

RoHS



電磁式蜂鳴器規格書

SPECIFICATION FOR MAGNETIC TRANSDUCER

產品編號

LF-MT05A03

Item No.

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1 此電磁式蜂鳴器適用於警示系統

The magnetic transducer can be used for alarming devices and systems.

2 一般規格 General Specifications

2.1 額定電壓 Rated Voltage 3.6 V_{0-P}

2.2 工作電壓 Operating Voltage 2.5 ~ 4.5 V_{0-P}

2.3 消耗電流 Current Consumption
 最高 130mA (輸入額定電壓、半方波、諧振頻率)
 Max. 130mA when applying rated voltage, half (1/2) duty square wave, and resonance frequency.

2.4 直流電阻 Coil Resistance 12 ± 3.0Ω

2.5 輸出音壓 Sound Pressure Level
 最低 73dB (輸入額定電壓、半方波、諧振頻率，測試距離 10 公分)
 Min. 73dB when applying rated voltage, half (1/2) duty square wave, and resonance frequency at 10cm.

2.6 諧振頻率 Resonance Frequency 4,000Hz

2.7 重量 Weight 0.128g

2.8 工作溫度 Operating Temperature - 40°C ~ + 85 °C

2.9 儲存溫度 Storage Temperature - 40°C ~ + 85 °C

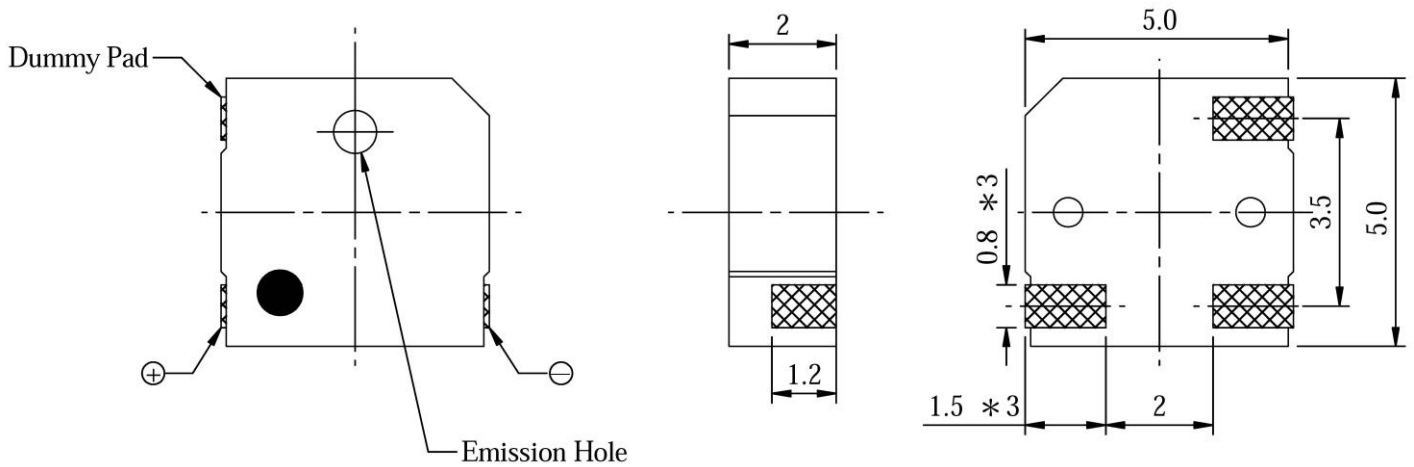
2.10 塑膠殼材質 Case Material LCP

2.11 測試條件 Measuring Conditions
 溫度 Temperature : 25 ± 3°C
 相對濕度 Relative Humidity : 60 ± 10%

3 圖與尺寸 Drawing and Dimensions

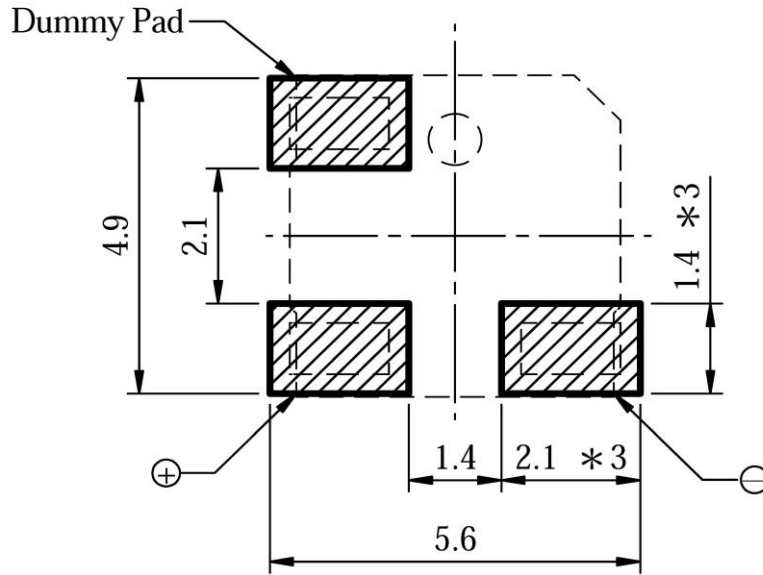
- | | |
|------------------------|---|
| 3.1 外觀 Appearance | 無可見的損壞與髒汙。
No visible damage and dirt. |
| 3.2 尺寸 Dimensions | 如圖一
Please refer to Figure 1. |
| 3.3 線路板佈局 Land Pattern | 如圖二
Please refer to Figure 2. |

尺寸單位 Dimensions Unit : mm \pm 0.5



圖一 Figure 1

線路板佈局圖 Land Pattern



圖二 Figure 2

4 物理特性 Physical Characteristics

測試項目	測試條件	性能要求
Test Items	Conditions	Requirements
4.1 振動測試 Vibration Test	<p>蜂鳴器置於標準包裝內，振幅 1.5mm、振動頻率 10Hz 至 55Hz，X、Y、Z 三方向循環測試各 30 分鐘。</p> <p>The transducer should be packed in standard packaging for vibration test with amplitude 1.5mm, frequency rotating from 10Hz to 55Hz. Test applied 30 minutes each for X, Y, and Z directions.</p>	<p>測量值符合表格一</p> <p>The values meet Table 1.</p>
4.2 落地測試 Drop Test	<p>蜂鳴器置於標準包裝內，自高度 75 公分處掉落至 5 公分厚木板，執行自由落地測試，X、Y、Z 三方向各兩次。</p> <p>The transducer should be packed in standard packaging for drop test from 75cm height to 5cm thick wooden board, 2 times each for X, Y, and Z directions.</p>	<p>測量值符合表格一</p> <p>The values meet Table 1.</p>

5 環境測試 Environmental Tests

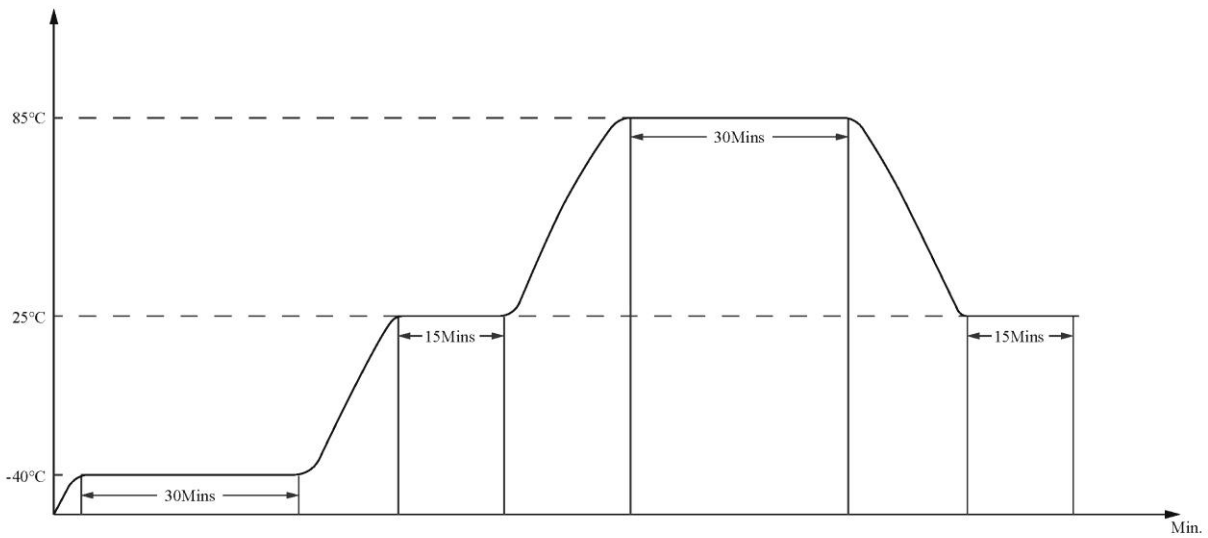
測試項目 Test Items	測試條件 Conditions	性能要求 Requirements
5.1 高溫 High Temperature	蜂鳴器於+85°C ± 5°C測試箱內放置 96 小時後，室溫放置 4 小時後，執行測試。 Test the transducer after it has been placed in a chamber with +85°C ± 5°C for 96 hours and set in room temperature for 4 hours.	測量值符合表格一 The values meet Table 1.
5.2 低溫 Low Temperature	蜂鳴器於-40°C ± 5°C測試箱內放置 96 小時後，室溫放置 4 小時後，執行測試。 Test the transducer after it has been placed in a chamber with -40°C ± 5°C for 96 hours and set in room temperature for 4 hours.	測量值符合表格一 The values meet Table 1.
5.3 溫濕度 Temperature and Relative Humidity	蜂鳴器於+40°C ± 5°C、相對溼度 90% 至 95%測試箱內放置 96 小時後，室溫放置 4 小時後，執行測試。 Test the transducer after it has been placed in a chamber with +40°C ± 5°C and relative humidity 90% to 95% for 96 hours and set in room temperature for 4 hours.	測量值符合表格一 The values meet Table 1.

5.4 溫度循環
Thermal Cycling

蜂鳴器放置測試箱內，依下圖示溫度及時間循環五次，並於室溫放置 4 小時後，執行測試。

Test the transducer after it has been placed in a chamber running 5 cycles of different temperature as following picture and set in room temperature for 4 hours.

測量值符合表格一
The values meet Table 1.



項目 Items	性能要求 Requirement
輸出音壓 Sound Pressure Level	原始音壓±10% Original Level ±10%
消耗電流 Current Consumption	原始值±10% Original Level ±10%
外觀 Appearance	無不正常變化 No unusual changes.

表格一

Table 1

6 焊接條件 Soldering Conditions

焊接方式：迴流焊接

焊接次數：最多兩次

執行第二次焊接前，蜂鳴器溫度須冷卻至室溫，靜置最少 30 分鐘。

產品非密封結構，請勿水洗。

測試：焊接後蜂鳴器需在室溫下冷卻 1 小時後始可量測特性。

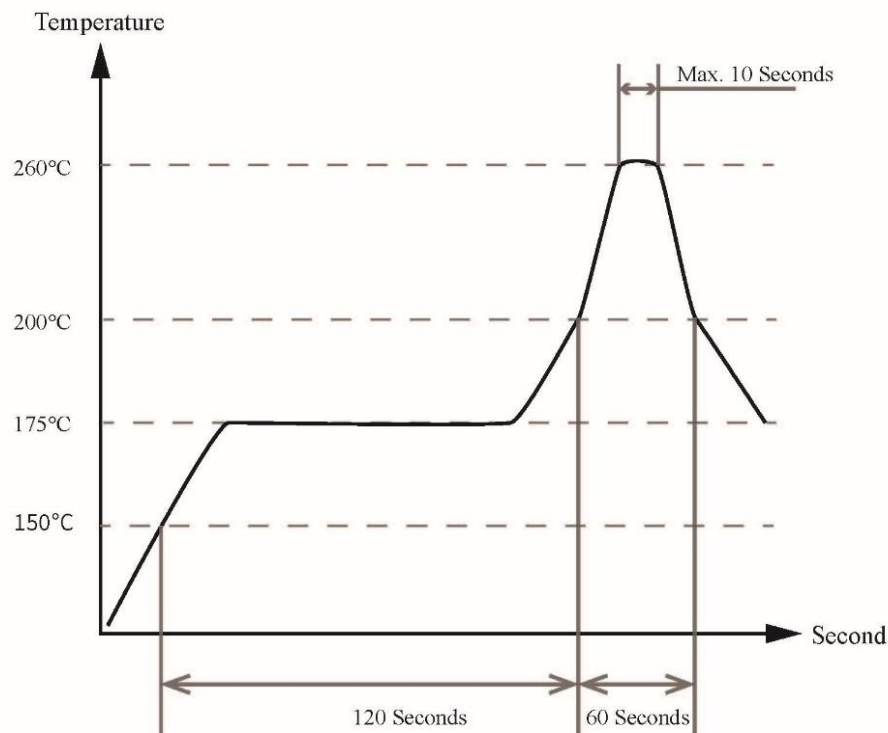
Soldering Method: IR Reflow Soldering

Frequency: Max. 2 times.

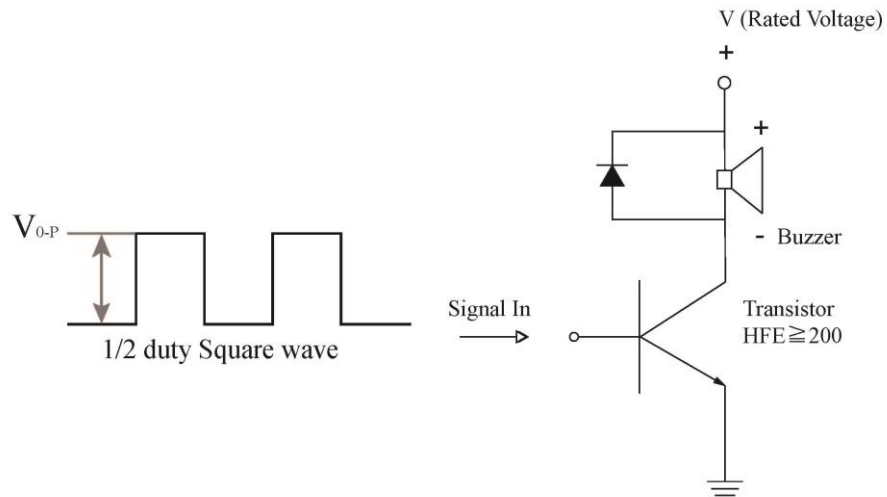
Please cool down the buzzer to room temperature for min. 30 minutes before re-soldering.

Please cool down the buzzer at room temperature for min. one hour before testing.

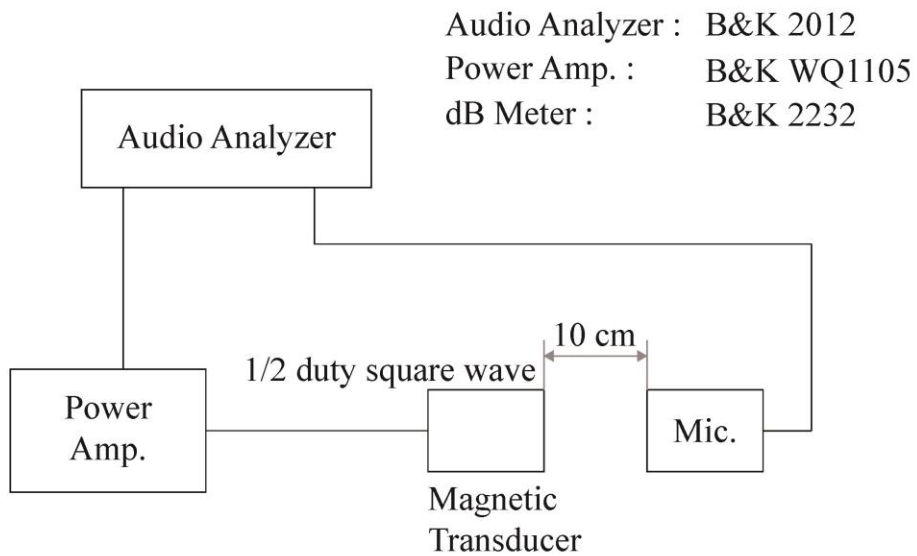
Please do not wash the product.



7 標準驅動電路 Recommended Operating Circuit



8 測試方塊圖 Measuring Method



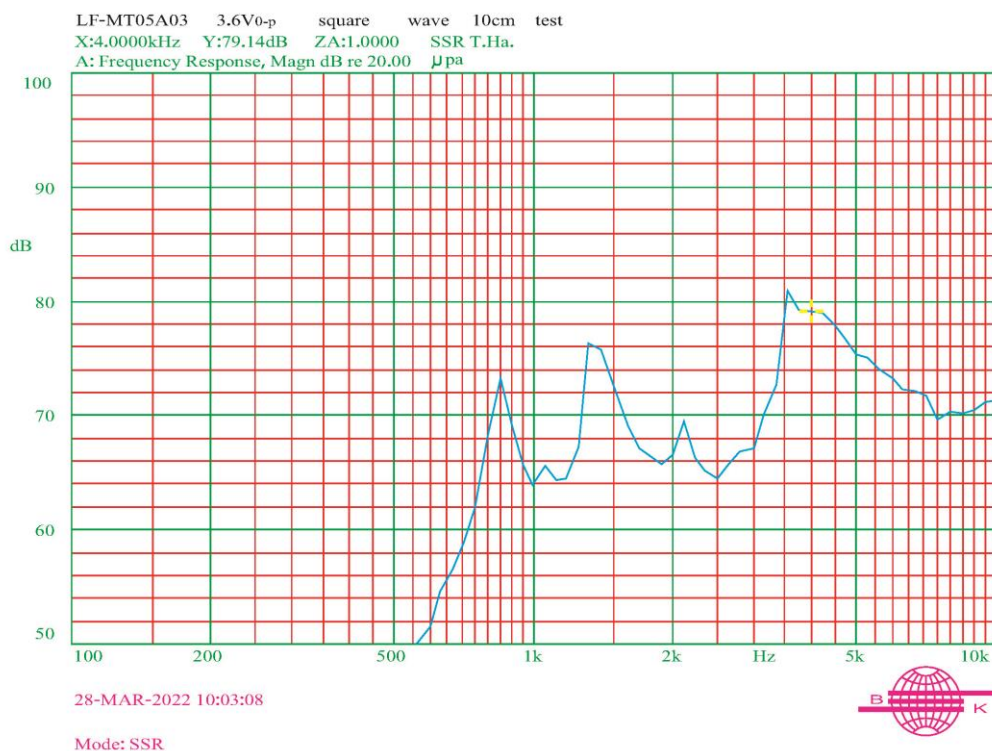
9 頻率響應曲線圖 Frequency Response Curve

9.1 輸入電壓 3.6V_{0-P} 方波

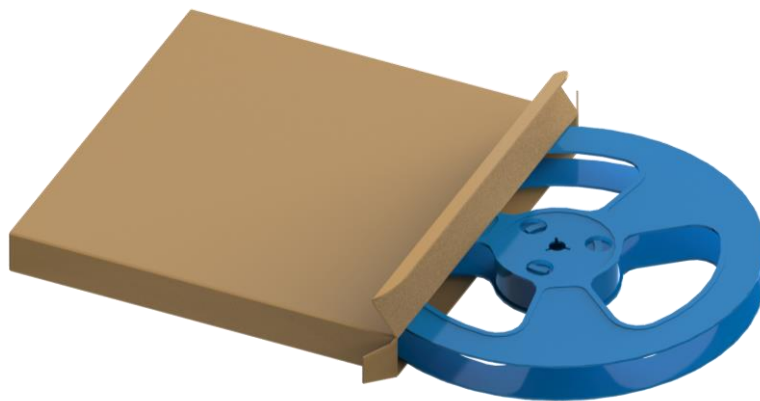
Input Voltage 3.6V_{0-P} Square Wave

9.2 測試距離 10 公分

Measuring Distance 10cm



10 包裝示意圖 Drawing for Packaging



1,000pcs / 捲 Reel

1,000pcs / 盒 Box

材積 Dimensions: 35 * 35 * 3.5 (cm)



1,000pcs / 盒 Box

10,000pcs / 箱 Carton

材積 Dimensions: 35 * 35 * 37 (cm)

重量 Weight: 6.1Kg

11 備註 Remarks

11.1 請依規格書標示之條件驅動蜂鳴器，以免造成不良。

To avoid default problems, please drive buzzers by instructions on datasheets.

11.2 產品組裝時電源極性請勿反向連接。

Buzzers should be assembled following the polarities.
