

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

Product	DYNAMIC SPEAKER
Part No.	HDK-302008AA-5W14 (RoHS)
Customer	
Customer Part No.	

Approved By	Checked By	Made By
王台平 DEC-20-2017	曹丽萍 DEC-20-2017	LILY DEC-20-2017

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

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1.Specification

HDK-302008AA-5W14(RoHS)

ITEM		SPECIFICATIONS	
01	Type	Dynamic speaker	
02	Dimension	External diameter 30×20 mm	
03	Rated Input Power	1.5W	
04	Max. Input Power	1.7W	
05	Impedance	8 ohm ± 15% at 2000Hz.	
06	Resonance Frequency (Fo)	900Hz ± 20% at Fo, 1V	
07	Sensitivity (S.P.L.)	95dB(0.5W/0.1m) ± 3 dB	at AVE 1.0 ,1.2,1.5,2.0KHz.
08	Frequency Range	Fo – 20KHz	
09	Total Harmonics Distortion	Max 8 % at 1 KHz,1.2W.	
10	Voice Coil	Diameter 10.5 mm	
11	Magnet	Rare earth permanent (Nd-Fe-B) magnet Φ9.8 x 1.5 mm	
12	Weight	3.5g ± 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 – 1.2W	
15	Buzz, Rattle, etc.	Should not be audible at 3.1V 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

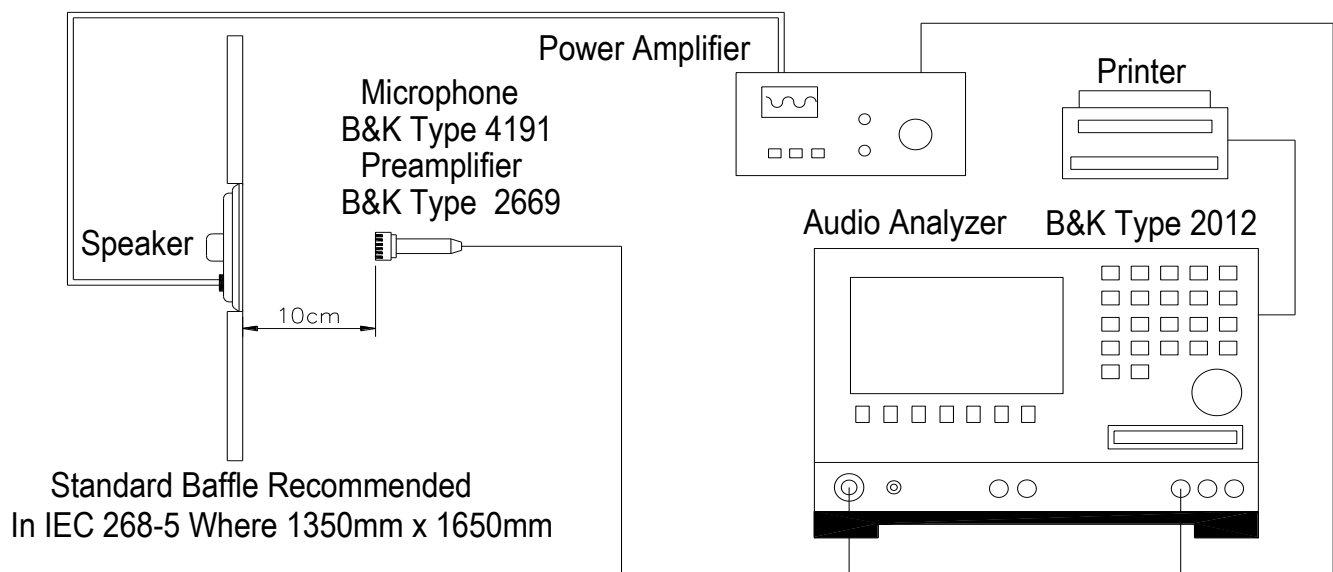
1. Input Power : 0.5W (2.0V)

2. Zero Level : -dB

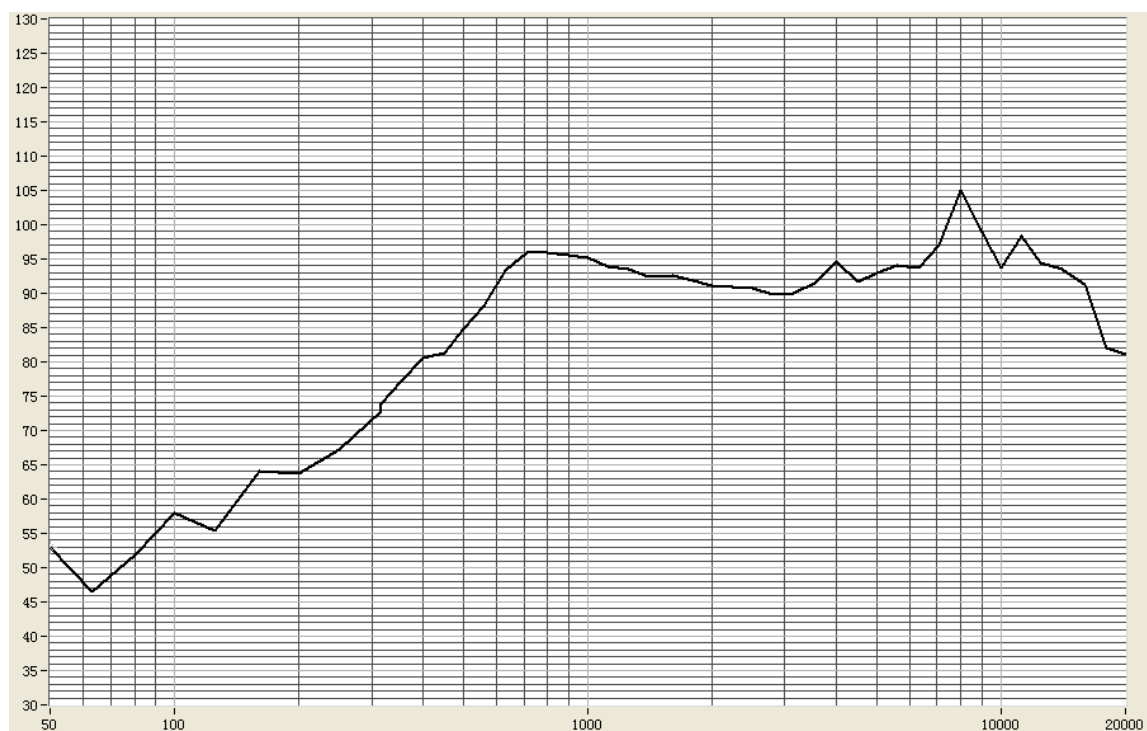
3. Mode : SPEAKER

4. potentiometer Range : 50dB

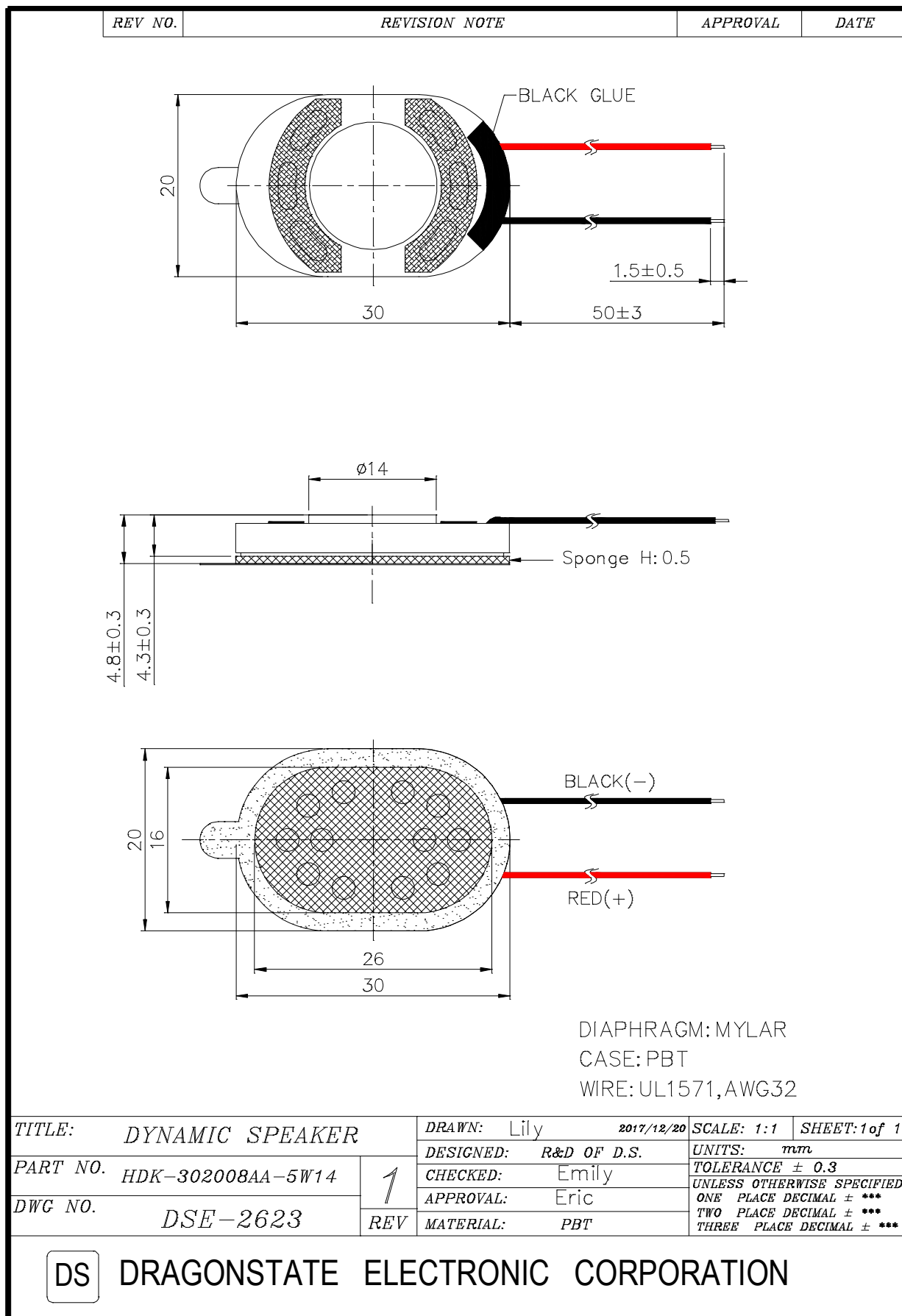
5. Sweep Time : 0.5sec



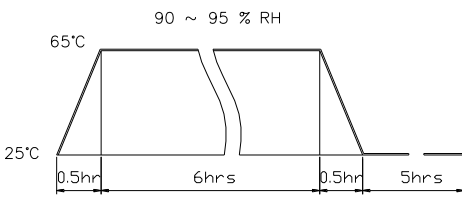
2-3. Frequency Response Curve



3.Dimension



4. Reliability tests


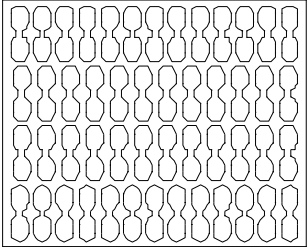
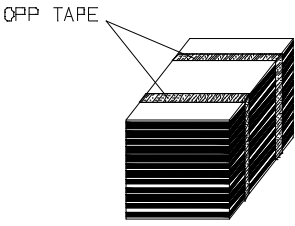
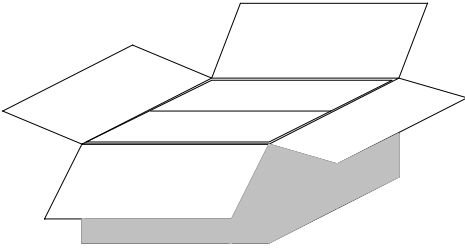
Items.		Specifications
01	High temp. Test	Keep 96 hours at $+70^{\circ}\text{C} \pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check
02	Low temp. Test	Keep 96 hours at $-30^{\circ}\text{C} \pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check
03	Humidity 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 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
	<div style="text-align: center;">  </div> <div style="text-align: right; margin-top: 10px;"> Cover(350*285*5mm) Material: Paper </div>		
	<div style="text-align: center;">  </div> <div style="text-align: right; margin-top: 10px;"> Box(350*285*10mm) 100pcs Material: Paper+Epe </div>		
	<div style="text-align: center;">  </div> <div style="text-align: right; margin-top: 10px;"> Middle(320*220*120mm) 1000pcs(10*100pcs) Material: Paper+Epe </div>		
	<div style="text-align: center;">  </div> <div style="text-align: right; margin-top: 10px;"> Outer Box(590*390*405mm) 5000pcs(5*1000pcs) Material: Paper </div>		
单位: mm			
TITLE: packing		DRAWN: Lily 2015/08/15	
PART NO.		DESIGNED: R&D QF D.S.	
		CHECKED: Emily	
DWG NO.		APPROVAL: Eric	
		MATERIAL: ***	
<div style="border: 1px solid black; padding: 5px; display: inline-block;">DS</div> DRAGONSTATE ELECTRONIC CORPORATION		SCALE: 2:1	
		SHEET: 1 of 1	
		UNITS: mm	
		TOLERANCE	
		20~11 ± 0.3	
		10~5 ± 0.2	
		<4 ± 0.1	