

MESSRS.

SPECIFICATION FOR APPROVAL**承 认 书**

Product	DYNAMIC SPEAKER
Part No.	HDK-2508AA-2C4 (RoHS)
Customer	
Customer Part No.	3.02.0005

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

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EDITION:1.1

Approved By	Checked By	Made By
王台平 MAY-24-2019	曹丽萍 MAY-24-2019	LILY MAY-24-2019

1. Specification

HDK-2508AA-2C4 (RoHS)

ITEM		SPECIFICATIONS	
01	Type	Dynamic speaker	
02	Dimension	External diameter 25 mm	
03	Rated Input Power	1.5W (Long Time)	
04	Max. Input Power	1.8W for 1 minute	
05	Impedance	8 ohm \pm 15% at 1500Hz.	
06	Resonance Frequency (Fo)	650Hz \pm 20% at Fo, 1V	
07	Sensitivity (S.P.L.)	96dB (0.5W / 0.1m) \pm 3 dB	at AVE 1.0K, 1.2K, 1.5K, 2.0 KHz.
08	Frequency Range	Fo – 20KHz	
09	Total Harmonics Distortion	Max 8 % at 1 KHz, 1.0W	
10	Voice Coil	Diameter 10.5 mm	
11	Magnet	Rare earth permanent (Nd-Fe-B) magnet Φ 9.9 x 1.5 mm	
12	Weight	4.0g \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 – 1.5W	
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℃ to +60℃ Storage temperature: -30℃ to +70℃	

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

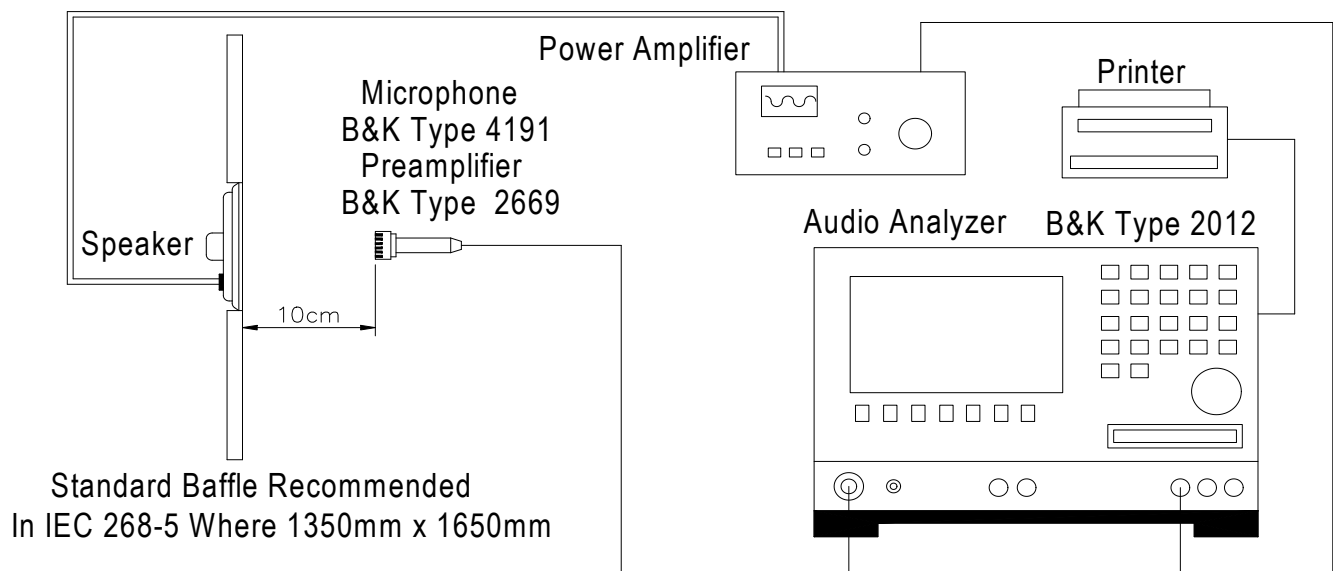
1. Input Power : 0.5W (2.0V)

2. Zero Level : -dB

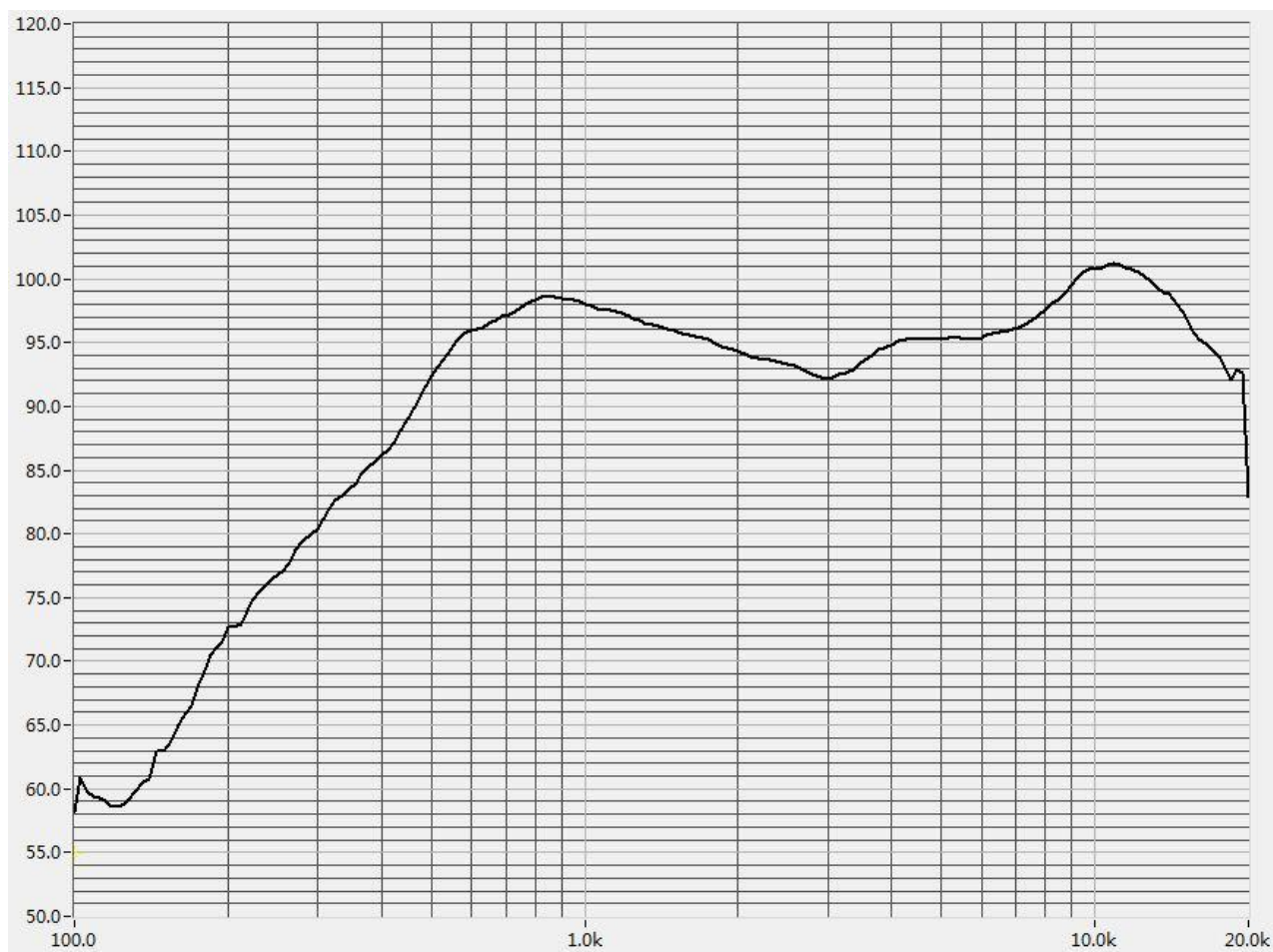
3. Mode : SPEAKER

4. potentiometer Range : 50dB

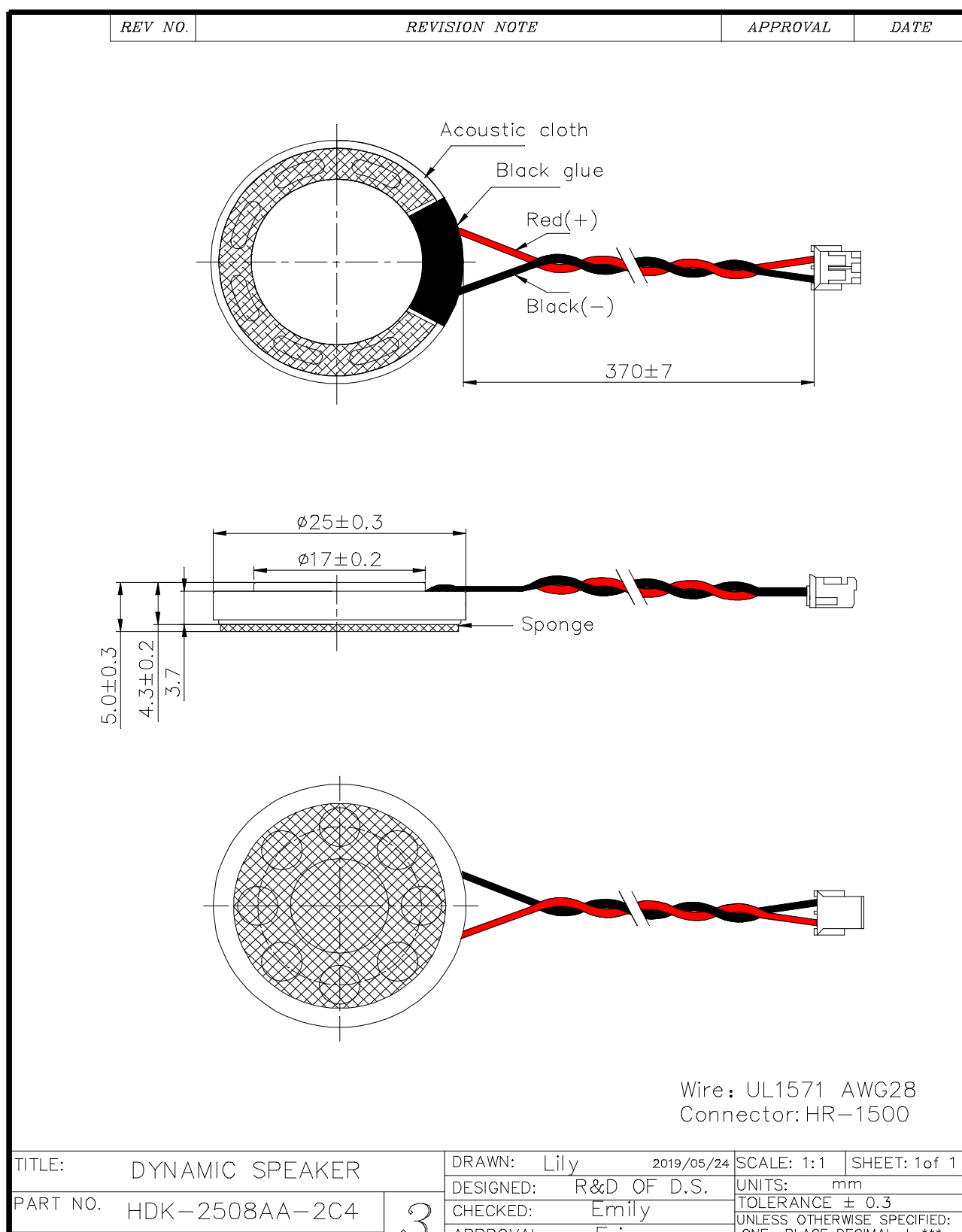
5. Sweep Time : 0.5sec



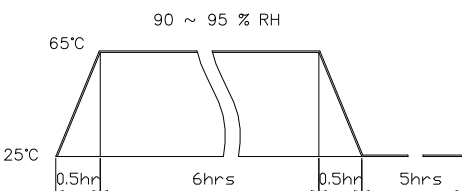
2-3. Frequency Response Curve



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 $+40^{\circ}\text{C} \pm 3^{\circ}\text{C}$ 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.

Change Items	Date	Note	Drawn by	Checked by
	2019-01-16	First Issue	Lily	王台平 2019-01-16
增加客户料号 线长改为 400mm 双面背胶改为单面背胶	2019-04-28	Second Issue	Lily	王台平 2019-04-28
线长缩短 30mm	2019-05-24	Third Issue	Lily	王台平 2019-05-24

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°C**.
Soldering time not over **3** seconds.

6.History change record



Dragonstate Electronic Corporation