

# *MESSRS*

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## SPECIFICATION FOR APPROVAL

## 承 認 書

Product	DYNAMIC SPEAKER
Part No.	AK-351608EC-6 (RoHS)
Customer Approval	

Approved By	Checked By	Made By
工程部 王台平 SEP-27-2004	工程部 劉民祥 SEP-27-2004	工程部 許俊程 SEP-27-2004



**ADVANCED ACOUSTIC TECHNOLOGY CORP.**

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## 1. SPECIFICATION

AK-351608EC-6 (RoHS)

ITEM		SPECIFICATIONS	
01	Type	Dynamic speaker	
02	Dimension	External diameter 35X16 mm	
03	Rated Input Power	1.0 W	
04	Impedance	8 ohm $\pm$ 15% at 2000Hz	
05	Resonance Frequency (Fo)	670Hz $\pm$ 20% at Fo, 1V	
06	Sensitivity (S.P.L.)	77 dB(W/m) $\pm$ 3 dB	at AVE0.8 – 1.5 KHz.
		96dB (1.0W/0.1m) $\pm$ 3 dB	
07	Frequency Range	Fo – 20KHz	
08	Distortion	Less than 5 % at 2000Hz,1.0W	
09	Max. Input Power	Must be normal at 2.0W white noise for 1 minute.	
10	Voice Coil	Diameter 9 mm	
11	Magnet	Rare earth permanent (Nd-Fe-B) magnet $\Phi$ 8.0 x 1.0 mm	
12	Weight	2.2g $\pm$ 5%	
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 – 1.0W	
15	Buzz, Rattle, etc.	Should not be audible at 2.83V 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	

## 2. 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

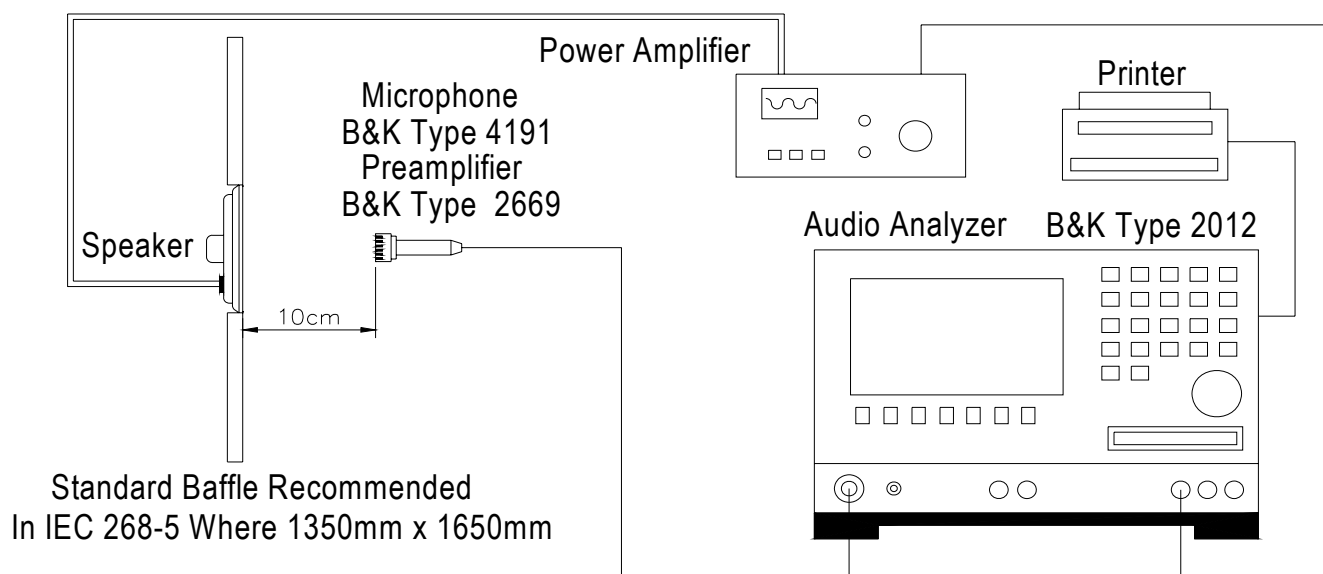
1.Input Power : 1.0W(2.83V)

2.Zero Level : -dB

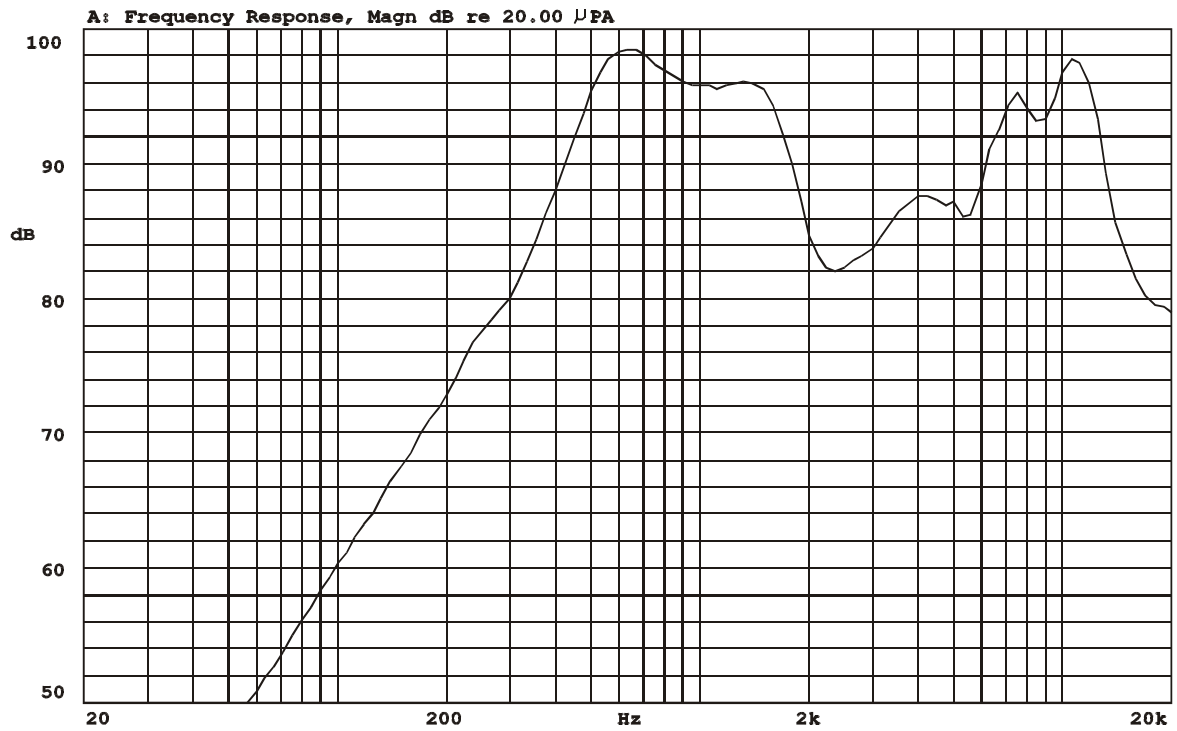
3.Mode : SPEAKER

4.potentiometer Range : 50dB

5.Sweep Time : 0.5sec



## 2-3. Frequency Response Curve

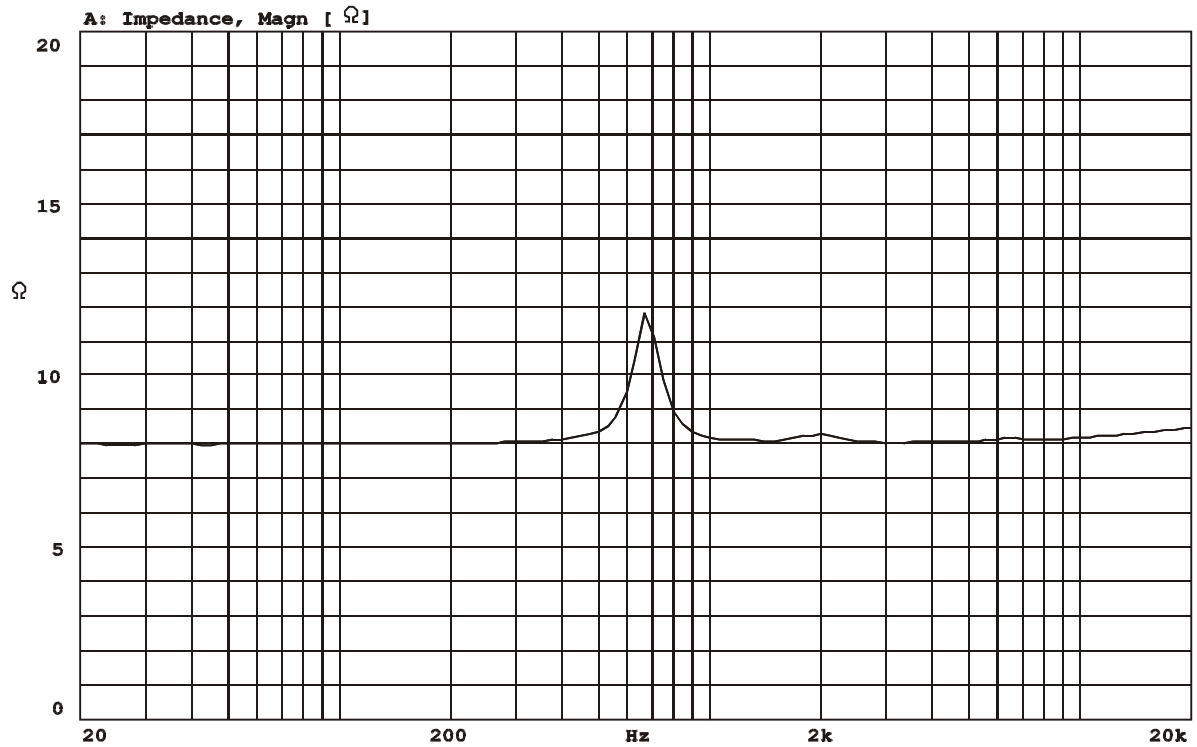


Mode: SPEAKER



## 2-4. Impedance Curve

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



Mode:  $Z(j\omega)$

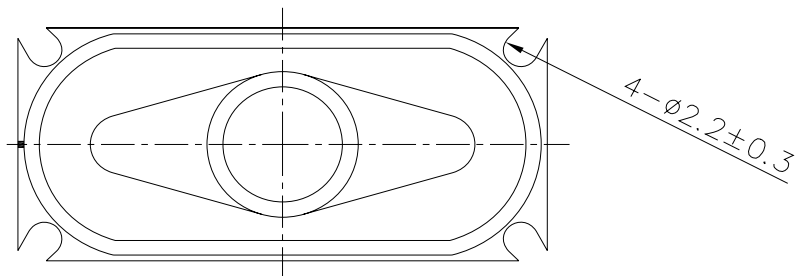
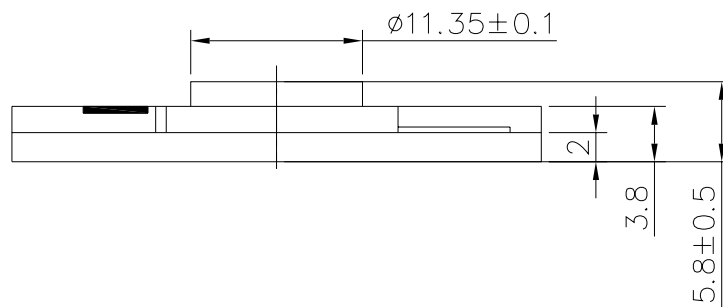
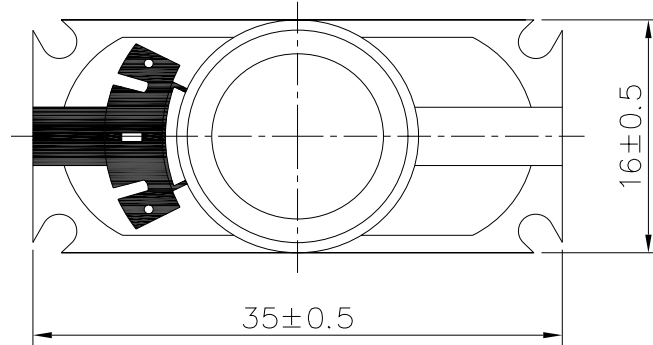


REV NO.

REVISION NOTE

APPROVAL

DATE

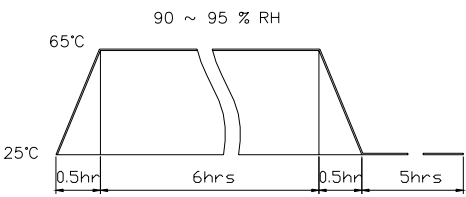


TITLE: <i>DYNAMIC SPEAKER</i>		DRAWN: <i>Killy</i> 2004/09/03	SCALE: 2:1	SHEET: 1 of 1
PART NO. <i>AK-351608EC-6</i>	1 REV	DESIGNED: R & D OF AAT	UNITS: mm	
DWG NO. <i>DSE-1157</i>		CHECKED:	TOLERANCE $\pm 0.3$	
		APPROVAL:	UNLESS OTHERWISE SPECIFIED: ONE PLACE DECIMAL $\pm$ *** TWO PLACE DECIMAL $\pm$ *** THREE PLACE DECIMAL $\pm$ ***	
		MATERIAL: *****		



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### 3. 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 $-20^{\circ}\text{C}\pm 3^{\circ}\text{C}$ 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: $-40^{\circ}\text{C}\pm 3^{\circ}\text{C}$ , 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 DC voltage test	DC2.83V for 1 hour.
10 Load test	Rated Power white noise is applied for 96 hours
11 Max Power test	Max power 1 min on – 1 min off 10 cycles.
12 Terminal strength test	Capable of withstand 1kg load for 30 seconds without resulting in any damage or rejection.