




MESSRS.

SPECIFICATION FOR APPROVAL

承 認 書

Product	Dynamic Speaker		
Part No.	AK-2032EB-5		(RoHS)
Approved By	Checked By	Made By	
			

Customer Approval Result	
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Advanced Acoustic Technology Corporation

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ISO 14001 Certified

QS9000 Certified

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EDITION:1.2

1. SPECIFICATION

AK-2032EB-5 (ROHS)

ITEM		SPECIFICATIONS	
01	Type	Dynamic speaker	
02	Dimension	External diameter 20mm	
03	Rated Input Power	0.5W.	
04	Max. Input Power	0.8W.	
05	Impedance	32 ohm \pm 15% at 2K Hz	
06	Resonance Frequency (Fo)	870 Hz \pm 20% at Fo, 1V	
07	Sensitivity (S.P.L.)	92dB(0.1W/0.1m) \pm 3 dB	at AVE1.0K, 1.8K, 2.0K, 2.5K Hz.
		98dB(0.5W/0.1m) \pm 3 dB	
08	Frequency Range	Fo -7.5K Hz	
09	Total Harmonics Distortion	Max. 8% at 1K Hz ,0.5W.	
10	Voice Coil	Diameter8.5 mm	
11	Magnet	Rare earth permanent (Ferrite) magnet Φ 8 x 1.0 mm	
12	Weight	2.5g \pm 0.3g	
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 4.0V 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 $^{\circ}$ C to +60 $^{\circ}$ C	
		Storage temperature: -30 $^{\circ}$ C to +70 $^{\circ}$ 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

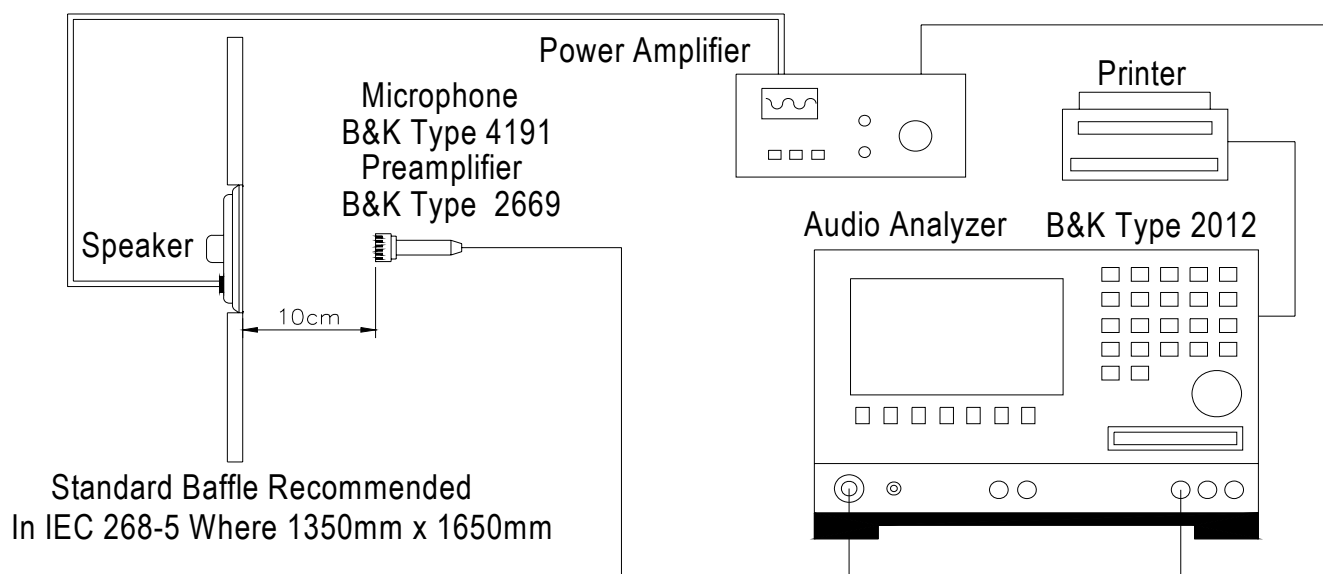
1.Input Power : 0.5W(4.0V)

2.Zero Level : -dB

3.Mode : SPEAKER

4.potentiometer Range : 50dB

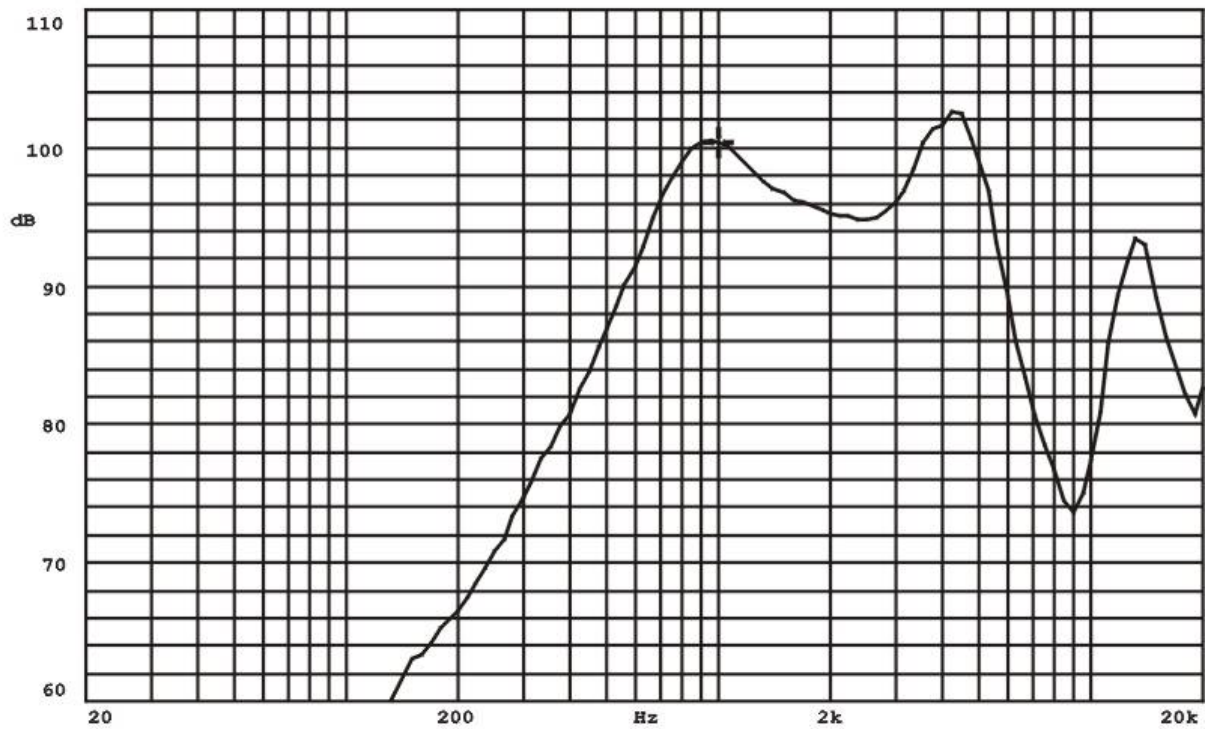
5.Sweep Time : 0.5sec



2-3. Frequency Response Curve

X:1.0000kHz *Y:100.36dB ZA:Live Curve SSR Fund.

A: Frequency Response, Magn dB re 20.00 μ PA



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Mode: SPEAKER

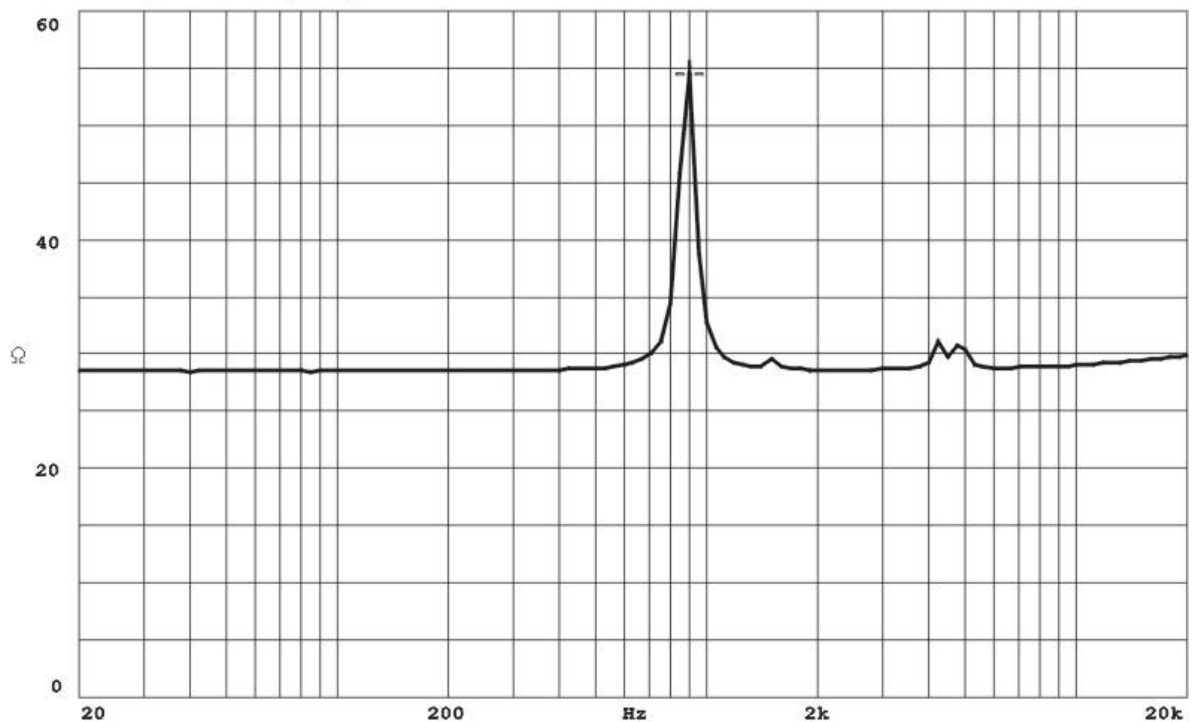


2-4. Impedance Curve

IMPEDANCE MEASUREMENTS: Measurement of Impedance $Z(j\omega)$

X:900.00Hz Y:54.56 Ω ZA:Live Curve Impedance

A: Impedance, Magn [Ω]

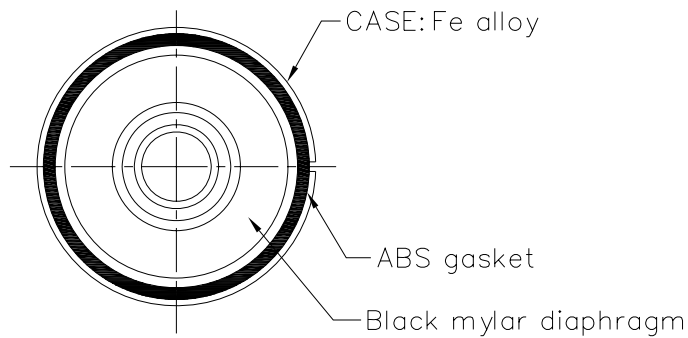
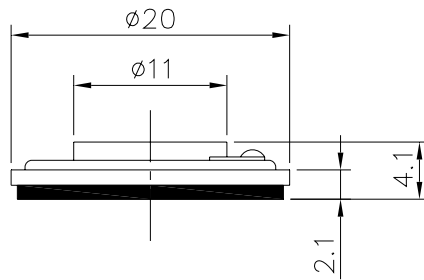
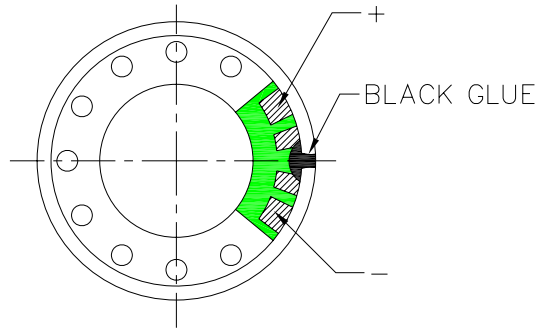


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Mode: Z(j ω)



REV NO.	REVISION NOTE	APPROVAL	DATE
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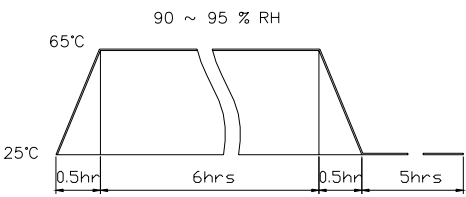


TITLE:	DYNAMIC SPEAKER	DRAWN:	<i>Semon</i> 2009-4-30	SCALE:	2:1	SHEET:	1 of 1
PART NO.	AK-2032EB-5	DESIGNED:	R&D OF AAT	UNITS:	mm	TOLERANCE ± 0.2	
DWG NO.	CA-K09043001	1 REV	CHECKED:	UNLESS OTHERWISE SPECIFIED:			
			APPROVAL:	ONE PLACE DECIMAL \pm ***			
			MATERIAL:	*****	TWO PLACE DECIMAL \pm ***		
			THREE PLACE DECIMAL \pm ***				



ADVANCED ACOUSTIC TECHNOLOGY CORPORATION

4. 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: $-40^{\circ}\text{C}\pm 3^{\circ}\text{C}$, 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	Load 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 ± 3 dB</p>		

SOLDERING CONDITION

Recommend using constant branding iron in 30W, and in temperature range $350\pm 10^{\circ}\text{C}$.

Soldering time 2 seconds.