

# Specification of Magnetic Transducer

## 1. Scope

This specification is applied to the magnetic transducer, which are used for alarm systems, communication devices, such as: pager, cordless phone, modem.

2. Item No.: LF-MT12D02

勝特力材料 886-3-5753170  
勝特力电子(上海) 86-21-34970699  
勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)

## 3. Ratings

- Rated Voltage : 5.0 Vo-p
- Operating Voltage : 3 ~ 8Vo-p
- Current Consumption : 40 mA max. Applying rated voltage (Square wave, 1/2 duty, Resonant frequency )
- Coil Resistance :  $47 \pm 5.2\Omega$
- Sound Pressure Level : 85dB min. Applying rated voltage ,Square Wave, 1/2 duty, Resonant Frequency, Distance at 10cm.
- Resonant Frequency : 2,400 Hz
- Operating Temperature :  $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$
- Storage Temperature :  $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$
- 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 put in a normal box then drop on concrete floor plated with asphalt tile from 1.5m high position, repeating 5 times.	The measured values meet Table 1.
6-3	Resistance to Soldering Heat	Lead terminal are immersed up to 1.5mm from sounder's body in solder bath of $260\pm 5^{\circ}\text{C}$ for $3\pm 1\text{sec.}$ or $230\pm 5^{\circ}\text{C}$ for $5\pm 1\text{sec.}$ Then the sounder shall be measured after being placed in natural condition for 4 hours.	The measured values meet Table 1.
6-4	Solder Ability	Lead terminals are immersed in rosin for 5 seconds and then immersed in solder bath for $230\pm 5^{\circ}\text{C}$ for $5\pm 1\text{sec.}$	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 $+70\pm 2^{\circ}\text{C}$ for 240 hours and then being placed in natural condition for 4 hours, transducer shall be measured.	The measured values shall meet Table 1.
7-2.	Low Temperature	After being placed in a chamber with $-20\pm 2^{\circ}\text{C}$ for 240 hours and then being placed in natural condition for 4 hours, transducer shall be measured.	
7-3.	Humidity	After being placed in a chamber with 90 to 95% R.H. at $+70\pm 2^{\circ}\text{C}$ for 240 hours and then being placed in natural condition for 4 hours, transducer shall be measured.	
7-4.	Temperature Cycle	Make a cycle from $70\pm 2^{\circ}\text{C}\times 1\text{Hr}$ to $-20^{\circ}\text{C}\times 1\text{Hr}$ and repeat the cycle 10 times continuously.	

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

因環保規範、材料取得、製程精進等因素，在規格特性未變更下，本公司得就材料逕行調整，毋須通知客戶。

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

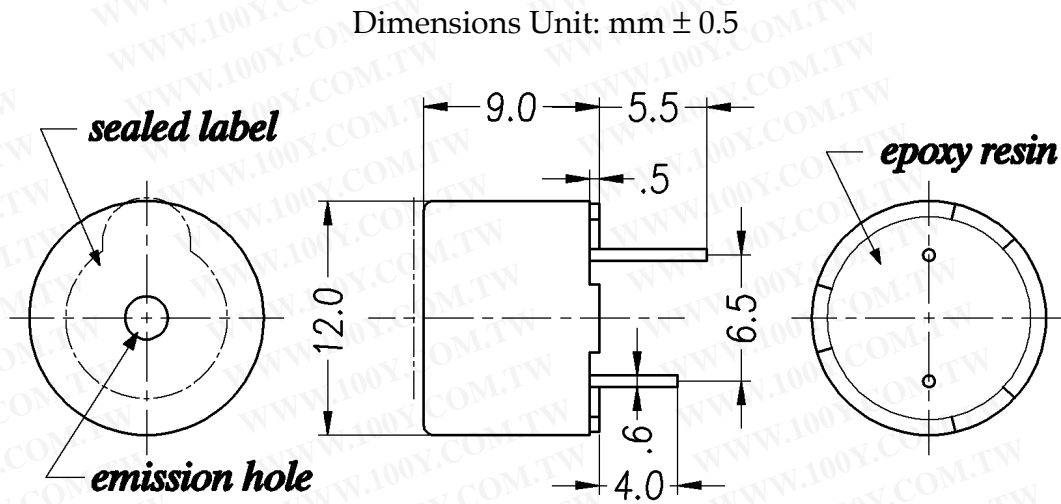


Fig. 1

Test circuit

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

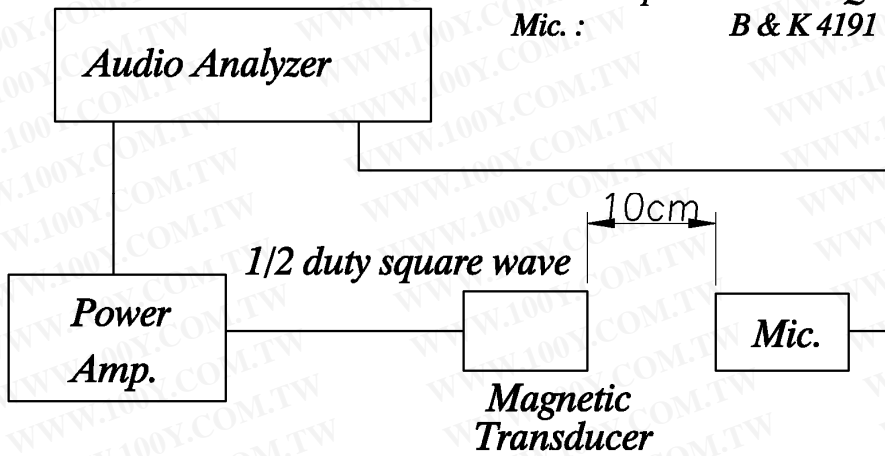


Fig. 2

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Standard driving circuit for transducer

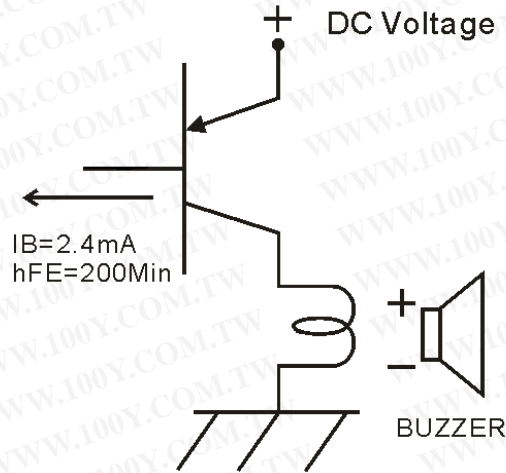
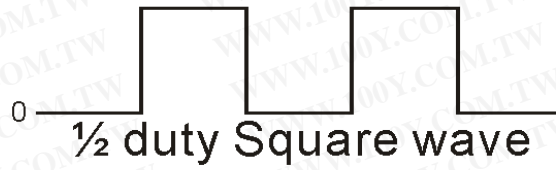


Fig. 3

FREQUENCY RESPONSE CURVE OF LF-MT12D02

Input voltage: 5.0Vo-p Square Wave

Measuring Distance: 10cm

LF-MT12D02 5Vo-p square wave 10cm test  
 X:2.3600kHz \*Y:93.59dB ZA:Live Curve SSR T.Ha.

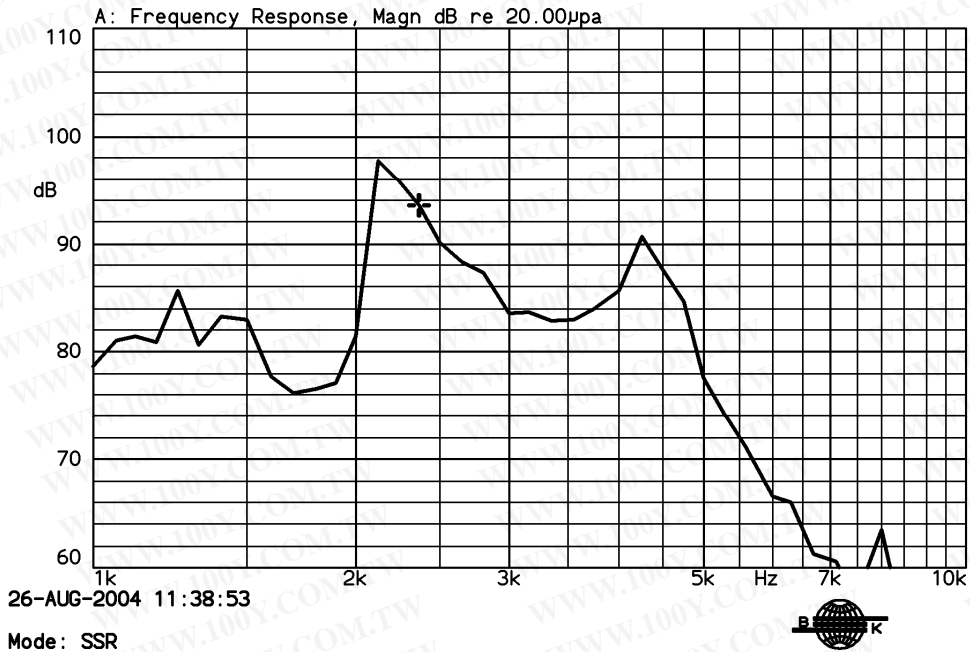


Fig. 4