

# Specification of Piezoelectric Sounder

## 1. Scope

This specification is applied to the piezoelectric sounder which are used for alarm systems.

2. Item No.: LF-PE30W25A

## 3. Ratings

- \* Operating Temperature Range: - 20 °C ~ + 70 °C
- \* Storage Temperature Range: - 40 °C ~ + 80°C
- \* Maximum Input Voltage: 20 Vp-p max.
- \* Case material: ABS UL94HB
- \* Lead Wire: UL1095 AWG 28 E41396

## 4. Outline Drawing and Dimensions

- \* Appearance: No visible damage and dirt
- \* Dimensions: as per Fig. 1

## 5. Electrical Requirements

	Items	Specifications	Test Conditions
5-1.	Sound Pressure Level	85 dB min.	Input Signal: 9 Vp-p 2500Hz Square wave Distance: 10 cm *as per Fig. 2
5-2.	Capacitance	47,000 pF ± 30%	at 120 Hz

- \* Electrical Requirements should be specified at room temperature and humidity.  
( Ref. Temperature: 25 ± 3°C, Humidity: 60 ± 10% RH )

6. Physical Characteristics

	Test Item	Test Conditions	Performance Requirements
6-1.	Vibration	Sounder shall be measured after being applied vibration of amplitude of 1.5 mm with 10 to 55 Hz band of vibration frequency to each three mutually perpendicular directions for 2 hours.	The measured values shall meet Table 1.
6-2.	Wire Pull Strength	On the ceramic disc, Horizontal: 500g min. Vertical: 300g min.	No break on the wire. No electrode dislodge on the disc.

7. Environmental Characteristics

	Test Items	Test Conditions	Performance Requirements
7-1.	High Temperature	After being placed in a chamber with $+85 \pm 2^\circ\text{C}$ for 240 hours and then being placed in natural condition for 4 hours, sounder shall be measured.	The measured values shall meet Table 1.
7-2.	Low Temperature	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, ringer shall be measured.	
7-3.	Humidity	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, sounder shall be measured.	
7-4.	Temperature Cycle	After being placed in a chamber at $-40 \pm 2^\circ\text{C}$ for 30 minutes, sounder shall be placed at room temperature ( $+20^\circ\text{C}$ ). After 15 minutes at this temperature, sounder shall be placed in a chamber at $+85 \pm 2^\circ\text{C}$ . After 30 minutes at this temperature, sounder shall be returned to room temperature ( $+20^\circ\text{C}$ ) for 15 minutes. After 5 above cycles, sounder shall be measured after being placed in natural condition for hours.	

Table 1

Items	Performance Requirements
Sound Pressure Level	Initial Value $\pm 10$ dB

## 8. Others

- 8-1. Please pay attention never to be applied DC voltage to piezo sounder.
- 8-2. Please pay attention to protect operating circuit from surge voltage provided by something for force such as falling, shock and temperature changing.
- 8-3. The resistor should be used as shown in Fig. A. A suitable resistance value should be chosen. Instead of this measure, a diode may also be applied as shown in Fig. B.

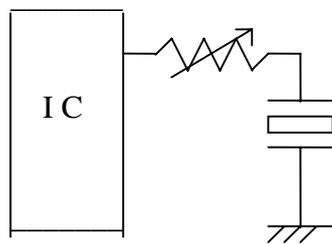


Fig. A

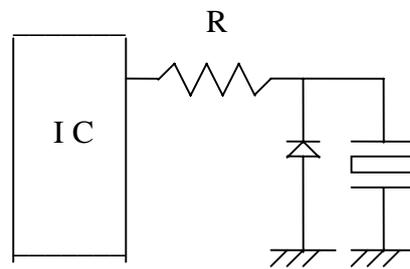


Fig. B

- 8-4. This specification mentions the quality of the component as a single unit. Please insure the component is thoroughly evaluated in your application circuit.
- 8-5. Please do not use this component in any application that deviates from its intended use as noted within the specification. It may cause any mishaps.

