

**MESSRS.**

---

**SPECIFICATION FOR APPROVAL****承 認 書**

|                          |                               |
|--------------------------|-------------------------------|
| <b>Product</b>           | <b>DYNAMIC SPEAKER</b>        |
| <b>Part No.</b>          | <b>HDK-1808AA-3W10 (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<br>JAN-03-2018 | 曹丽萍<br>JAN-03-2018 | LILY<br>JAN-03-2018 |

**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-1808AA-3W10(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 $\pm$ 15% at 1500Hz.                                                                                    |                              |
| 06   | Resonance Frequency (Fo)   | 900Hz $\pm$ 20% at Fo, 1V                                                                                     |                              |
| 07   | Sensitivity (S.P.L.)       | 89dB(0.1W/0.1m) $\pm$ 3 dB                                                                                    | at AVE 1.0K 1.2K 1.5K 2.0KHz |
| 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 $\Phi$ 9.7 x 1.3 mm                                                     |                              |
| 12   | Weight                     | 2.5g $\pm$ 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°C to +60°C<br>Storage temperature: -30°C to +70°C                                  |                              |

## 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

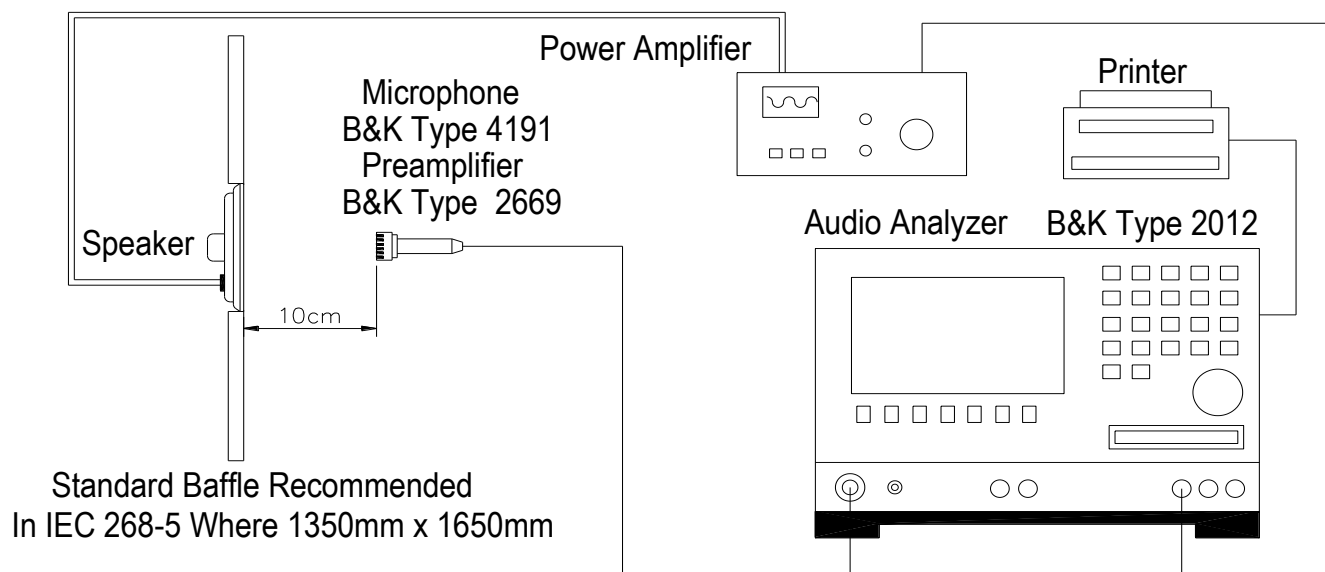
1. Input Power : 1.0W ( 2.83V )

2. Zero Level : -dB

3. Mode : SPEAKER

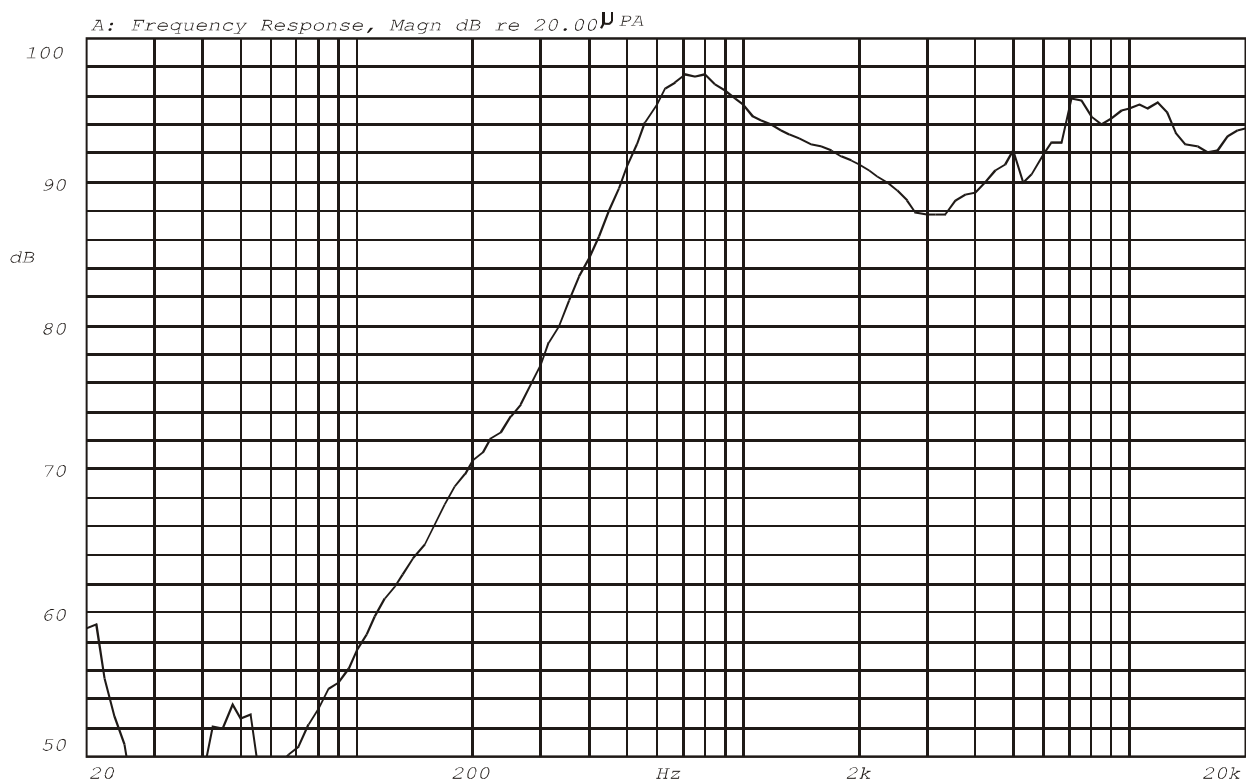
4. potentiometer Range : 50dB

5. Sweep Time : 0.5sec



## 2-3.Frequency Response Curve 1.0W/10CM

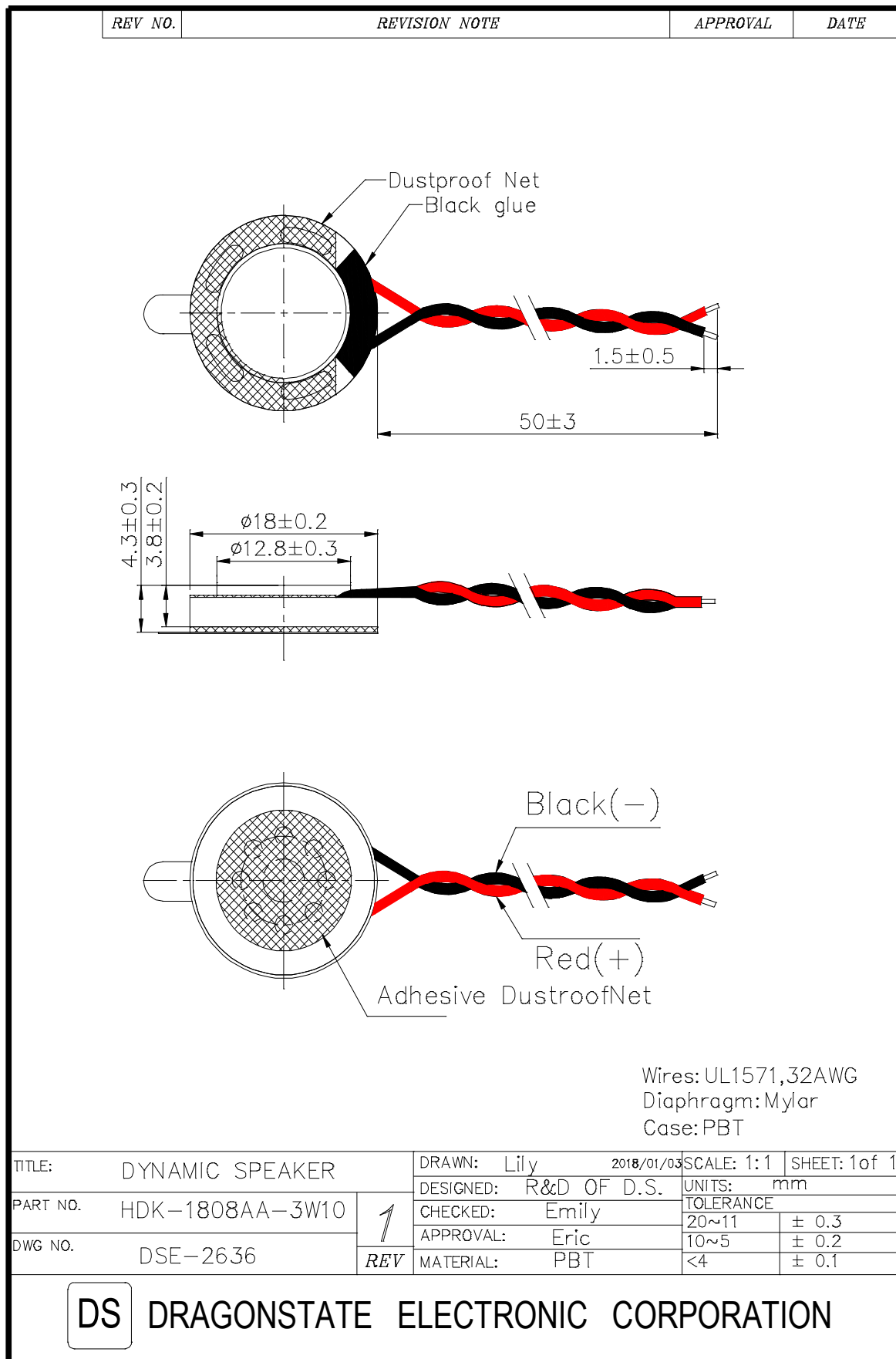
X:1.5000kHz \*Y:92.69dB ZA:Live Curve SSR Fund.



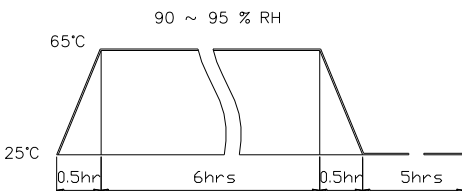
Mode: SSR



### 3.Dimension



#### 4. Reliability Tests

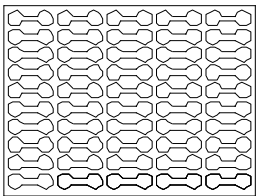
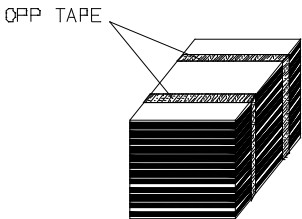
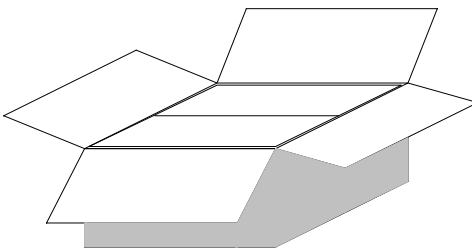
| Items.                                                                                           |                        | Specifications                                                                                                                                                                        |
|--------------------------------------------------------------------------------------------------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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                                                                                               | 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.                                                                                            |
| <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="text-align: center;">  </div> <div style="text-align: right; margin-top: 10px;">           Cover(325*245*5mm)<br/>           Material: Paper         </div>                                            |                        |      |
|                                                                                                                            | <div style="text-align: center;">  </div> <div style="text-align: right; margin-top: 10px;">           Box(325*245*13mm)<br/>           100pcs<br/>           Material: Paper+Epe         </div>                  |                        |      |
|                                                                                                                            | <div style="text-align: center;">  </div> <div style="text-align: right; margin-top: 10px;">           Middle(325*245*155mm)<br/>           1000pcs(10*100pcs)<br/>           Material: Paper+Epe         </div> |                        |      |
|                                                                                                                            | <div style="text-align: center;">  </div> <div style="text-align: right; margin-top: 10px;">           Outer Box(490*360*350mm)<br/>           4000pcs(4*1000pcs)<br/>           Material: Paper         </div>  |                        |      |
| 单位: mm                                                                                                                     |                                                                                                                                                                                                                                                                                                     |                        |      |
| TITLE: packing                                                                                                             |                                                                                                                                                                                                                                                                                                     | DRAWN: Lily 2016/09/26 |      |
| PART NO.                                                                                                                   |                                                                                                                                                                                                                                                                                                     | DESIGNED: R&D OF D.S.  |      |
|                                                                                                                            |                                                                                                                                                                                                                                                                                                     | CHECKED: Emily         |      |
| DWG NO.                                                                                                                    |                                                                                                                                                                                                                                                                                                     | APPROVAL: Eric         |      |
|                                                                                                                            |                                                                                                                                                                                                                                                                                                     | MATERIAL: ***          |      |
| <div style="border: 1px solid black; padding: 5px; display: inline-block;">1</div><br>REV                                  |                                                                                                                                                                                                                                                                                                     | SCALE: 2:1             |      |
|                                                                                                                            |                                                                                                                                                                                                                                                                                                     | SHEET: 1 of 1          |      |
|                                                                                                                            |                                                                                                                                                                                                                                                                                                     | UNITS: mm              |      |
|                                                                                                                            |                                                                                                                                                                                                                                                                                                     | TOLERANCE              |      |
|                                                                                                                            |                                                                                                                                                                                                                                                                                                     | 20~11 ± 0.3            |      |
|                                                                                                                            |                                                                                                                                                                                                                                                                                                     | 10~5 ± 0.2             |      |
|                                                                                                                            |                                                                                                                                                                                                                                                                                                     | <4 ± 0.1               |      |
| <div style="border: 1px solid black; padding: 2px 5px; display: inline-block;">DS</div> DRAGONSTATE ELECTRONIC CORPORATION |                                                                                                                                                                                                                                                                                                     |                        |      |

