

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

Product	DYNAMIC SPEAKER
Part No.	HDK-2808BB-7 (RoHS)
Customer Approval	

Approved By	Checked By	Made By
王台平 OCT-31-2018	曹丽萍 OCT-31-2018	LILY OCT-31-2018

常州华龙电子有限公司
DRAGONSTATE ELECTRONIC CORPORATION

中国江苏省常州市新区电子园新四路 36 号

Tel: +86-519-85110078. 86-519-85106698, Fax: +86-519-85101081

EDITION:1.1

1. Specification

HDK-2808BB-7 (RoHS)

ITEM		SPECIFICATIONS	
01	Type	Dynamic speaker	
02	Dimension	External diameter 28 mm	
03	Rated Input Power	1.0W	
04	Max. Input Power	1.5W for 1 minute	
05	Impedance	8 ohm \pm 15% at 1000Hz.	
06	Resonance Frequency (Fo)	650Hz \pm 20% at Fo, 1V	
07	Sensitivity (S.P.L.)	90dB (0.1W / 0.1m) \pm 3 dB	at AVE 0.8K,1.0K,1.2K,1.5KHz
08	Frequency Range	Fo – 5KHz	
09	Total Harmonics Distortion	Max 8 % at 1 KHz,1.0W.	
10	Voice Coil	Diameter 13.3 mm	
11	Magnet	Rare earth permanent (Nd-Fe-B) magnet Φ 12.6x1.8 mm	
12	Weight	7.0g \pm 0.5g	
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	

2-1. 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

2-2. Standard Test Fixture

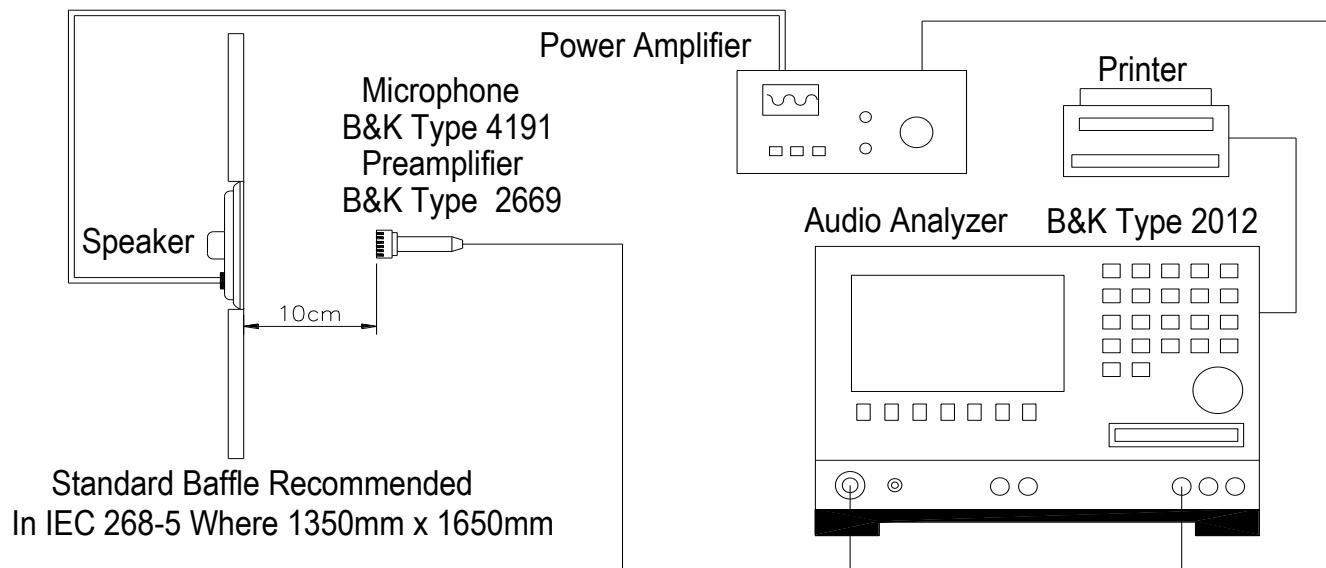
1. Input Power : 1.0W (2.83V)

2. Zero Level : -dB

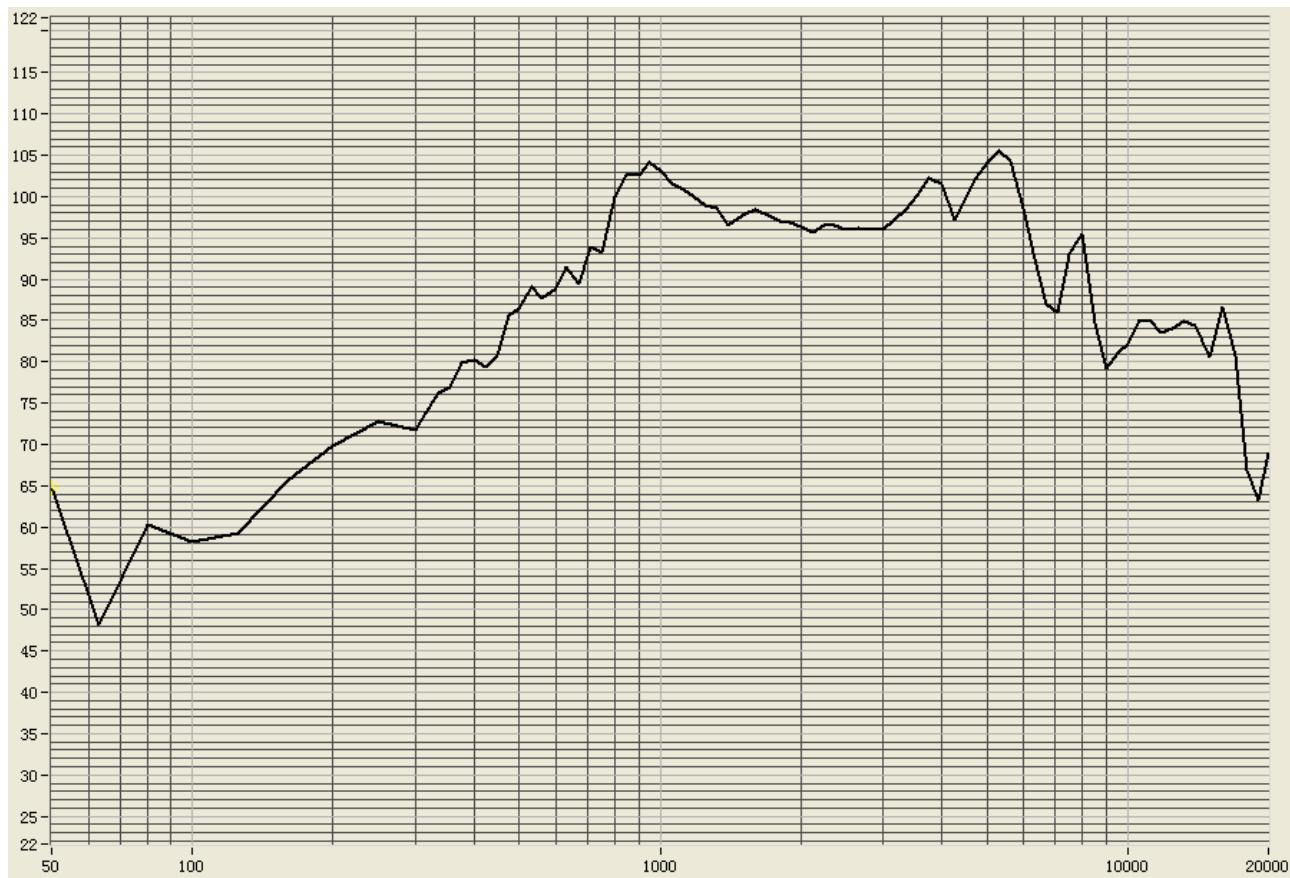
3. Mode : SPEAKER

4. potentiometer Range : 50dB

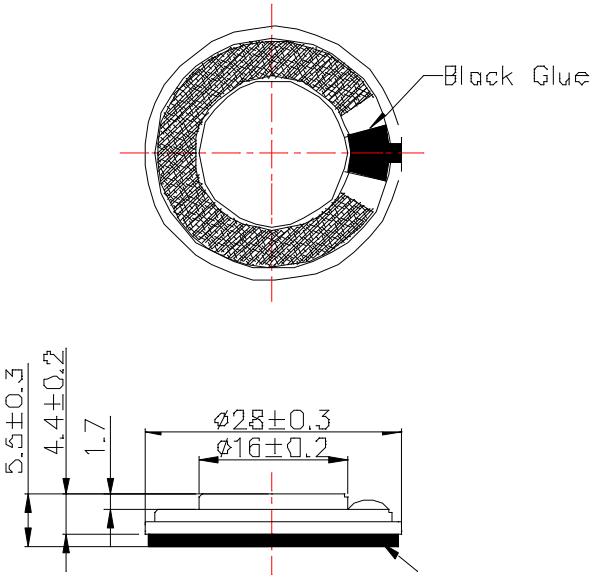
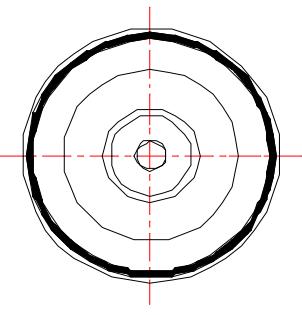
5. Sweep Time : 0.5sec



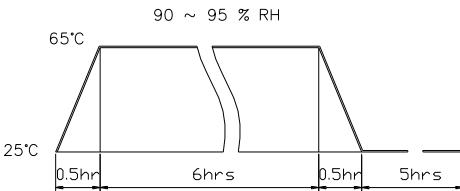
2-3. Frequency Response Curve



3. Dimension

REV NO.	REVISION NOTE	APPROVAL	DATE						
									
									
<p>Case: Fe Alloy Diaphragm: Black Mylar</p>									
<p>TITLE: DYNAMIC SPEAKER</p> <p>PART NO. HDK-280888-7</p> <p>DWG NO. DSE-3002</p>		<p>DRAWN: <i>Lily</i> 2018/10/24</p> <p>DESIGNED: R&D OF D.S.</p> <p>CHECKED: <i>Emily</i></p> <p>APPROVAL: <i>Eric</i></p> <p>REV</p>	<p>SCALE: 1:1</p> <p>UNITS: mm</p> <p>TOLERANCE</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>20~11</td> <td>± 0.3</td> </tr> <tr> <td>10~5</td> <td>± 0.2</td> </tr> <tr> <td><4</td> <td>± 0.1</td> </tr> </table> <p>MATERIAL: Fe Alloy</p>	20~11	± 0.3	10~5	± 0.2	<4	± 0.1
20~11	± 0.3								
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	<p>The part shall be subjected 5 cycles. One cycle shall be 12 hours and consist of;</p>  <p>90 ~ 95 % RH</p> <p>65°C</p> <p>25°C</p> <p>0.5hr 6hrs 0.5hr 5hrs</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 ± 3 dB .

Soldering Condition

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

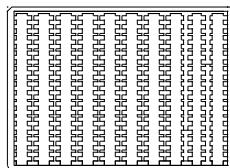
Soldering time not over 3 seconds.

5.Packing

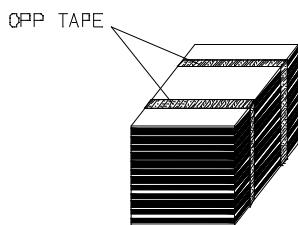
REV NO.	REVISION NOTE	APPROVAL	DATE
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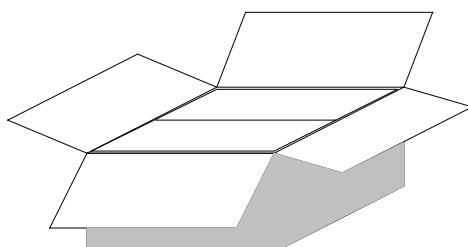
Cover(375*275*12mm)
Material: Eps



Box(375*275*48mm)
200pcs
Material: Eps



Middle(375*275*260mm)
1000pcs(5*200pcs)
Material: Eps



Outer Box(570*390*260mm)
2000pcs(2*1000pcs)
Material: Paper

单位: mm

TITLE:	packing	DRAWN: Lily	2013/12/08	SCALE: 2:1	SHEET: 1 of 1
PART NO.		DESIGNED: R&D QF D.S.		UNITS: mm	
		CHECKED: Emily		TOLERANCE	
DWG NO.	1	APPROVAL: Eric		20~11	± 0.3
	REV	MATERIAL: ***		10~5	± 0.2
				<4	± 0.1

DS

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