



# Approval Sheet for Product Specification

## (产品承认书)

PRODUCT NAME: PIEZO BUZZER

(产品名称: 压电蜂鸣器)

CUSTOMER PART NO: \_\_\_\_\_

(客户型号: \_\_\_\_\_)

OUR PART NO: HYR-1740A

(我司型号: HYR-1740A)

1. This product shall comply with RoHs. (本产品符合RoHs指令。)
2. In case of changes, such as mold, manufacturing process, material, appearance, and inspection etc.The same procedure is required. (样品确认后,如模具、制造方法、材料、外观、检验等发生变更的情况下必须事前由双方进行协商。)

Customer Approved (客户承认)

|                          |  |  |  |
|--------------------------|--|--|--|
| Customer Approved (客户承认) |  |  |  |
|                          |  |  |  |

| Approved by<br>(批准) | Checked by<br>(复核) | Drafted by<br>(编制) | Date<br>(日期) |
|---------------------|--------------------|--------------------|--------------|
|                     |                    |                    | 2014/8/28    |

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# SPECIFICATION FOR BUZZER

## (蜂鸣器产品规格书)

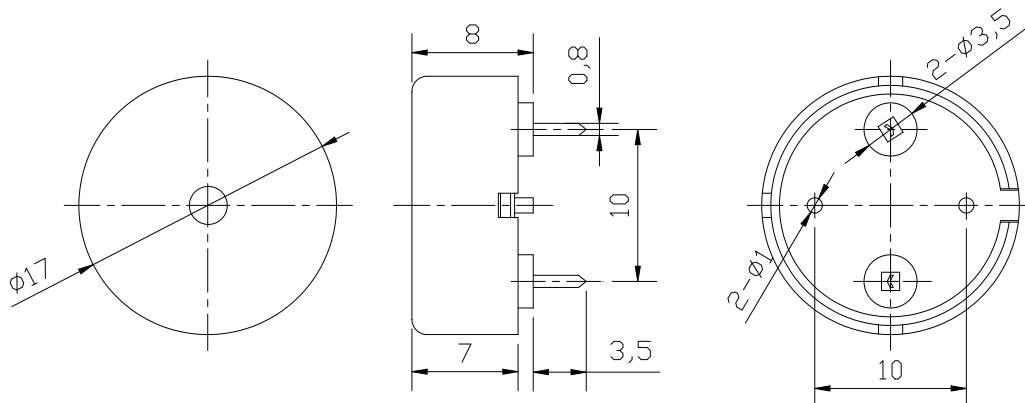
### 1. APPLICATION RANGE (应用范围)

This product specification is applied to the piezoelectric buzzer used for sounder in alarm systems. (产品属于压电蜂鸣器，广泛应用于发声系统)。

### 2. SPECIFICATIONS (规格)

Standard test condition: Temperature of  $25 \pm 3^{\circ}\text{C}$ , humidity  $60 \pm 10\%$  R.H.  
(标准测试条件: 温度 $25 \pm 3^{\circ}\text{C}$ , 湿度 $60 \pm 10\%$  R.H)。

|      |                       |                    |  |
|------|-----------------------|--------------------|--|
| 型 号  | Part Number           | HYR-1740A          |  |
| 谐振频率 | Resonance Frequency   | Hz                 | $4000 \pm 500$                             |
| 声 压  | Sound Pressure Level  | dB                 | 85min. At 4.0kHz Square wave/12.0Vp-p/10cm |
| 自由电容 | Free Capacitance      | pF                 | $15,000 \pm 30\%$ at 100Hz                 |
| 输入电压 | Input Voltage         | Vp-p               | 30 max. Sine wave                          |
| 消耗电流 | Current Consumption   | mA                 | 5.0Vp-p 1mA max                            |
| 工作温度 | Operating Temperature | $^{\circ}\text{C}$ | $-20 \sim +80$                             |
| 贮存温度 | Storage Temperature   | $^{\circ}\text{C}$ | $-30 \sim +80$                             |
| 尺 寸  | Dimension             | As shown in Figure |  |
| 基片材料 | Plate material        | Brass              |  |
| 外壳材料 | Case material         | NORYL              |  |
| 插针材料 | Pin material          | Phosphor bronze    |  |



3. FREQUENCY RESPONSE (频率响应曲线图)

02/22/2012 17:58

CRY6125F 蜂鸣器测试仪 V91

无框 滤波器1次

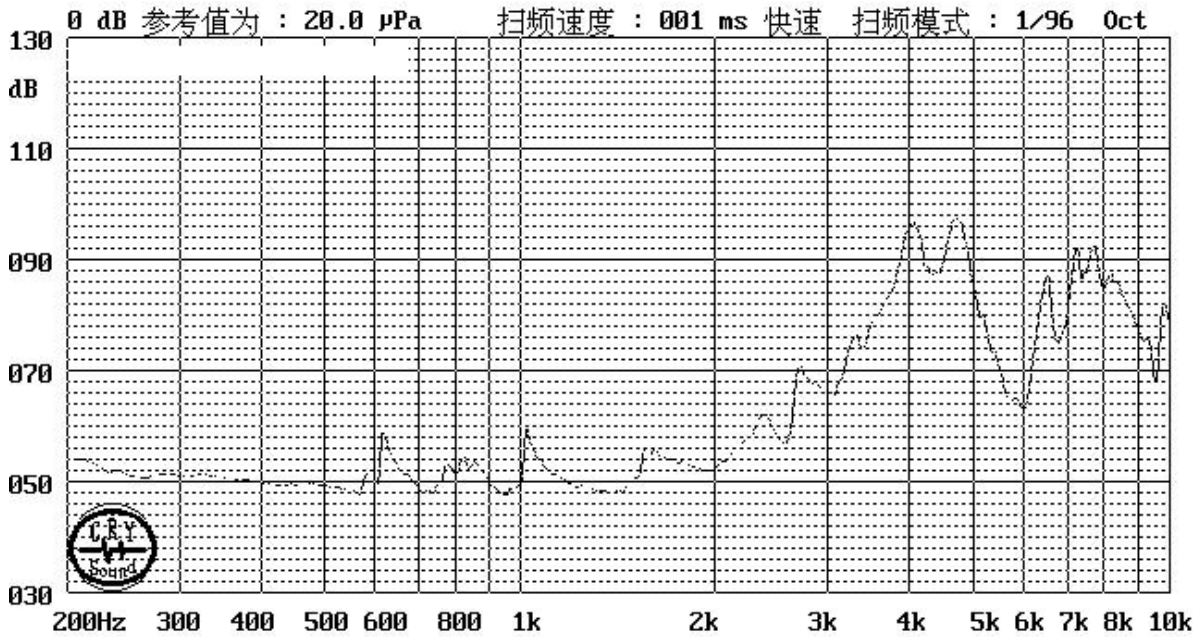
型号:PE-1440-T2

Fc= 4000 Hz 095.66 dB

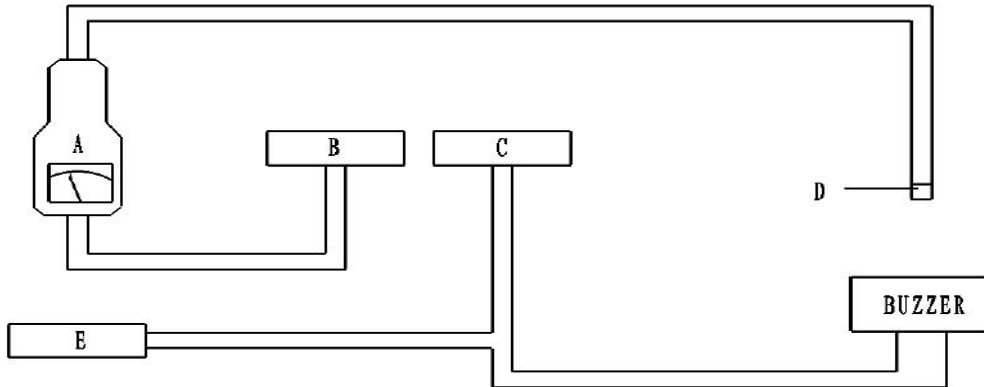
方波

电压:3000 mV

Fo= 4709 Hz 097.47 dB



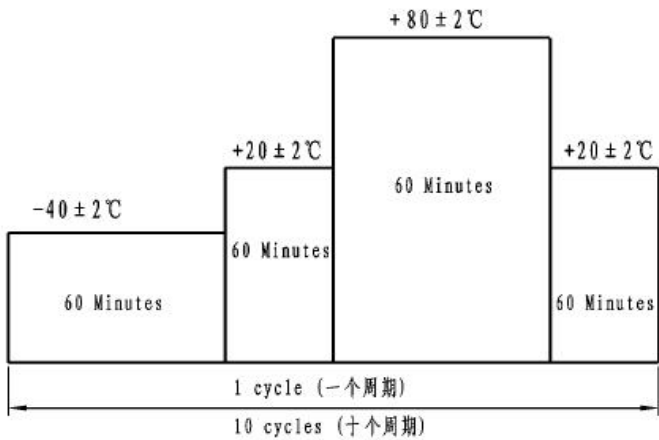
4. SOUND PRESSURE TESTING CIRCUIT DIAGRAM (声压测试线路图)



- A: Sound Pressure Level Meter 声级计
- B: Frequency Counter 频率计
- C: RC oscillator 驱动电路
- D: Sound Pressure Level For Focus 声级计传声话筒
- E: Multimeter (Ampere Meter) 信号发声器



5. RELIABILITY TEST (可靠性试验)

| 序号 | ITEM (项目)                         | METHOD OF TEST (试验方法)   | VARIANCE AFTER CONDITION (标准) |
|----|-----------------------------------|---|-------------------------------|
| 1  | Dry Heat Test (Storage)<br>高温储存试验 | After being placed in a chamber with $80 \pm 2^\circ\text{C}$ for 240 hours and then Being placed in natural condition for 4 hours, buzzer shall Be measured.<br>在 $80 \pm 2^\circ\text{C}$ 的试验箱里放置240小时, 然后在室温下放置4小时后测试。                                 |                               |
| 2  | Cold Test (Storage)<br>低温储存试验     | After being placed in a chamber with $-40 \pm 2^\circ\text{C}$ for 240 hours and then Being placed in natural condition for 4 hours, buzzer shall Be measured.<br>在 $-40 \pm 2^\circ\text{C}$ 的试验箱里放置240小时后, 然后在室温下放置4小时后测试。                              |                               |
| 3  | Humidity Test<br>耐湿性试验            | After being placed in a chamber with 90 to 95%R.H. at $40 \pm 2^\circ\text{C}$ for 240 hours and then being placed in natural condition for 4 hours, Buzzer shall be measured.<br>在湿度为90—95%, 温度为 $40 \pm 2^\circ\text{C}$ 的温湿箱里放置240小时后, 然后在室温下放置4小时后测试。 |                               |
| 4  | Temperature Cycle Test<br>温度循环试验  | Make the test for 5 cycles without applying power as fig then expose to the room temperature for 4 hours.<br>不接电源按下图做5个周期试验, 然后在室温下放置4小时再测试。<br>                      |                               |
| 5  | Vibration Resistant<br>耐振动性       | 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 perpendicular directions for 2 hours.<br>振动频率10~55Hz, 振幅为1.5mm, 朝X、Y、Z轴三个方向振动2小时后测试。                                |                               |

Sound Pressure Level (Specification after test):  
Initial Value  $\pm 10\text{dB}$ .  
声压(试验后变化量): 初始值  $\pm 10\text{dB}$ .

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|   |                                     |   |  |
|---|-------------------------------------|---|--|
| 6 | Drop Test<br>跌落试验                   | Drop a product naturally form the height of 1000mm onto the surface of 100mm thick wooden board. Two directions: This is upper and side of the product are to be applied for this drop test tespectively once.<br>从1000mm高度将产品自然跌落在100mm厚板上按正、侧面方向各做二次跌落试验，观察此产品能否承受跌落试验。 | Sound Pressure Level (Specification after test):<br>Initial Value±10dB.<br>声压(试验后变化量): 初始值±10dB。 |
| 7 | Soldering Heat Resistance<br>耐焊接热试验 | Lead terminal are immersed up to 1.5mm from buzzer' s body in solder bath of 260℃ for 10 seconds, and then buzzer shall be measured after being placed in natural condition for 4 hours.<br>将插针端子浸入260℃的焊料至距离蜂鸣器本体1.5mm,持续10秒,然后在室温下放置4小时后测试。                             |  |
| 8 | Solder ability<br>可焊性               | Lead terminals are immersed in rosin for 5 seconds and then immersed in solder bath of 250℃ for 3 seconds.<br>将插针端子进入松香助焊剂5秒,然后浸入250℃的焊料中3秒。  | 95%min. lead terminals shall be wet with solder. (Except the edge of terminal)<br>上锡面积≥95%。      |
| 9 | Terminal Strength Pulling<br>端子强度   | The force 10 seconds of 9.8N is applied to each terminal in axial direction.<br>插针端子能承受9.8N的负荷10秒。  | No visible damage and cutting off.<br>端子没有明显的损伤和断裂、脱落。   |

**6. PACKING INFORMATION (包装信息)**

1 盒 (box) =100pcs/板 (pearl cotton vest) ×5 板 (pearl cotton vest) =500pcs

1箱 (carton) =500pcs/盒 (box) ×20 (box) =10000pcs

