

**MESSRS.**

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**SPECIFICATION FOR APPROVAL****承 认 书**

<b>Product</b>	<b>DYNAMIC SPEAKER</b>
<b>Part No.</b>	<b>HDK-1808AA-9C (RoHS)</b>
<b>Customer</b>	
<b>Customer Part No.</b>	

<b>Approved By</b>	<b>Checked By</b>	<b>Made By</b>
王台平 DEC-13-2018	曹丽萍 DEC-13-2018	LILY DEC-13-2018

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

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## 1. Specification

HDK-1808AA-9C (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 ± 15% at 1500Hz.	
06	Resonance Frequency (Fo)	900Hz ± 20% at Fo, 1V	
07	Sensitivity (S.P.L.)	89dB(0.1W/0.1m) ± 3 dB	at AVE 1.0K 1.2K 1.5K 2.0KHz
		96dB (1.0W / 0.1m) ± 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 Φ9.7 x 1.3 mm	
12	Weight	2.5g ± 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℃ to +60℃	
		Storage temperature: -30℃ to +70℃	

## 2-1. Test Condition

### Standard

Temperature : 15 ~ 35℃

Relative humidity : 25% ~ 85%,

Atmospheric pressure : 860mbar to 1060mbar.

### Basic

Temperature : 20±3℃

Relative humidity : 60% ~ 70%,

Atmospheric pressure : 860mbar to 1060mbar

## 2-2. Standard Test Fixture

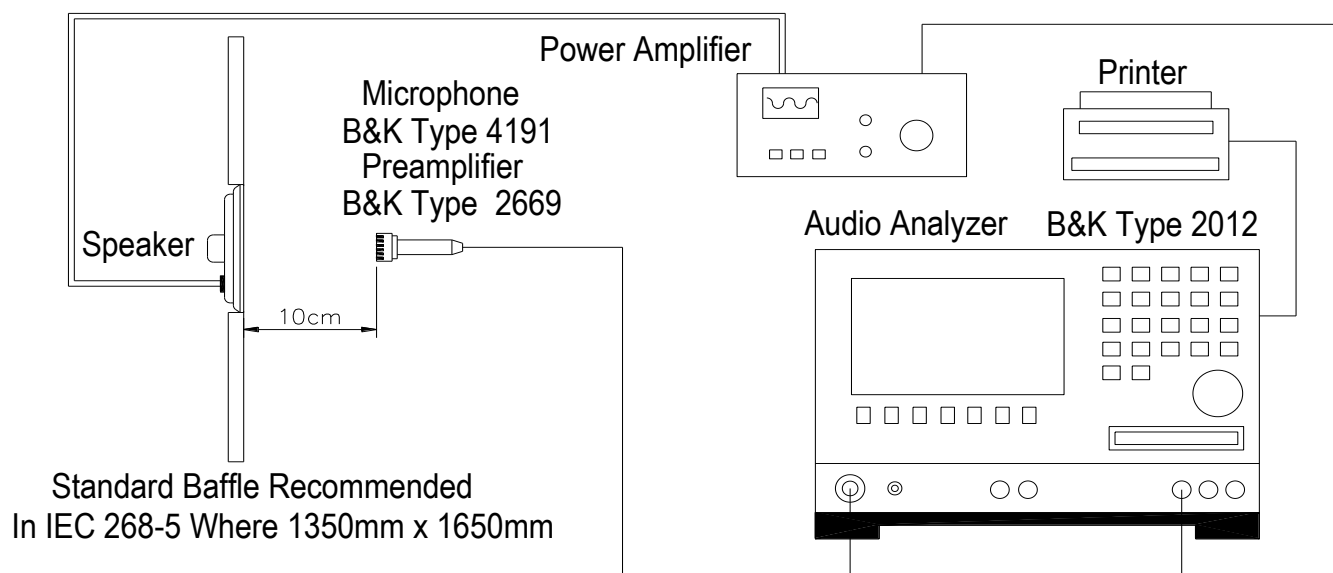
1. Input Power : 1.0W ( 2.83V )

2. Zero Level : -dB

3. Mode : SPEAKER

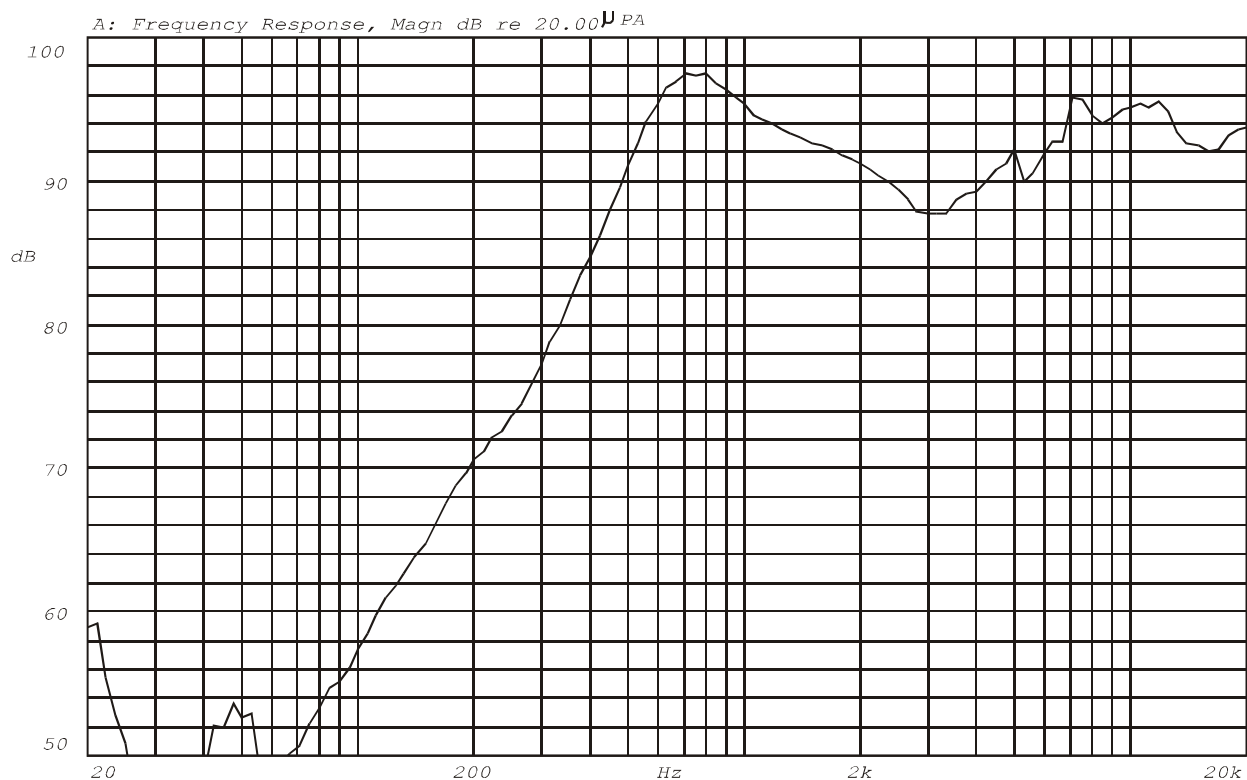
4. potentiometer Range : 50dB

5. Sweep Time : 0.5sec



## 2-3.Frequency Response Curve

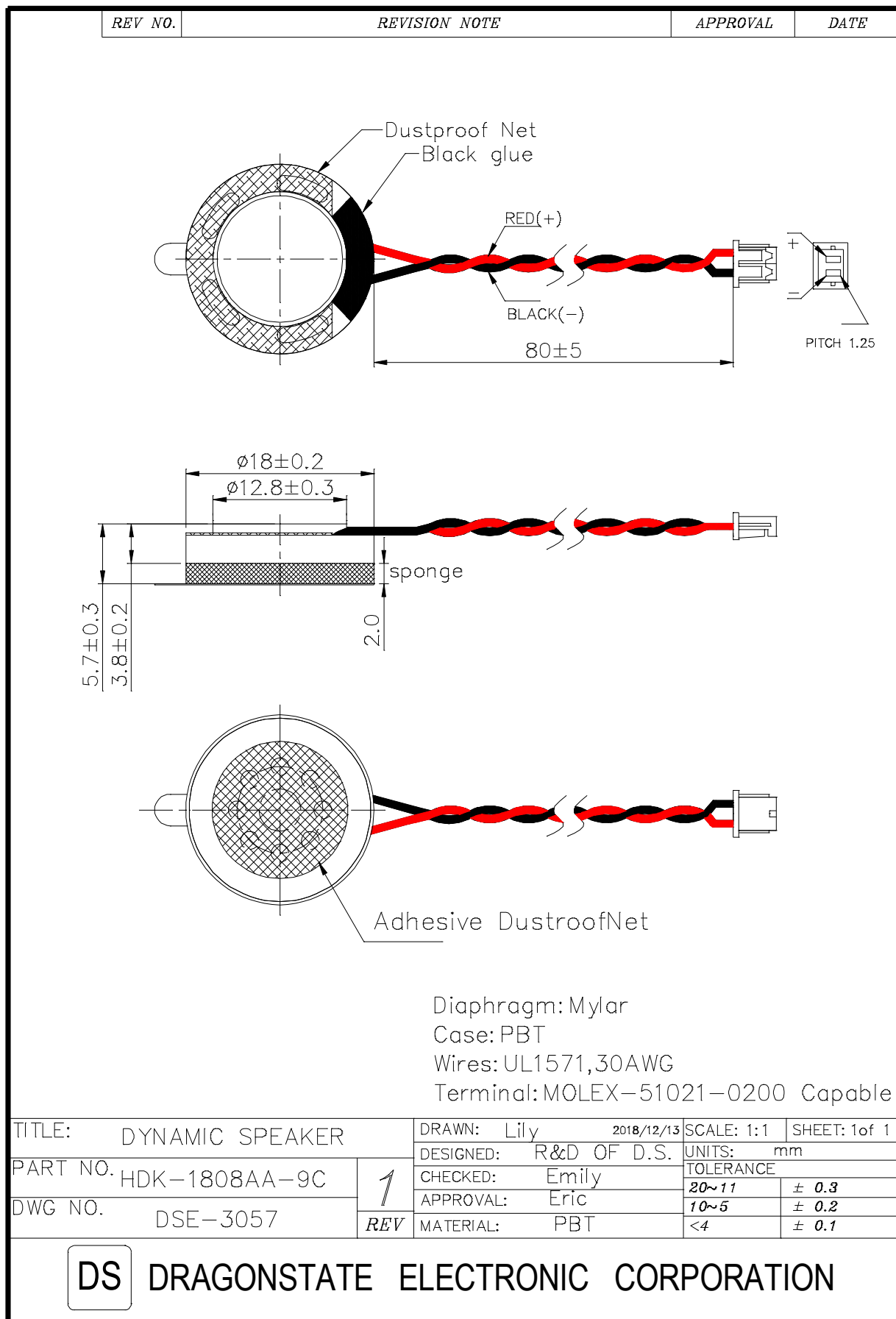
X:1.5000kHz \*Y:92.69dB ZA:Live Curve SSR Fund.



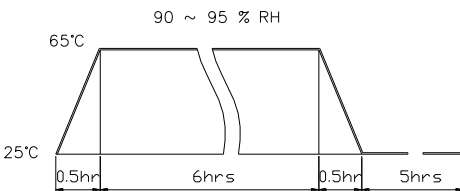
Mode: SSR



### 3.Dimension




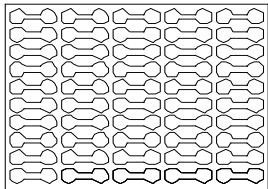
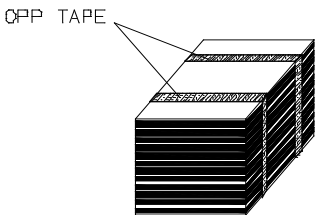
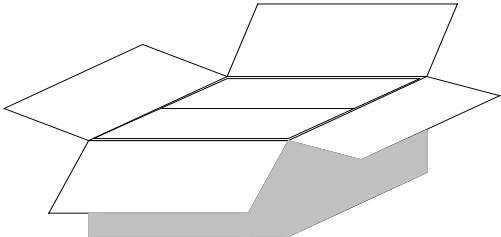
#### 4. Reliability Tests

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 Pink noise is applied for 96 hours
10	1.5 times Rated Power test	1.5 times Pink noise, $+60^{\circ}\text{C} \pm 3^{\circ}\text{C}$ , 90% humidity, more than 4H
11	1.2 times Rated Power test	1.2 times Pink noise, $+60^{\circ}\text{C} \pm 3^{\circ}\text{C}$ , 70% humidity, more than 10H
12	Max Power test	Max power 1 min on – 2 min off 10 cycles.
13	Terminal strength test	Capable of withstand 1kg load for 30 seconds without resulting in any damage or rejection.
<b>Criterion: After these test , the change of S.P.L shall be within <math>\pm 3</math> dB .</b>		

#### 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.

## 5.Packing

REV NO.	REVISION NOTE	APPROVAL	DATE
	<div style="display: flex; align-items: center; justify-content: center;">  <div style="margin-left: 20px;"> <p>Cover(325*245*5mm) Material: Paper</p> </div> </div>		
	<div style="display: flex; align-items: center; justify-content: center;">  <div style="margin-left: 20px;"> <p>Box(325*245*13mm) 100pcs Material: Paper+Epe</p> </div> </div>		
	<div style="display: flex; align-items: center; justify-content: center;">  <div style="margin-left: 20px;"> <p>Middle(325*245*155mm) 1000pcs(10*100pcs) Material: Paper+Epe</p> </div> </div>		
	<div style="display: flex; align-items: center; justify-content: center;">  <div style="margin-left: 20px;"> <p>Outer Box(490*360*350mm) 4000pcs(4*1000pcs) Material: Paper</p> </div> </div>		
	<p>单位: mm</p>		
TITLE: packing		DRAWN: Lily 2015/09/25	
PART NO.		DESIGNED: R&D OF D.S.	SCALE: 2:1
DWG NO.		CHECKED: Emily	SHEET: 1 of 1
		APPROVAL: Eric	UNITS: mm
		TOLERANCE	
REV 1		20~11	± 0.3
MATERIAL: ***		10~5	± 0.2
		<4	± 0.1
<div style="display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid black; padding: 5px; margin-right: 10px;">DS</div> <div> <p>DRAGONSTATE ELECTRONIC CORPORATION</p> </div> </div>			