



SPECIFICATION FOR PIEZOELECTRIC SPEAKER

Item No.: LF- PK32W28A

<i>Issue Date</i>	<i>Issued By</i>
<i>DEC. 05, 2006</i>	<i>Martin Lu</i>

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Specification of Piezoelectric Speaker

1. Scope

This specification is applied to the piezoelectric speaker, which are used for alarm device.

2. Item No.: LF-PK32W28A

3. Ratings

- * Operating Temperature Range: - 20 °C ~ + 80 °C
- * Storage Temperature Range: - 40 °C ~ + 90 °C
- * Maximum Input Voltage: 30Vp-p square wave max.

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	105 dB min.	Input Signal: 9Vp-p 2800Hz square wave. Distance: 10 cm *As per Fig. 2
5-2.	Capacitance	130,000 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: 300g min. Vertical: 150g 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, sounder 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 measured after being placed in natural condition for hours.	

Table 1

Items	Performance Requirements
Sound Pressure Level	Initial Value ± 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.

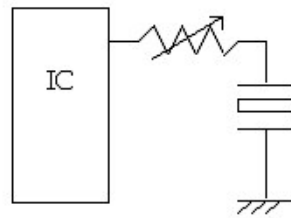


Fig. A

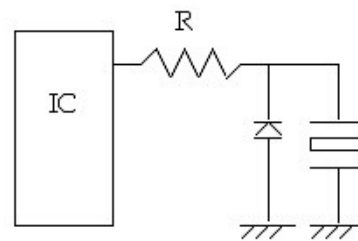
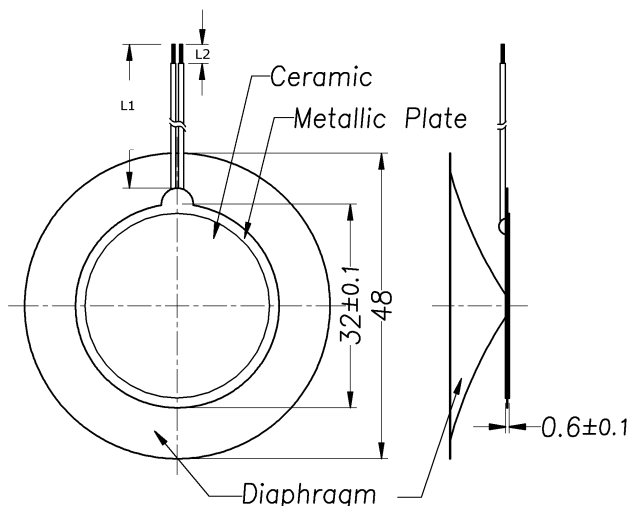


Fig. B

- 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.

Dimensions Unit: mm \pm 0.2



Lead Wire: UL1095 AWG28 L1: 115.0 \pm 5.0mm L2: 3 \pm 0.5mm

Fig. 1

Test Circuit

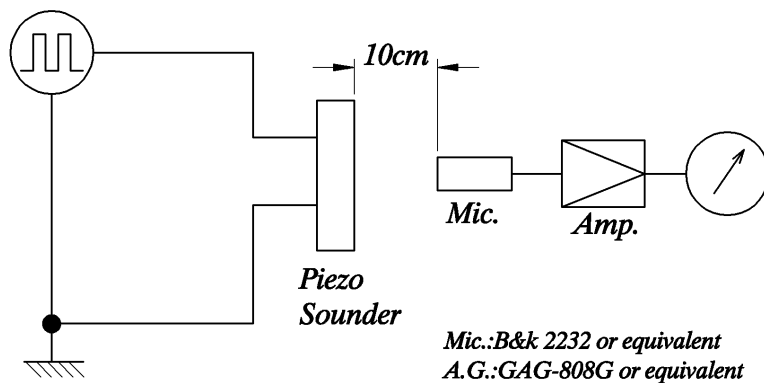


Fig. 2

FREQUENCY RESPONSE CURVE OF LF-PK32W28A

Input Voltage: 9Vp-p square wave

Measuring Distance: 10cm free-free test

