

MESSRS.**SPECIFICATION FOR APPROVAL****承 認 书**

Product	WATERPROOF TYPE SPEAKER
Part No.	HDK-1808AA-4C2 (RoHS)
Customer	
Customer Part No.	

Approved By	Checked By	Made By
王台平 APR-07-2016	曹丽萍 APR-07-2016	LILY APR-07-2016

常 州 华 龙 电 子 有 限 公 司**DRAGONSTATE ELECTRONIC CORPORATION**

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EDITION:1.4

1. SPECIFICATION

HDK-1808AA-4C2 (RoHS)

ITEM		SPECIFICATIONS	
01	Type	Dynamic speaker	
02	Dimension	External diameter 18 mm	
03	Rated Input Power	1.0W	
04	Max. Input Power	1.2W for 1 minute	
05	Impedance	8 ohm $\pm$ 15% at 1500Hz.	
06	Resonance Frequency (Fo)	900Hz $\pm$ 20% at Fo, 1V	
07	Sensitivity (S.P.L.)	89dB(0.1W/0.1m) $\pm$ 3 dB	at AVE 1.0K 1.2K 1.5K 2.0KHz
		96dB (1.0W / 0.1m) $\pm$ 3 dB	
08	Frequency Range	Fo - 20KHz	
09	Total Harmonics Distortion	Max 8 % at 1 KHz, 1.0W.	
10	Voice Coil	Diameter 10.25 mm	
11	Magnet	Rare earth permanent (Nd-Fe-B) magnet Φ 9.7 x 1.3 mm	
12	Weight	2.8g $\pm$ 0.2g	
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	

Test Condition

STANDARD

Temperature : 15 ~ 35°C

Relative humidity : 25% ~ 85%,

Atmospheric pressure : 860mbar to 1060mbar.

BASIC

Temperature : $20 \pm 3^\circ\text{C}$

Relative humidity : 60% ~ 70%,

Atmospheric pressure : 860mbar to 1060mbar

Standard Test Fixture

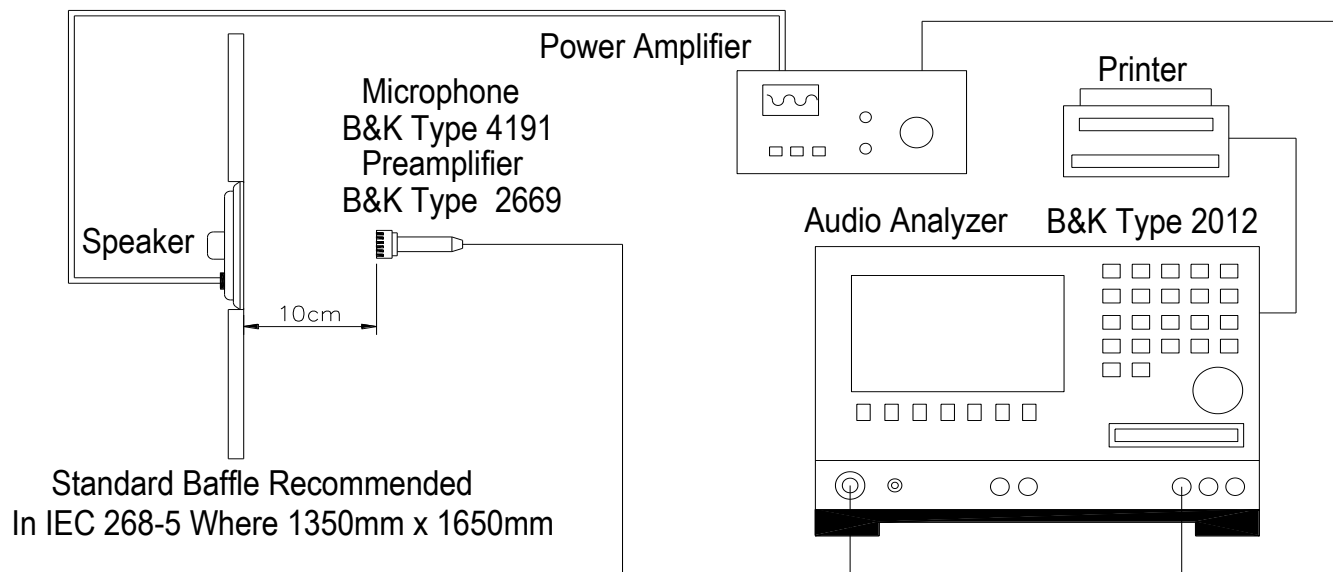
1. Input Power : 1.0W (2.83V)

2. Zero Level : -dB

3. Mode : SPEAKER

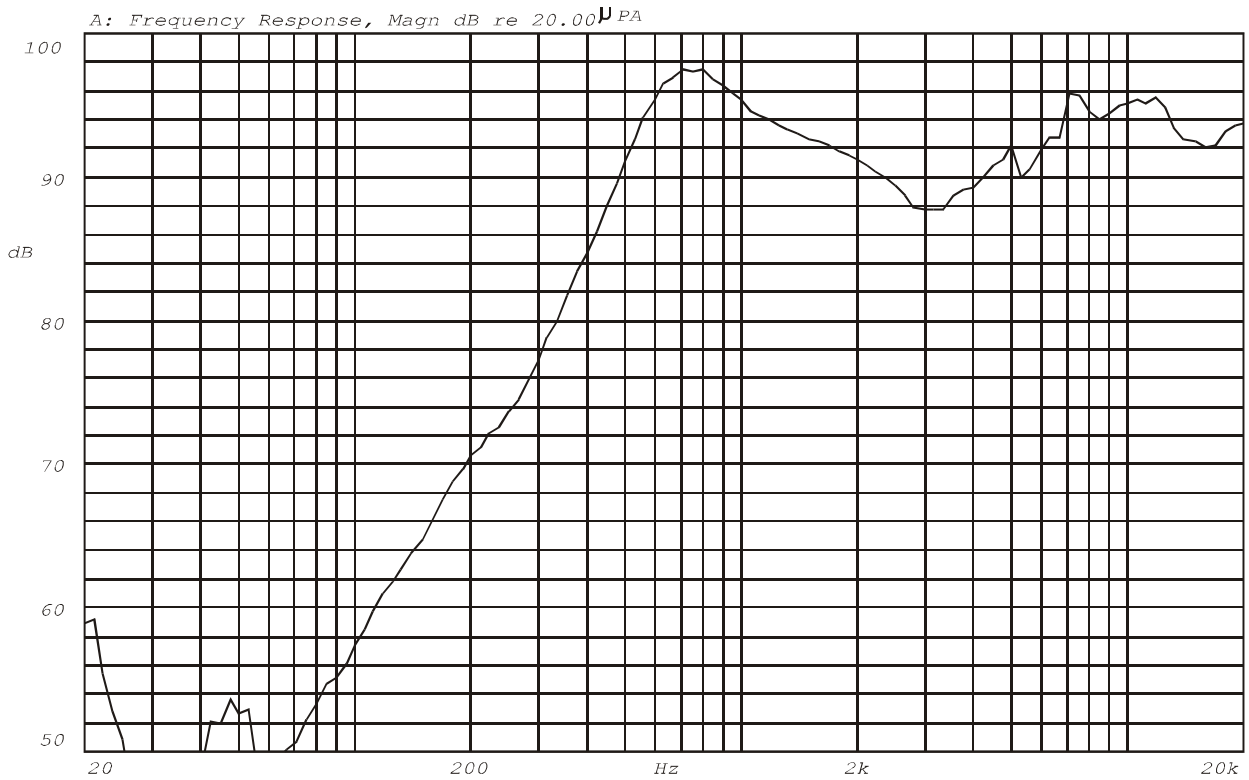
4. potentiometer Range : 50dB

5. Sweep Time : 0.5sec



2.Frequency Response Curve

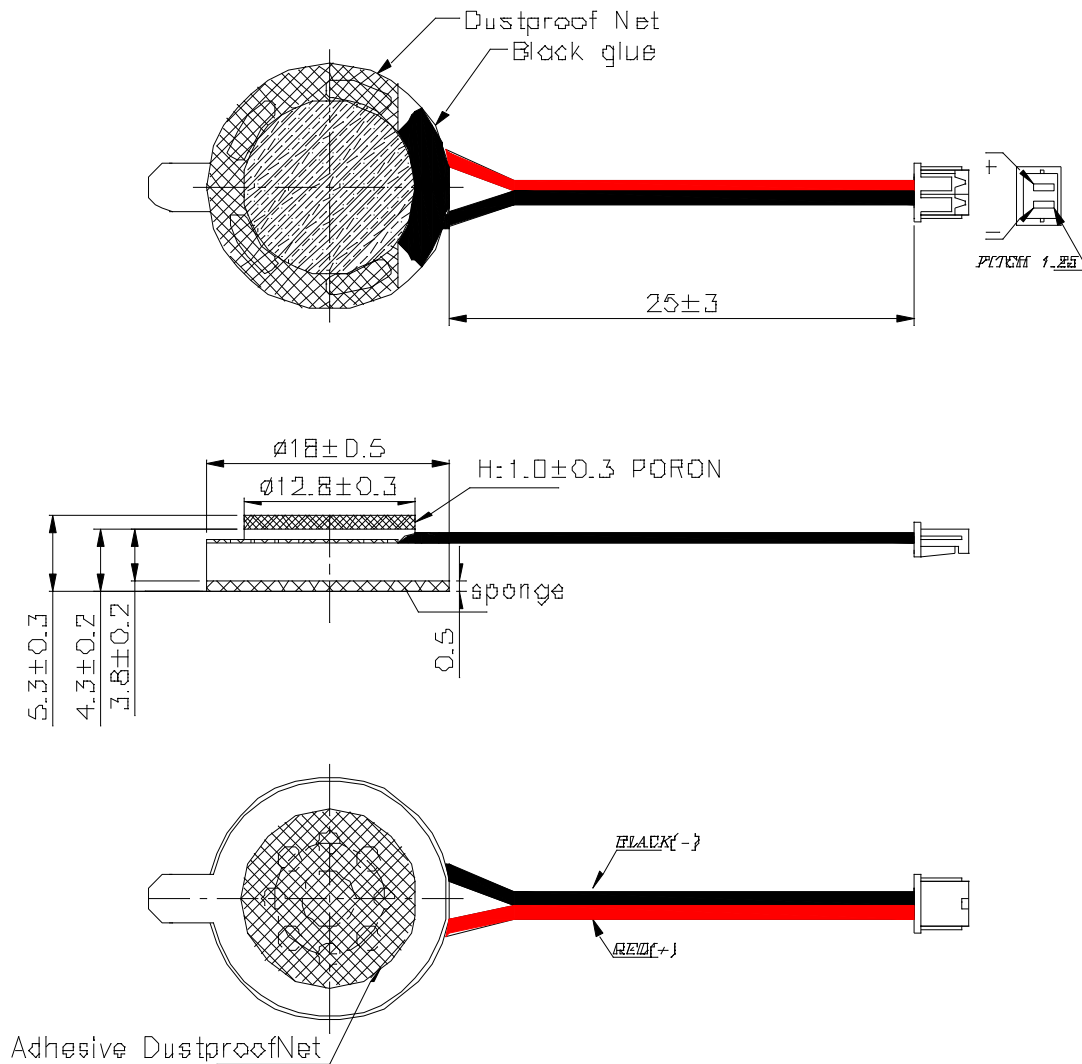
X:1.5000kHz *Y:92.69dB ZA:Live Curve SSR Fund.



Mode: SSR



REV NO.	REVISION NOTE	APPROVAL	DATE
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Diaphragm: Mylar
Case: PBT

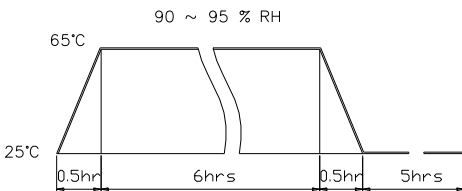
Wires: UL1571, 32AWG 并线
Terminal: MOLEX-51021-0200 Capable

TITLE: DYNAMIC SPEAKER		DRAWN: Lily	2014/04/07	SCALE: 1:1	SHEET: 1 of 1
PART NO. HDK-1808AA-4C2	1	DESIGNED: R&D OF D.S.		UNITS: mm	
DWG NO. DSE-1814		CHECKED: Emily		TOLERANCE	
		APPROVAL: Eric		20~11	± 0.3
	REV	MATERIAL: PBT		10~5	± 0.2
				<4	± 0.1

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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	The part shall be subjected 5 cycles. One cycle shall be 12 hours and consist of; 
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.
12	Protection against liquids	Protected against 2 hours of immersion under 3M pressure
Criterion: After these test , the change of S.P.L shall be within $\pm 3\text{ dB}$.		

SOLDERING CONDITION

Recommend using constant branding iron in **15 ~ 30W**, and in temperature range **$350\pm 10^{\circ}\text{C}$** .

Soldering time not over **3** seconds.

