

**MESSRS.**

---

**SPECIFICATION FOR APPROVAL**

**承 认 书**

<b>Product</b>	<b>DYNAMIC SPEAKER</b>
<b>Part No.</b>	<b>HDK-352508ZA-BOX(RoHS)</b>
<b>Customer</b>	
<b>Customer Part No.</b>	<b>Q303</b>

<b>Approved By</b>	<b>Checked By</b>	<b>Made By</b>
王台平 OCT-15-2014	曹丽萍 OCT-15-2014	LILY OCT-15-2014

**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-352508ZA-BOX(RoHS)

ITEM		SPECIFICATIONS	
01	Type	Dynamic speaker	
02	Dimension	External diameter 35×25 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.)	103dB(1.0W/0.1m) ± 3 dB	at AVE 0.8 ,1.0 ,1.2,1.5 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*2.0 mm	
12	Weight	10.2g ± 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 – 1.5W	
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

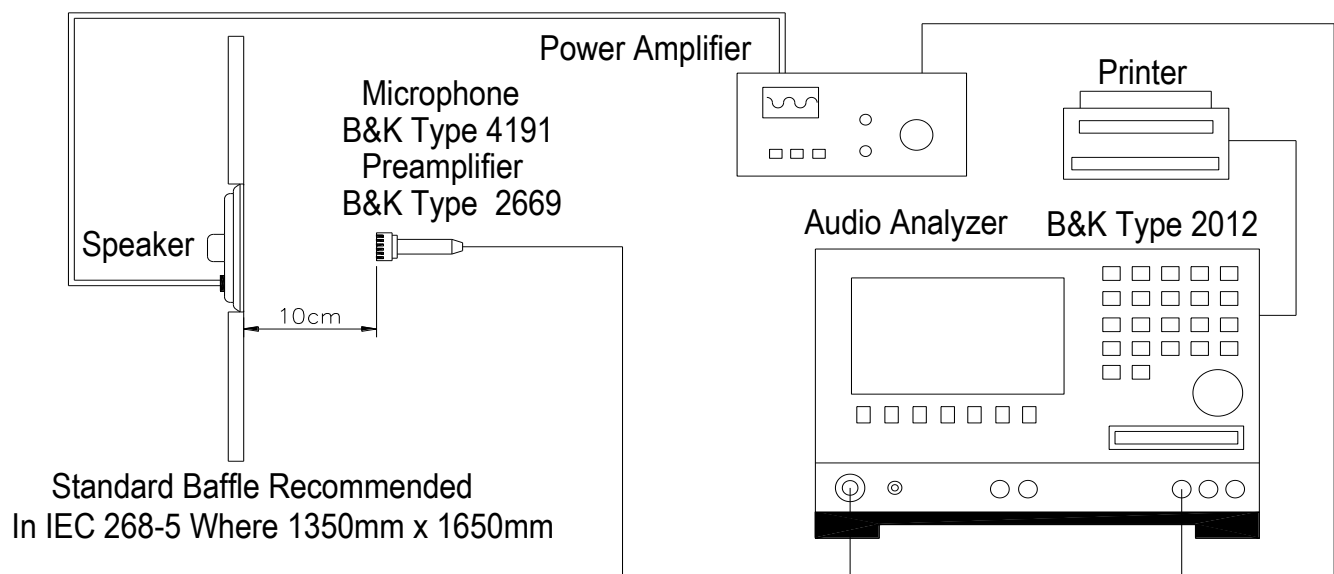
1.Input Power : 1.0W (2.83V )

2.Zero Level : -dB

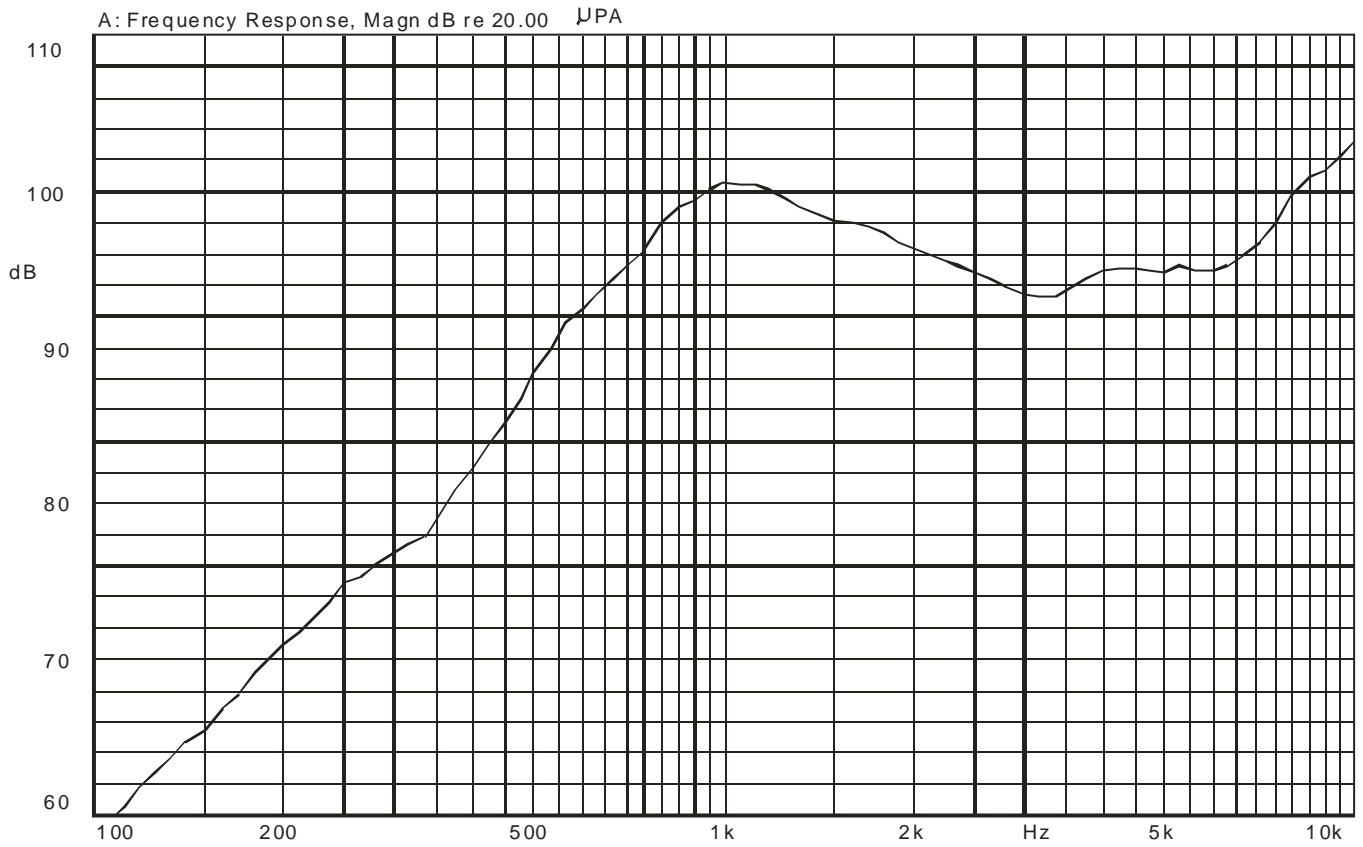
3.Mode : SPEAKER

4.potentiometer Range : 50dB

5.Sweep Time : 0.5sec



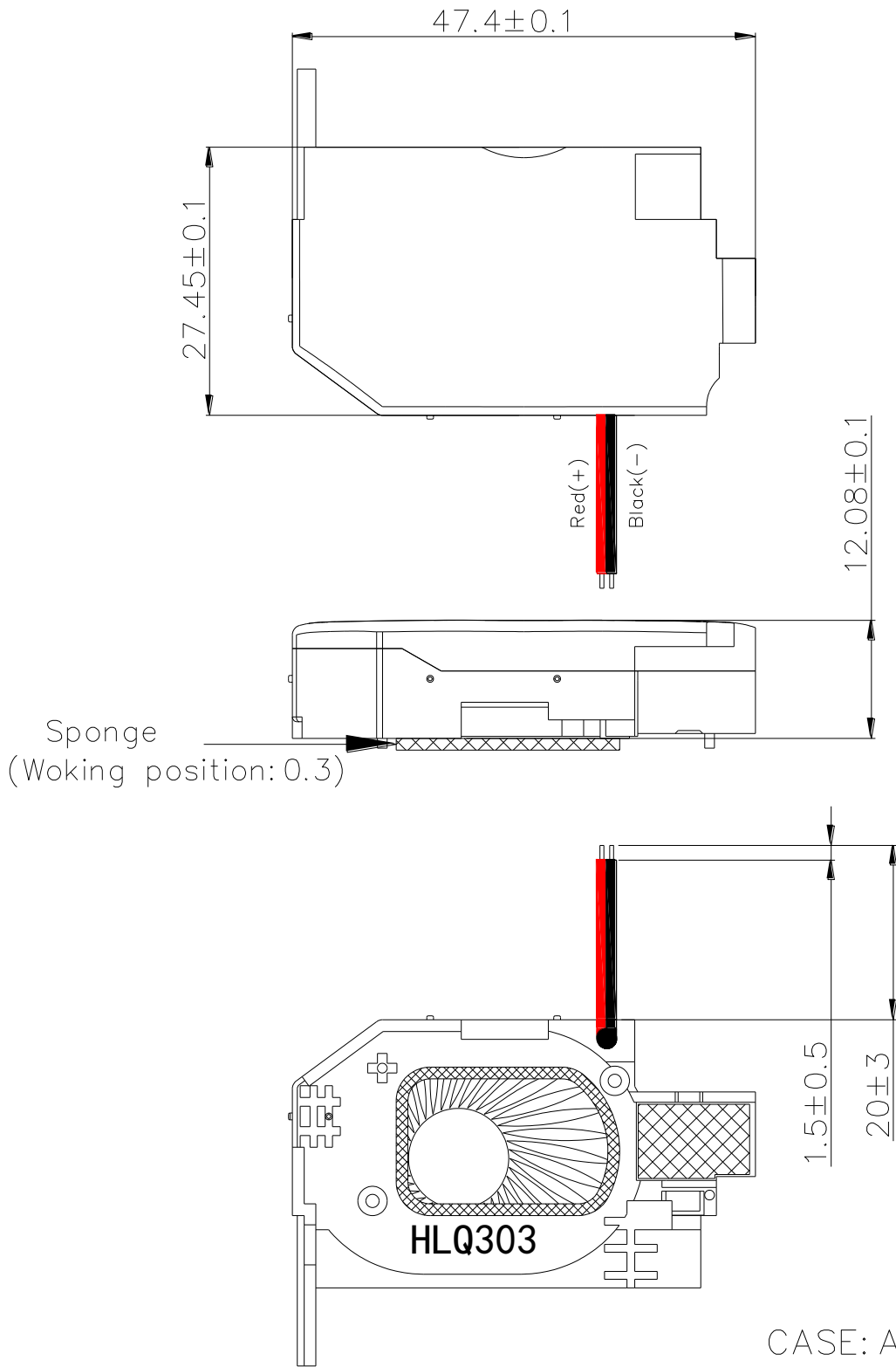
## 2-3. Frequency Response Curve



Mode: SPEAKER



REV NO.	REVISION NOTE	APPROVAL	DATE
---------	---------------	----------	------



CASE: ABS  
 WRIE: UL1571AWG32

TITLE: DYNAMIC SPEAKER		DRAWN: Lily	2014/10/15	SCALE: 2/1	SHEET: 1 OF 1
PART NO. HDK-352508ZA-BOX		DESIGNED: R&D OF DS	UNITS: mm		
DWG NO. DSE-1725		CHECKED: Emily	TOLERANCE $\pm 0.2$		
		APPROVAL: Eric	UNLESS OTHERWISE SPECIFIED:		
REV 1		MATERIAL: ABS	ONE PLACE DECIMAL $\pm$ ***		
			TWO PLACE DECIMAL $\pm$ ***		
			THREE PLACE DECIMAL $\pm$ ***		

**DS** DRAGONSTATE ELECTRONIC CORPORATION

## 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.