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# SPECIFICATION FOR APPROVAL

Product	DYNAMIC SPEAKER
Part No.	AS-1257D08-A1W3
Customer Approval	

Approved By	Checked By	Made By



A & B Components

<http://www.speaker-tw.com>

# 1.SPECIFICATION

AS-1257D08-A1W3

ITEM		SPECIFICATIONS	
01	Type	Dynamic speaker	
02	Dimension	External diameter 12 mm	
03	Rated Input Power	0.5W	
04	Max. Input Power	0.7W	
05	Impedance	8 ohm $\pm$ 15% at 1500Hz.	
06	Resonance Frequency (Fo)	900Hz $\pm$ 20% at Fo, 1V	
07	Sensitivity (S.P.L.)	84dB (0.1W / 0.1m) $\pm$ 3 dB	at AVE 1.2K 1.5K 2.0K 2.5KHz.
		88dB (0.5W / 0.1m) $\pm$ 3 dB	
08	Frequency Range	Fo – 20KHz	
09	Total Harmonics Distortion	Max 8 % at 1 KHz,0.5W.	
10	Voice Coil	Diameter 6.5 mm	
11	Magnet	Rare earth permanent (Nd-Fe-B) magnet $\Phi$ 5.9 x 1.0 mm	
12	Weight	1.0g $\pm$ 5%g	
13	Appearance	Should not exist any obstacle to be harmful to normal operation; damages, cracks, rusts and distortions, etc.	
14	Operation Test	Must be normal at program source – 0.5W	
15	Buzz, Rattle, etc.	Should not be audible at 2.0V sine Wave between Fo to 20KHz	
16	Polarity	When positive voltage is applied to the terminal marked (+), diaphragm should move to the front.	
17	Terminal Strength	Capable of withstand 1kg load for 30 seconds without resulting in any damage or rejection.	
18	Temperature	Operating temperature: -20°C to +60°C	
		Storage temperature: -30°C to +70°C	

# 1. MEASURING METHOD

## 2-1 .Test Condition

### STANDARD

Temperature : 15 ~ 35°C

Relative humidity : 45% ~ 85%,

Atmospheric pressure : 860mbar to 1060mbar.

### JUDGEMENT

Temperature : 20±3°C

Relative humidity : 60% ~ 70%,

Atmospheric pressure : 860mbar to 1060mbar

## 2-2 . Standard Test Fixture

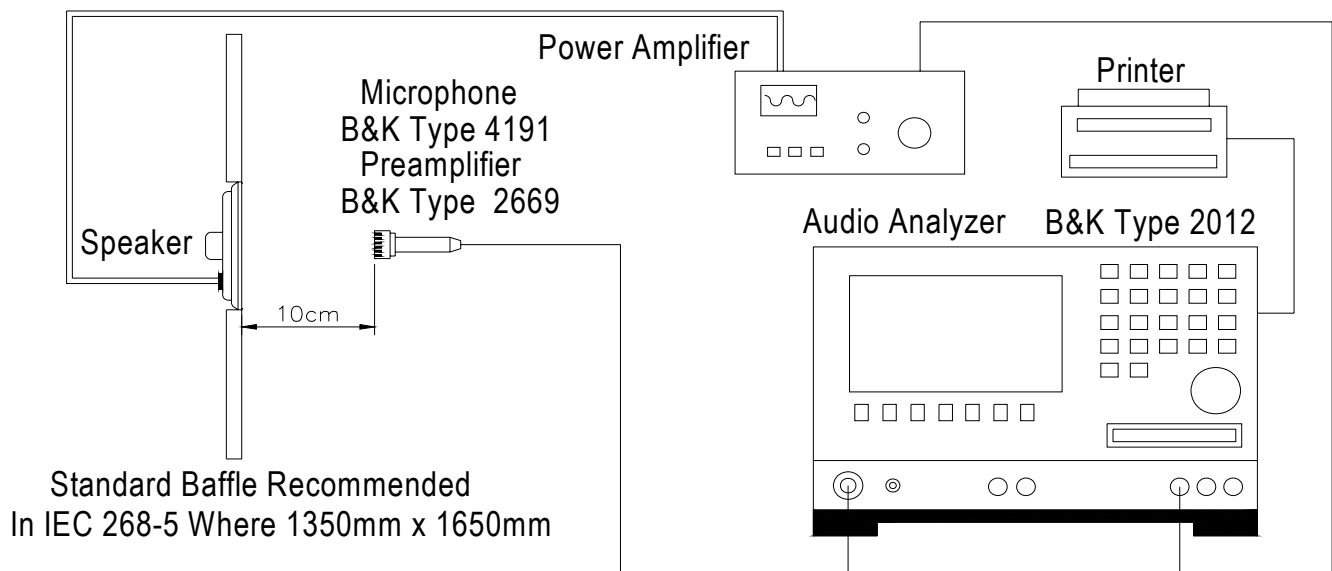
1.Input Power : 0.5W ( 2.0 V )

2.Zero Level : -dB

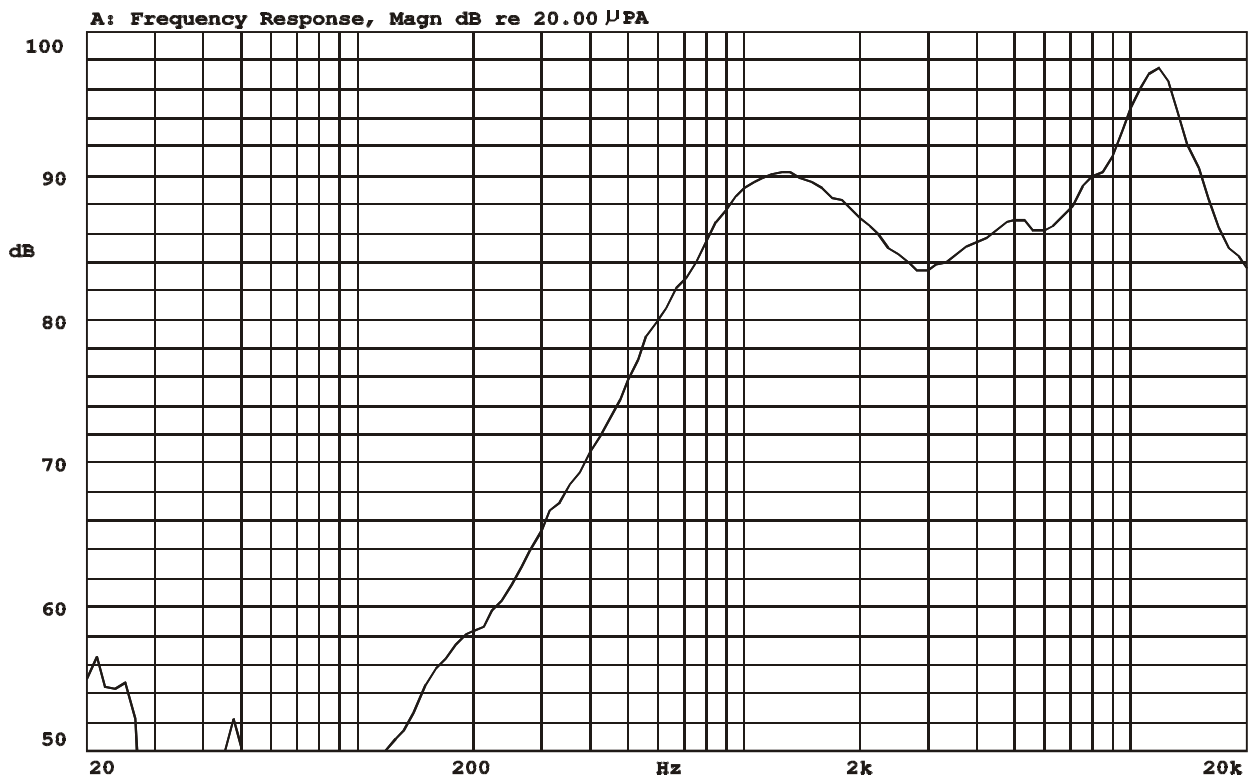
3.Mode : SPEAKER

4.potentiometer Range : 50dB

5.Sweep Time : 0.5sec



## 2-3. Frequency Response Curve

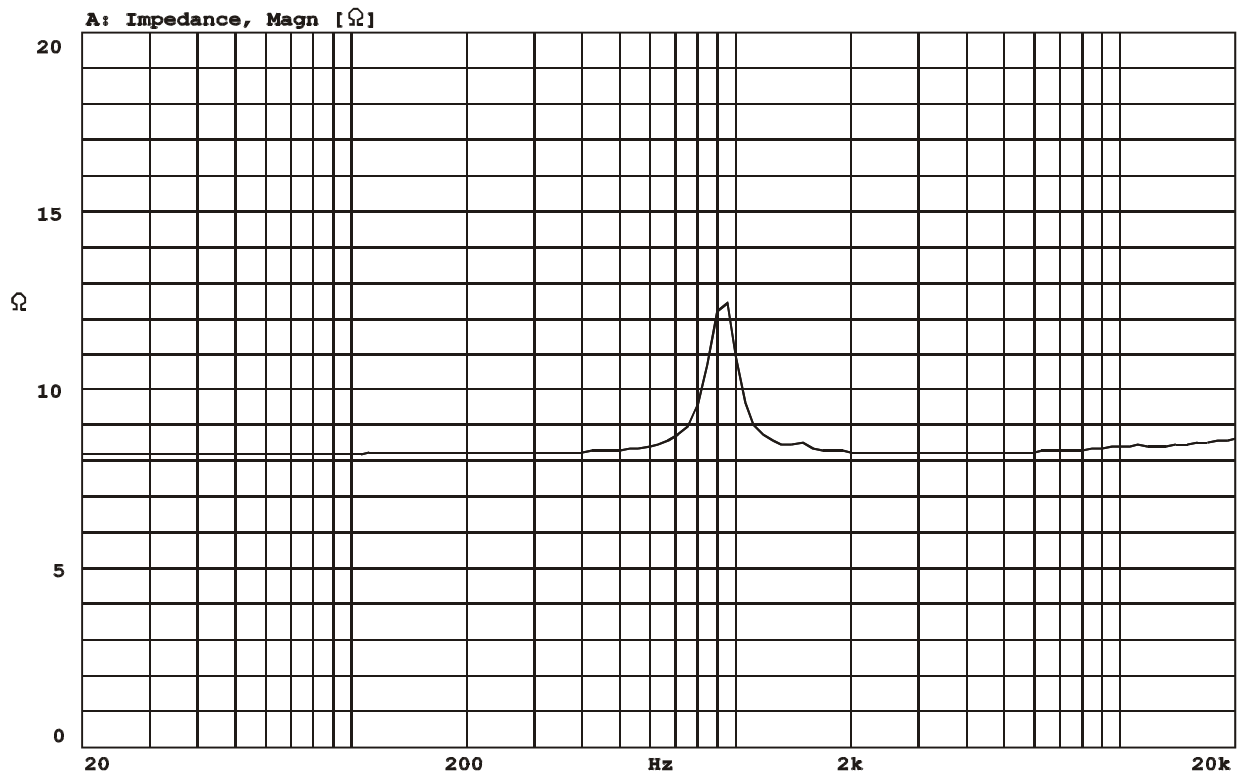


Mode: SPEAKER



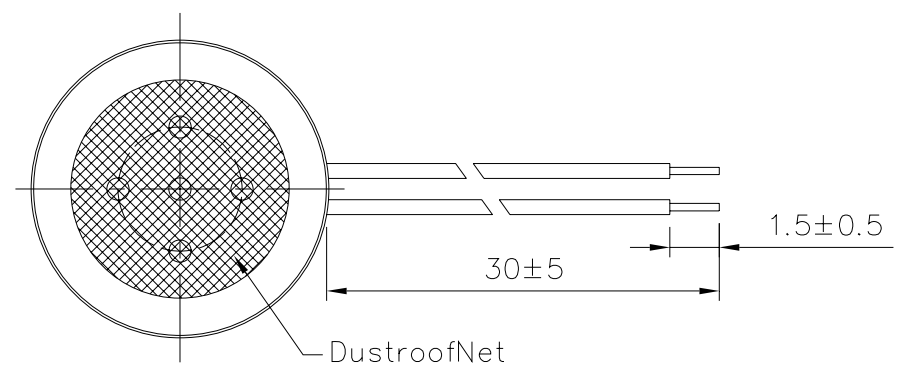
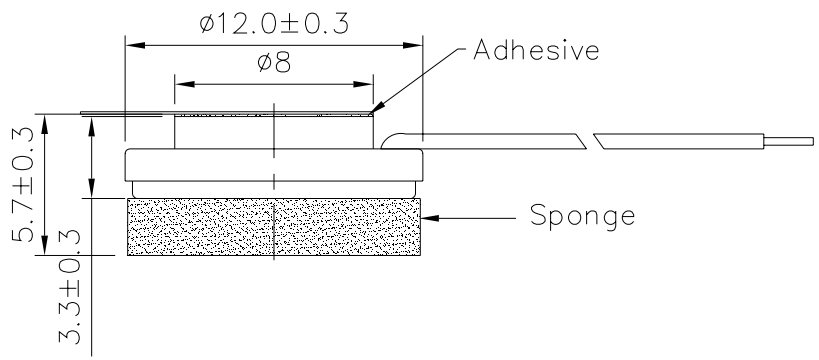
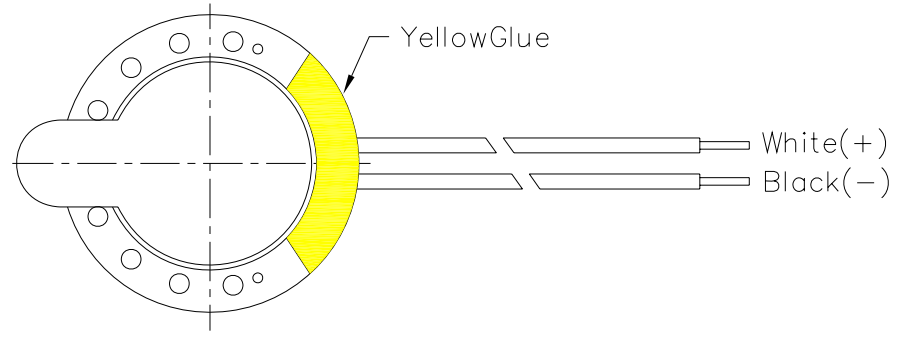
## 2-4. Impedance Curve

IMPEDANCE MEASUREMENTS: Measurement of Impedance  $Z(j\omega)$   
ZA: Live Curve Impedance  $\Omega$



Mode:  $Z(j\omega)$





DIAPHRAGM: Mlyar  
CASE: FeAlloy  
WIRE: UL1571 32AWG

TITLE: <i>DYNAMIC SPEAKER</i>		DRAWN: <i>Richard</i> 2008/02/20	SCALE: 2:1	SHEET: 1 of 1
		DESIGNED: R&D DEP.	UNITS: mm	
PART NO. <i>AS-1257D08-A1W3</i>	<b>1</b>	CHECKED:	TOLERANCE	
		APPROVAL:	20~11	± 0.3
DWG NO. <i>DSE-1078</i>	REV	MATERIAL: IRON	10~5	± 0.2
			<4	± 0.1

*A & B Components*

## 2. RELIABILITY TESTS

Items.		Specifications
01	High temp. Test	Keep 96 hours at $+70^{\circ}\text{C}\pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check
02	Low temp. Test	Keep 96 hours at $-30^{\circ}\text{C}\pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check
03	Humidity test	Keep 96 hours at $+60^{\circ}\text{C}\pm 3^{\circ}\text{C}$ relative humidity 95% and leave 3 hours in normal temperature and then checked.
04	Temp./Humidity cycle	<p>The part shall be subjected 5 cycles. One cycle shall be 12 hours and consist of;</p>
05	Thermal cycle test.	Low temperature: $-30^{\circ}\text{C}\pm 3^{\circ}\text{C}$ , temperature: $+70^{\circ}\text{C}\pm 3^{\circ}\text{C}$ , cycle: 1 hour/cycle each, and then keep 5 cycles in a room.
06	Vibration	10~200~10Hz sin-wave sweep 15min. 5G(constant) X,Y, Z 3 direction. 2 hours each, total 6 hours.
07	Fix drop test	Fix on jig. Then drop from 152cm height to the concrete floor X,y, z 6 direction. 5 times each, total 30 times.
08	Free drop test	Free drop from 100cm height to the concrete floor X,y, z 6 direction. 1 times each, total 6 times.
09	Rated Power test	Rated Power white noise is applied for 96 hours
10	Max Power test	Max power 1 min on – 2 min off 10 cycles.
11	Terminal strength test	Capable of withstand 1kg load for 30 seconds without resulting in any damage or rejection.
<p>Criterion:</p> <p>After these test , the change of S.P.L shall be within <math>\pm 3</math> dB .</p>		

## SOLDERING CONDITION

Recommend using constant branding iron in 30W, and in temperature range  $300\pm 10^{\circ}\text{C}$ .

Soldering time 2 seconds.