

# SPECIFICATION FOR APPROVAL

## 承 认 书

Description : Magnetic Transducer

Vender's Part No. : HY09-4T

Customer's. Part No. : \_\_\_\_\_

Serial No. : HY-1532

Version No. : 1.1

### CUSTOMER'S APPROVED SIGNATURE

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Approved By	Checked By	Made By
QIAN WANJIN	SHI JIANQIANG	<b>ZHU</b> <b>2010.04.02</b>



HYDZ<sup>®</sup>

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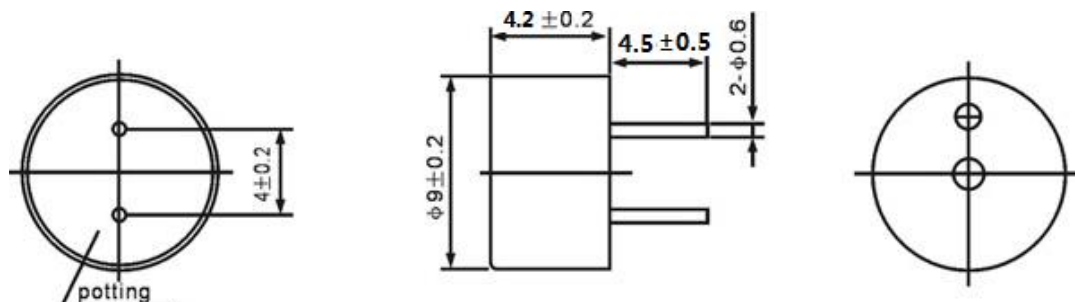
## A. SCOPE

This specification applies magnetic transducer, **HY09-4T**

## B. SPECIFICATION

No.	Item	Unit	HY09-4TAE	HY09-4TBE	HY09-4TCE	Condition
1	Rated Voltage	Vo-p	1.5	3	5	
2	Operating Voltage	Vo-p	1 ~ 3	2~4	4~6	
3	Coil Resistance	Ω	5.5±1	16±3	42±4	
4	Oscillation Frequency	Hz	2731			Vo-p=1/2duty , square wave
5	Current Consumption	mA	MAX. 80			at Rated Voltage
6	Sound Pressure Level	dB	MIN. 85			at 10cm at Rated Voltage
7	Operating Temperature	°C	-20 ~ +70			
8	Storage Temperature	°C	-30 ~ +80			
9	Dimension	mm	Φ9 x H4.2			See appearance drawing
10	Weight (MAX)	gram	1.0			
11	Housing Material		PPO( Black )			
12	Leading Pin		Tin Plated Brass(Sn)			See appearance drawing
13	Environmental Protection Regulation		RoHS			

C. APPEARANCE DRAWING Tol : ±0.5 Unit: mm



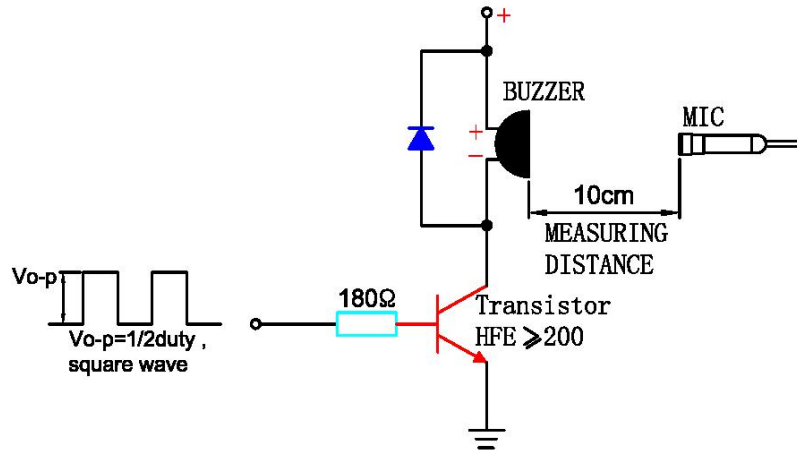
## D. TESTING METHOD

### Standard Measurement conditions

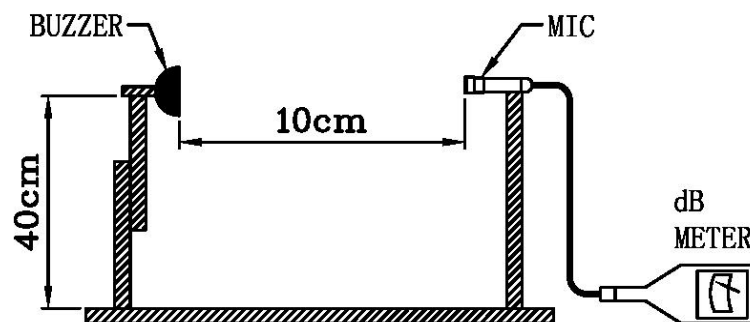
Temperature:  $25 \pm 2^\circ\text{C}$  Humidity: 45-65%

### Acoustic Characteristics:

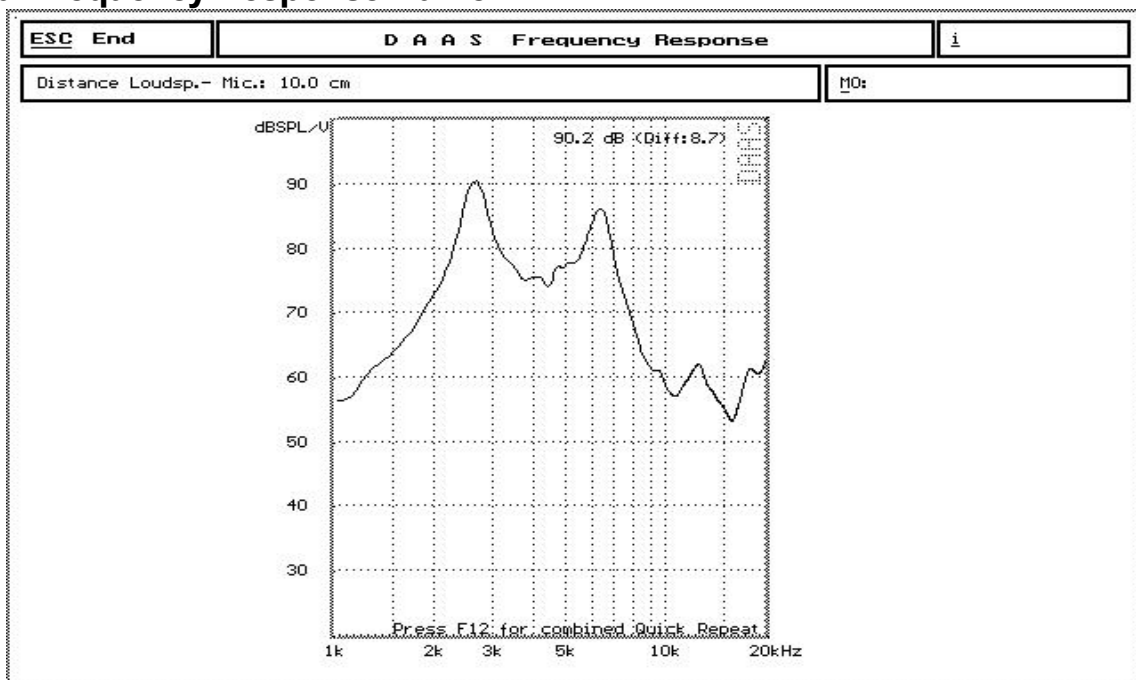
The oscillation frequency, current consumption and sound pressure are measured by the measuring instruments shown below (Recommend Driving Circuit)



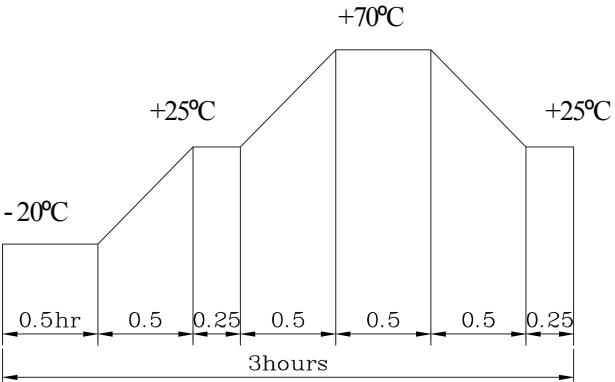
In the measuring test, buzzer is placed as follows:



## E. Typical Frequency Response Curve



## F. RELIABILITY TEST

NO.	ITEM	TEST CONDITION AND REQUIREMENT
1	High Temperature Test (Storage)	After being placed in a chamber with 70 °C for 96 hours and then being placed in normal condition for 2 hours. Allowable variation of SPL after test: 10dB.
2	Low Temperature Test (Storage)	After being Placed in a chamber with -30 °C for 96 hours and then being placed in normal condition for 2 hours. Allowable variation of SPL after test: 10dB.
3	Humidity Test	After being Placed in a chamber with 90-95% R.H. at 40 °C for 96 hours and then being placed in normal condition for 2 hours. Allowable variation of SPL after test: 10dB.
4	Temperature Cycle Test	<p>The part shall be subjected to 5 cycles. One cycle shall be consist of:</p>  <p>The diagram shows a temperature cycle profile over a 3-hour period. It starts at -20°C for 0.5 hours, then ramps up to +25°C in 0.5 hours, holds at +25°C for 0.25 hours, ramps up to +70°C in 0.5 hours, holds at +70°C for 0.5 hours, ramps down to +25°C in 0.5 hours, holds at +25°C for 0.25 hours, and finally ramps down to -20°C in 0.5 hours. The total duration is 3 hours.</p> <p>Allowable variation of SPL after test: 10dB.</p>
5	Drop Test	Drop on a hard wood board of 4cm thick, any directions ,6 times, at the height of 75cm . Allowable variation of SPL after test: 10dB.
6	Vibration Test	After being applied vibration of amplitude of 1.5mm with 10 to 55 Hz band of vibration frequency to each of 3 perpendicular directions for 2 hours . Allowable variation of SPL after test: 10dB.
7	Solderability Test	Lead terminals are immersed in rosin for 3 seconds and then immersed in solder bath of 260°C 90% min. lead terminals shall be wet with solder (Except the edge of terminals).
8	Terminal Strength Pulling Test	The force of 9.8N(1.0kg) is applied to each terminal in axial direction for 10 seconds. No visible damage and cutting off.

### TEST CONDITION.

Standard Test Condition	:	a) Temperature : +5 ~ +35°C	b) Humidity : 45-85%	c) Pressure : 860-1060mbar
一般测试条件	:	a) 温度 : +5 ~ +35°C	b) 湿度 : 45-85%	c) 气压 : 860-1060mbar
Judgment Test Condition	:	a) Temperature : +25 ± 2°C	b) Humidity : 60-70%	c) Pressure : 860-1060mbar
争议时测试条件	:	a) 温度 : +25 ± 2°C	b) 湿度 : 60-70%	c) 气压 : 860-1060mbar