

**MESSRS.**

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**SPECIFICATION FOR APPROVAL**

**承 认 书**

<b>Product</b>	<b>DYNAMIC SPEAKER</b>
<b>Part No.</b>	<b>HDK-302008ZA-5C (RoHS)</b>
<b>Customer Approval</b>	

<b>Approved By</b>	<b>Checked By</b>	<b>Made By</b>
王台平 OCT-27-2014	曹丽萍 OCT-27-2014	LILY OCT-27-2014

**常 州 华 龙 电 子 有 限 公 司**

**DRAGONSTATE ELECTRONIC CORPORATION**

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**EDITION:1.1**

# 1.SPECIFICATION

HDK-302008ZA-5C(RoHS)

ITEM		SPECIFICATIONS	
01	Type	Dynamic speaker	
02	Dimension	External diameter 30 × 20 mm	
03	Rated Input Power	1.5W	
04	Max. Input Power	1.8W	
05	Impedance	8 ohm ± 15% at 2000Hz.	
06	Resonance Frequency (Fo)	1000Hz ± 20% at Fo, 1V	
07	Sensitivity (S.P.L.)	98dB(0.5W/0.1m) ± 3 dB	at AVE 1.0 ,1.2 ,1.5,2.0 KHz.
08	Frequency Range	Fo – 20KHz	
09	Total Harmonics Distortion	Max 8 % at 1 KHz,1.5W.	
10	Voice Coil	Diameter 13.3mm	
11	Magnet	Rare earth permanent (Nd-Fe-B) magnet 12.5*2.2 mm	
12	Weight	8g ± 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 – 1.5W	
15	Buzz, Rattle, etc.	Should not be audible at 3.46V 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 +70°C Storage temperature: -40°C to +80°C	

## Test Condition

### STANDARD

Temperature : 15 ~ 35°C

Relative humidity : 25% ~ 85%,

Atmospheric pressure : 860mbar to 1060mbar.

### BASIC

Temperature : 20±3°C

Relative humidity : 60% ~ 70%,

Atmospheric pressure : 860mbar to 1060mbar

## Standard Test Fixture

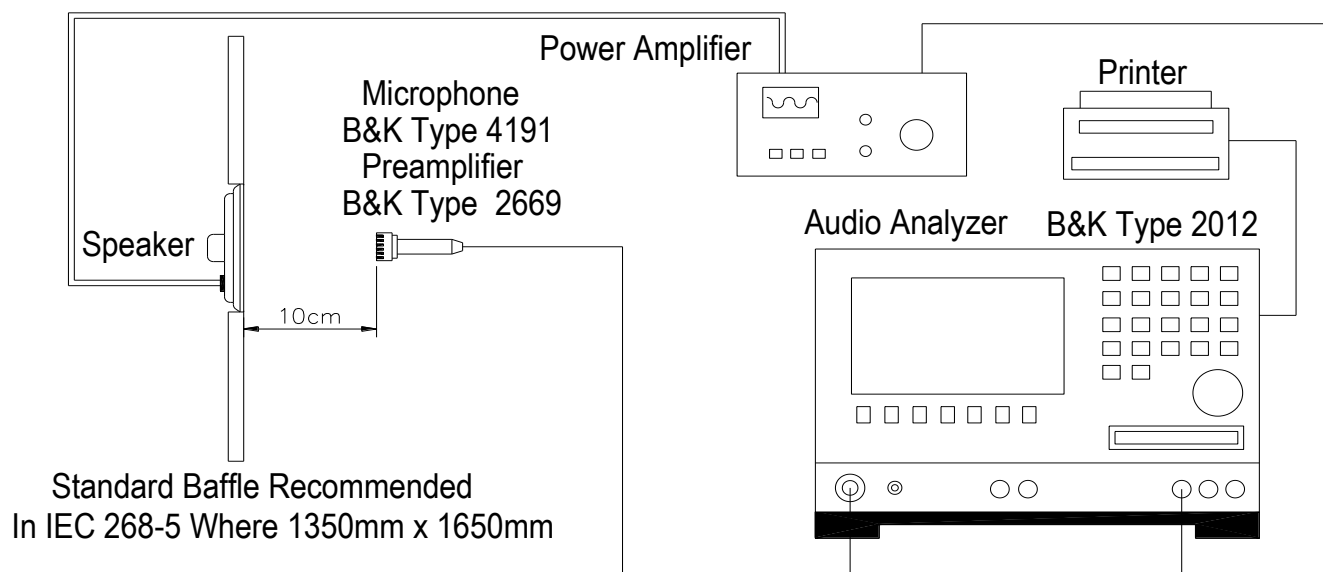
1.Input Power : 0.5W ( 2.0V )

2.Zero Level : -dB

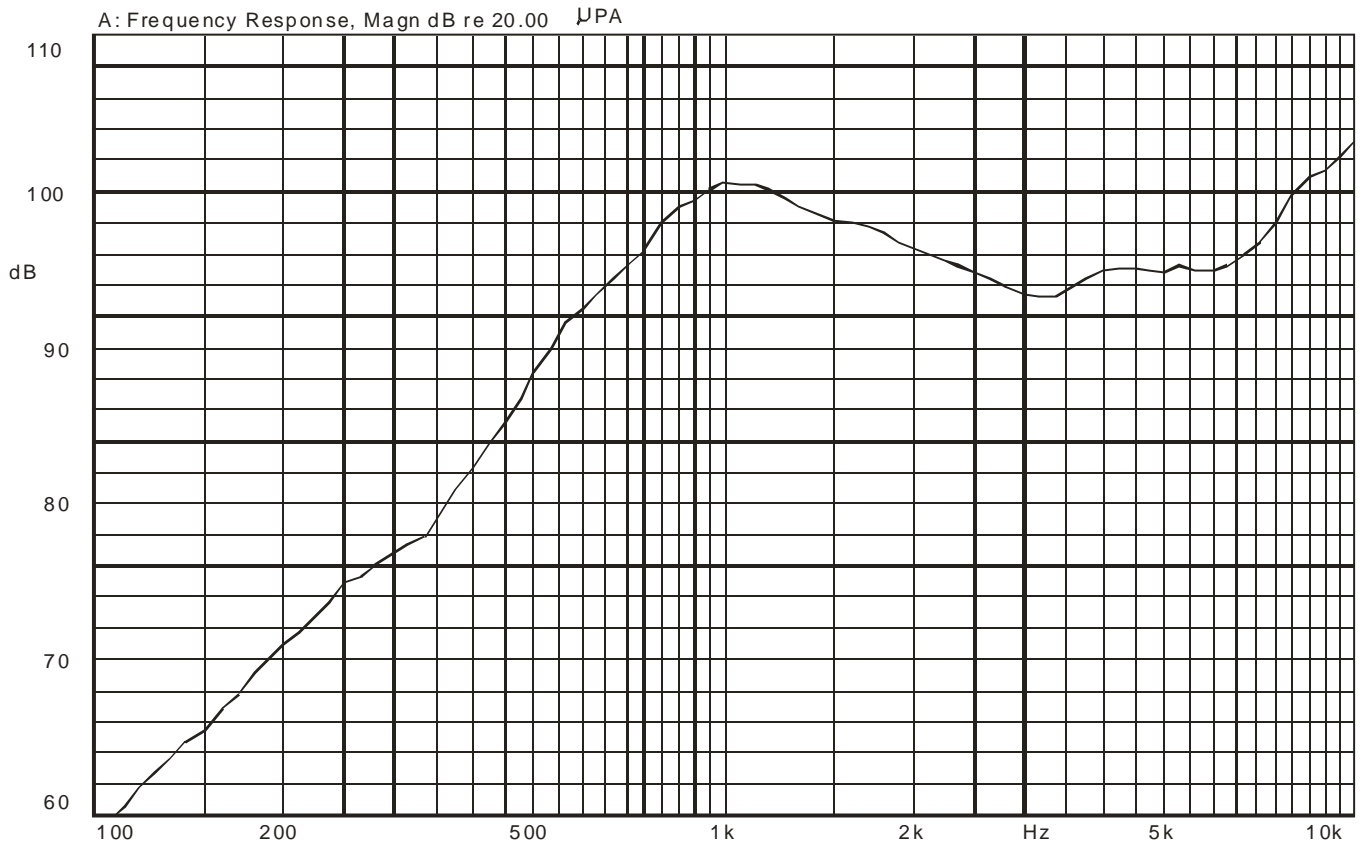
3.Mode : SPEAKER

4.potentiometer Range : 50dB

5.Sweep Time : 0.5sec



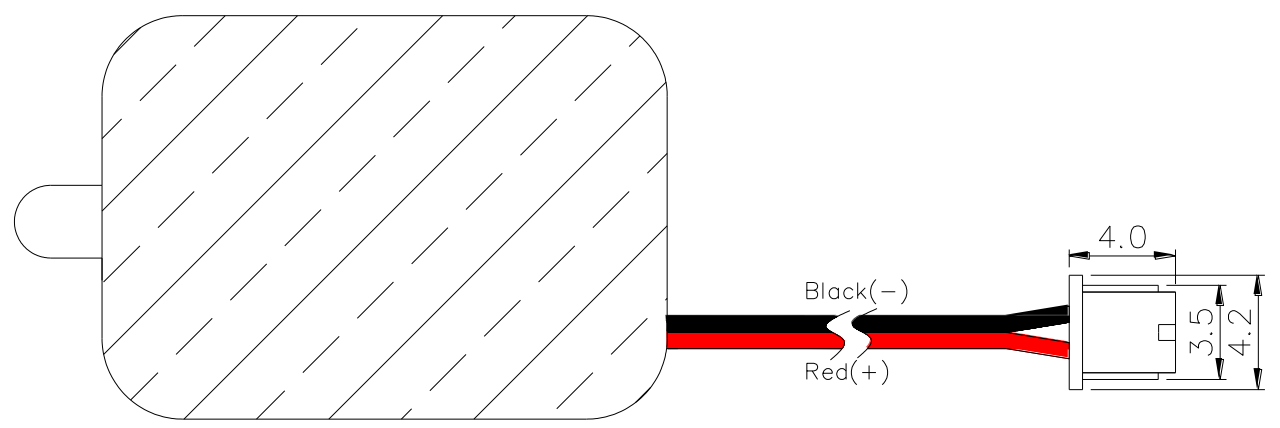
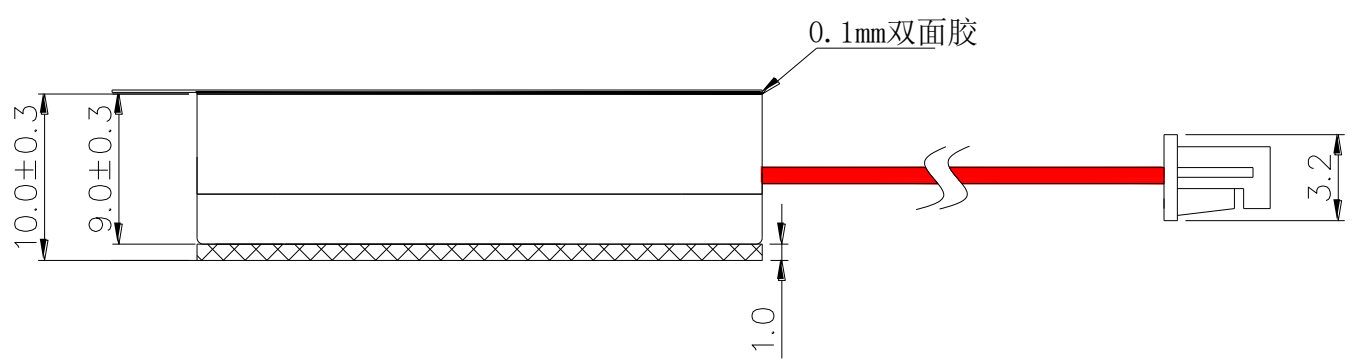
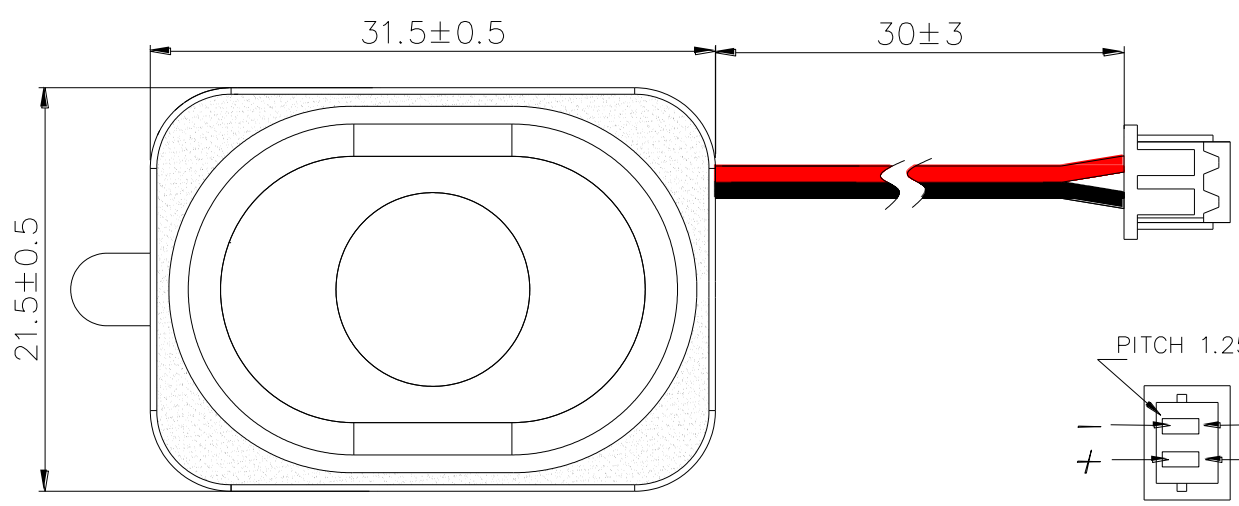
## 2-3. Frequency Response Curve



Mode: SPEAKER



REV NO.	REVISION NOTE	APPROVAL	DATE
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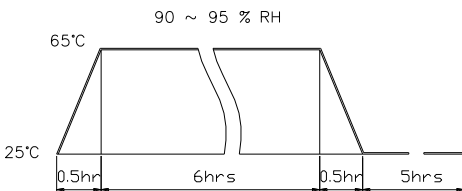


CASE: PBT  
 WRIE: UL1571 AWG30

TITLE: DYNAMIC SPEAKER	DRAWN: Lily	2014/10/27	SCALE: 1:1	SHEET: 1 of 1
PART NO. HDK-302008ZA-5C	DESIGNED: R&D OF D.S.		UNITS: mm	
DWG NO. DSE-1811	CHECKED: Emily		TOLERANCE ± 0.2	
	APPROVAL: Eric		UNLESS OTHERWISE SPECIFIED:	
REV 1	MATERIAL: PBT		ONE PLACE DECIMAL ± ***	
			TWO PLACE DECIMAL ± ***	
			THREE PLACE DECIMAL ± ***	

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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	<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.

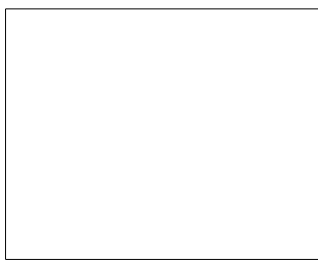
**Criterion:**

**After these test , the change of S.P.L shall be within  $\pm 3$  dB .**

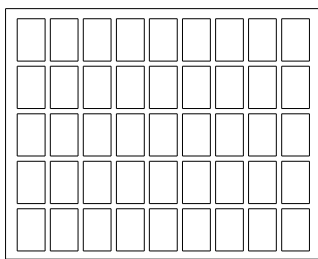
## SOLDERING CONDITION

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

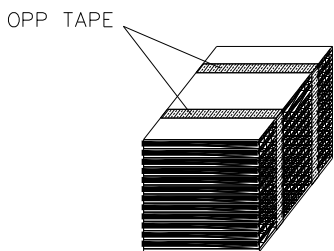
Soldering time not over **3** seconds.



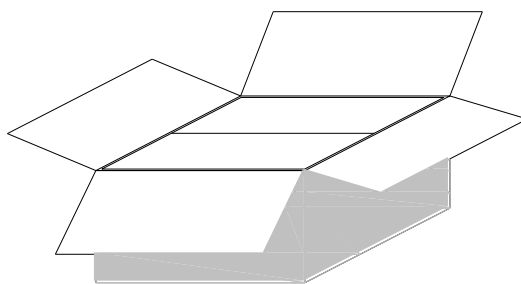
Cover(350\*285\*3mm)  
Material:Paper



Box(345\*285\*15mm)  
90pcs  
Material:Paper+Epe



Middle(350\*285\*200mm)  
900pcs(10\*90pcs)  
Material:Paper+Epe



Outer Box(590\*390\*405mm)  
3600pcs(4\*900pcs)  
Material:Paper

单位: mm

TITLE: packing		DRAWN: Lily	2014/10/27	SCALE: 2:1	SHEET: 1 of 1
PART NO.		DESIGNED: R&D OF D.S.	UNITS: mm		
DWG NO.		CHECKED: Emily	TOLERANCE		
		APPROVAL: Eric	20~11	± 0.3	
REV		MATERIAL: ***	10~5	± 0.2	
			<4	± 0.1	



