

# SPECIFICATION FOR MAGNETIC TRANSDUCER

## 1. Scope

This specification is applied to the magnetic transducer which are used for alarm systems.

## 2. Item No.: LF-MT09E01

## 3. Ratings

- Rated Voltage 1.5 V o-p
- Operating Voltage 1.0 ~ 3.0V o-p
- Current Consumption 80 mA max. Applying rated voltage (Square wave, 1/2 duty, Resonant frequency )
- Coil Resistance  $5.5 \pm 1.0\Omega$
- Sound Pressure Level 85dB min. Applying rated voltage ,Square Wave, 1/2 duty, Resonant frequency, Distance at 10cm.
- Resonant Frequency 2,730 Hz
- Operating Temperature - 30 °C ~ + 70 °C
- Storage Temperature - 40 °C ~ + 85 °C
- Case Material PC

## 4. Outline Drawing and Dimensions

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

## 5. Electrical Requirements should be specified at room temperature and humidity.

( Ref. Temperature:  $25 \pm 3^{\circ}\text{C}$ , Humidity:  $60 \pm 10\% \text{ RH}$  )

## 6. Physical Characteristics

	Test Items	Test Conditions	Performance Requirements
6-1.	Vibration	Transducer 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 meet Table 1.
6-2.	Shock Test	The buzzer is placed in a normal box, drops testing by three directions (X, Y, Z) from 100cm height free falling onto a board of 10mm thick.	The measured values meet Table 1.

## 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 without applying power, transducer 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 without applying power, transducer 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 48 hours and then being placed in natural condition for 4 hours without applying power, transducer shall be measured.	
7-4.	Temperature Cycle	$-30^{\circ}\text{C} \longleftrightarrow +20^{\circ}\text{C} \longleftrightarrow +80^{\circ}\text{C} \longleftrightarrow +20^{\circ}\text{C}$ (30min) (15min) (30min) (15min) Make this test for 5 cycles without applying power, then being placed in natural condition for 4 hours	

Table 1.

Items	Performance Requirements
Sound Pressure Level	Original Level $\pm 10\%$
Current Consumption	Original Value $\pm 15\%$
Appearance	No unusual changes should Be found

## 8. Remark

At the same spec of material changed without notice, due to the environmental protection, material sources and process improvement norms etc.

Dimensions Unit: mm  $\pm$  0.3

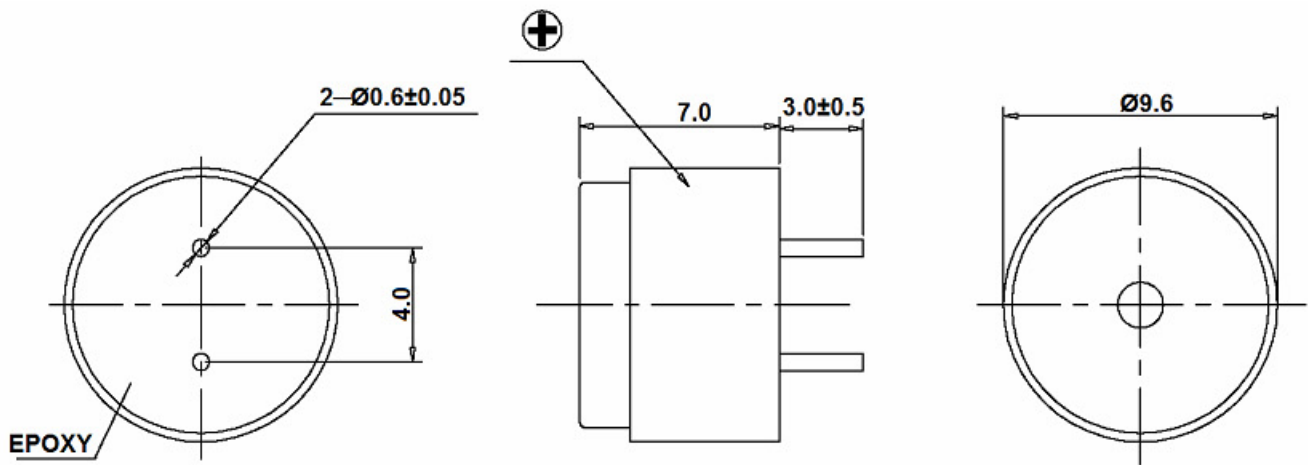


Fig 1

Test circuit

*Audio Analyzer : B & K 2012*  
*Power Amp. : B & K WQ1105*  
*Mic. : B & K 4191*

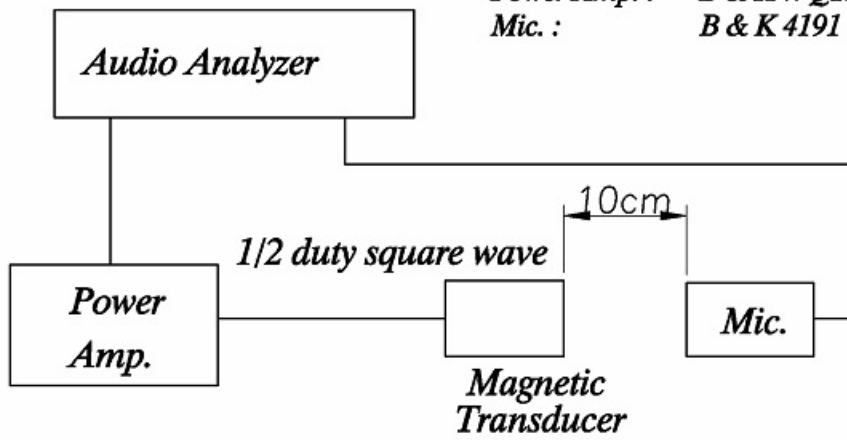


Fig. 2

Standard driving circuit for transducer

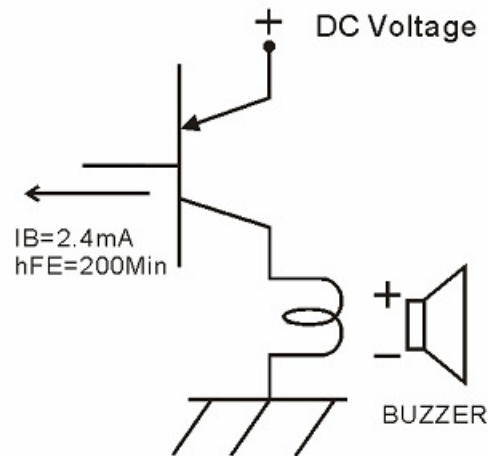
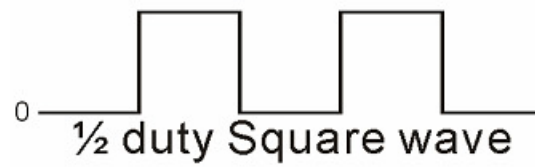


Fig. 3

# FREQUENCY RESPONSE CURVE OF LF-MT09E01

Input Voltage: 1.5V o-p Square Wave

Measuring Distance: 10cm

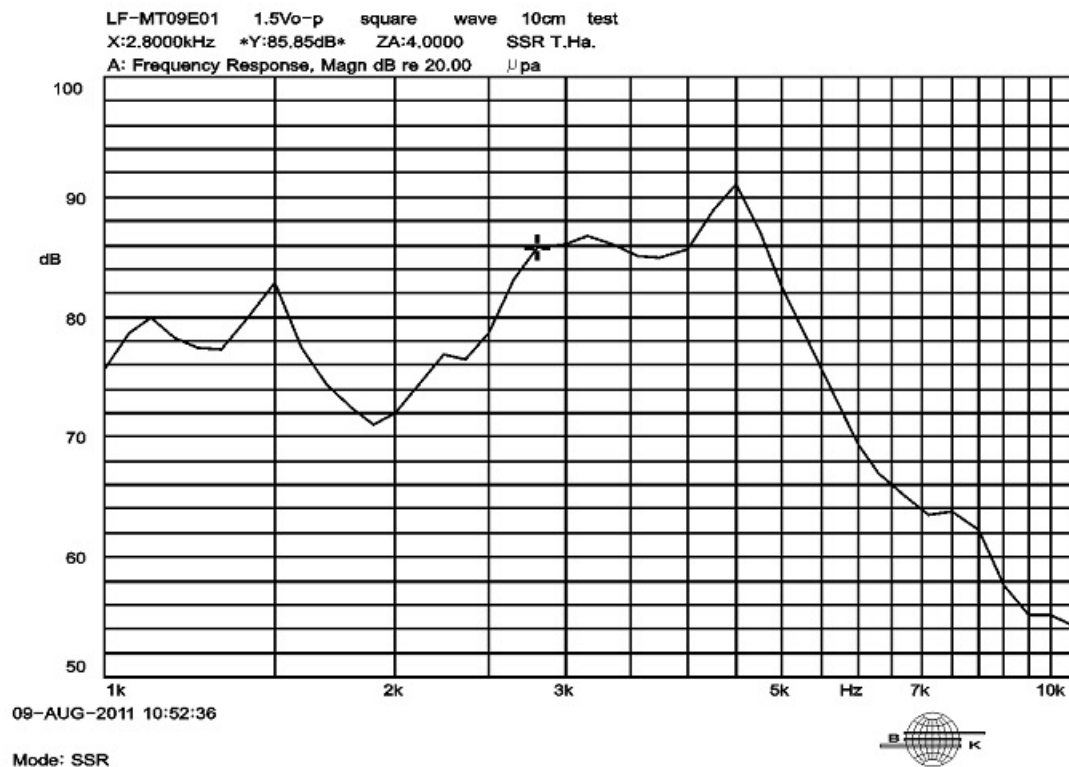


Fig. 4