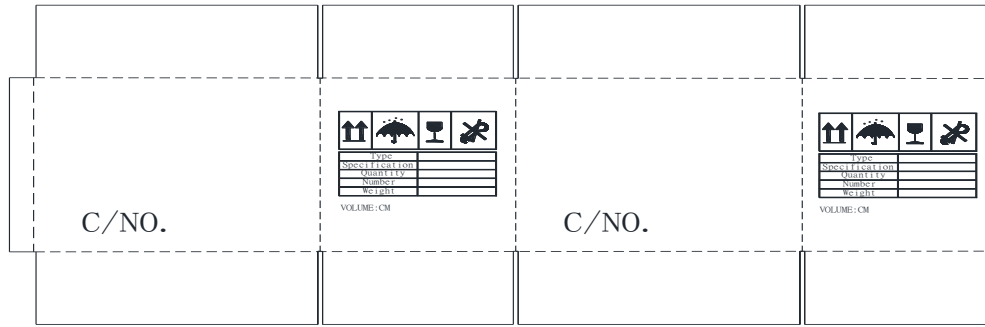
H. RELIABILITY TEST 信賴性測試


| No. | Item | Test condition | Evaluation standard |
|-----|-----------------------------|--|--|
| 1 | Operating life test 壽命測試 | 1. Continuous life test 高溫壽命測試(連續) The part shall be subjected to 72 hours at +45°C with 3.5V, 2048Hz applied. 在+45°C環境下,輸入 3.5V,2048Hz 連續操作 72 小時. 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°C) with 3.5V,2048Hz applied. 在室溫下(+25±10°C), 輸入 3.5V,2048Hz 通電 1 分鐘/斷電 1 分鐘,測試 10000 次循環。 | 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 $\pm 10\text{dBA}$ 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，外觀及電氣特性須符合規格。輸出音壓變化量須在 $\pm 10\text{dBA}$ 內。 |

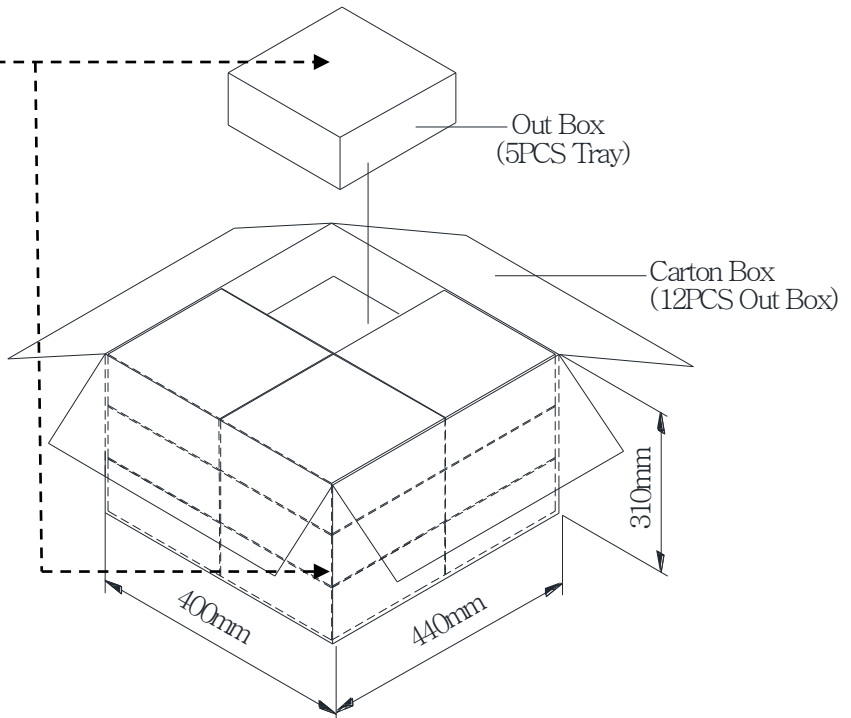
TEST CONDITION.

| | | | | |
|--------------------------|---|-----------------------------|----------------------|----------------------------|
| 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. PACKING STANDARD 包裝規格



| | |
|---|------------|
| Lot No. | XXXXXXXXXX |
| Model No. | XXXXXXXXXX |
| Quantity. | XXXX Pcs |
| Date: | DD MM YY |
|  | |
| SINGATRON | |



* The label stuck on inner boxes and the outer of carton.

1. 內外箱成品料號：SEB1203-42
2.  綠色環保標籤貼於內外箱上

| | | |
|------------|-------------------|----------------------|
| Tray | 184mmx184mmx23mm | 1x100PCS=100PCS |
| Out Box | 200mmx190mmx100mm | 5LAYERx100PCS=500PCS |
| Carton Box | 440mmx400mmx310mm | 500PCSx12=6000PCS |