MESSRS.

SPECIFICATION FOR APPROVAL
承 认 书

Product	**DYNAMIC SPEAKER**
Part No.	**HDK-151106ZA-3P (RoHS)**
Customer	
Customer Part No.	

Approved By	Checked By	Made By
王台平 APR-18-2018	曹丽萍 APR-18-2018	LILY APR-18-2018

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

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EDITION:1.1

1. Specification

HDK-151106ZA-3P (RoHS)

ITEM		SPECIFICATIONS
01	**Type**	Dynamic speaker
02	**Dimension**	External diameter 15*11 mm
03	**Rated Input Power**	0.7W In 1cc Box
04	**Max. Input Power**	1.0W must be normal white noise for 1 minute in 1.0cc box
05	**Impedance**	6 ohm ± 15% at 1000Hz.
06	**Resonance Frequency (Fo)**	600Hz ± 20%（in free air）
	Resonance Frequency (Fo)	900Hz ± 20%（in 1cc box）
07	**Sensitivity (S.P.L.)**	84 ± 3 dB SPL /0.1W/0.1M at 1000Hz
08	**Frequency Range**	Fo – 20KHz
09	**Total Harmonics Distortion**	Max 10% at 1 KHz,0.7W.
10	**Weight**	1.5g ± 5%g
11	**Appearance**	Should not exist any obstacle to be harmful to normal operation; damages, cracks, rusts and distortions, etc.
12	**Operation Test**	Must be normal at program source – 0.7W
13	**Buzz, Rattle, etc.**	Must be normal at sine wave 0.77Vrms (in free air) /2.05Vrms(in 1.0cc box) from F0~5KHz
14	**Polarity**	When positive voltage is applied to the terminal marked (+), diaphragm should move to the front.
15	**Terminal Strength**	Capable of withstand 1kg load for 30 seconds without resulting in any damage or rejection.
16	**Temperature**	Operating temperature: -30℃ to +70℃ Storage temperature: -40℃ to +85℃

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

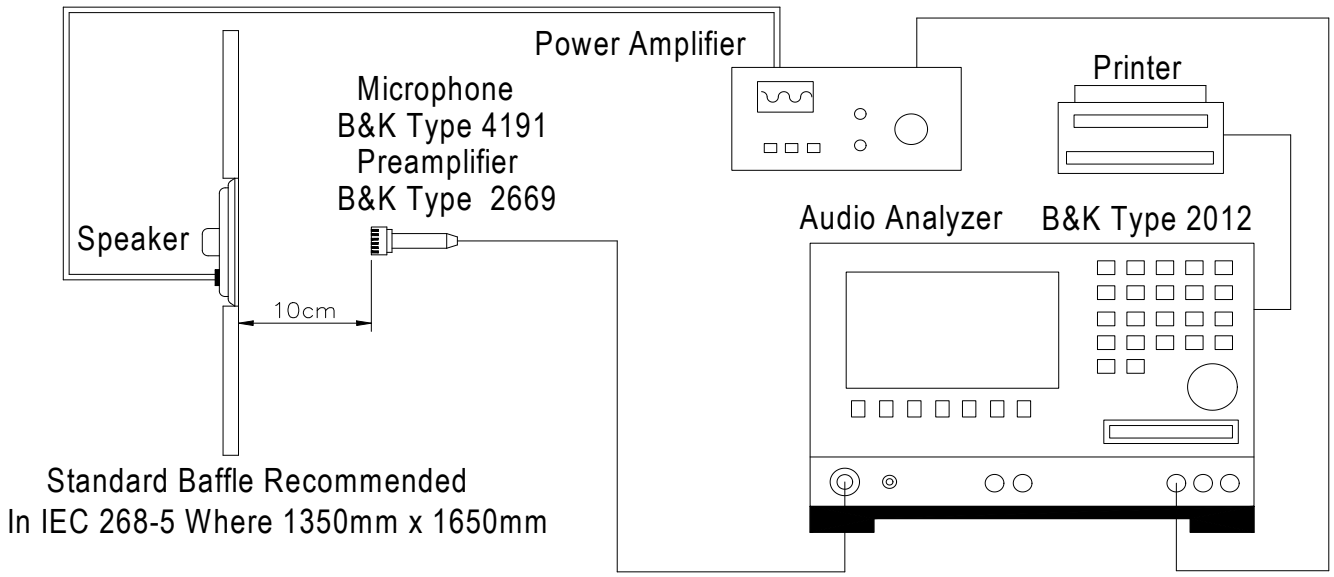
1.Input Power : 0.1W (0.77V)

2.Zero Level : -dB

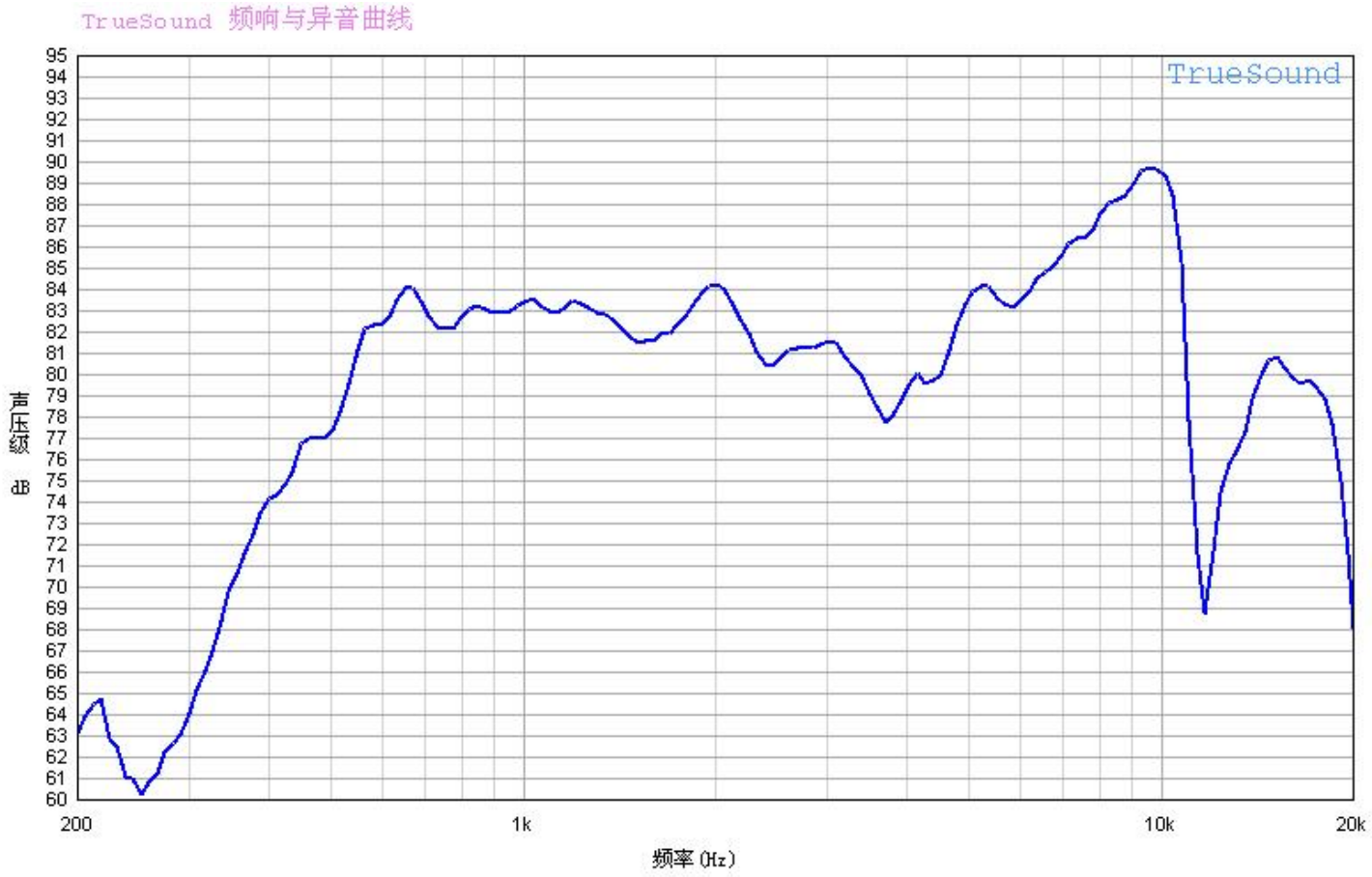
3.Mode : SPEAKER

4.potentiometer Range : 50dB

5.Sweep Time : 0.5sec

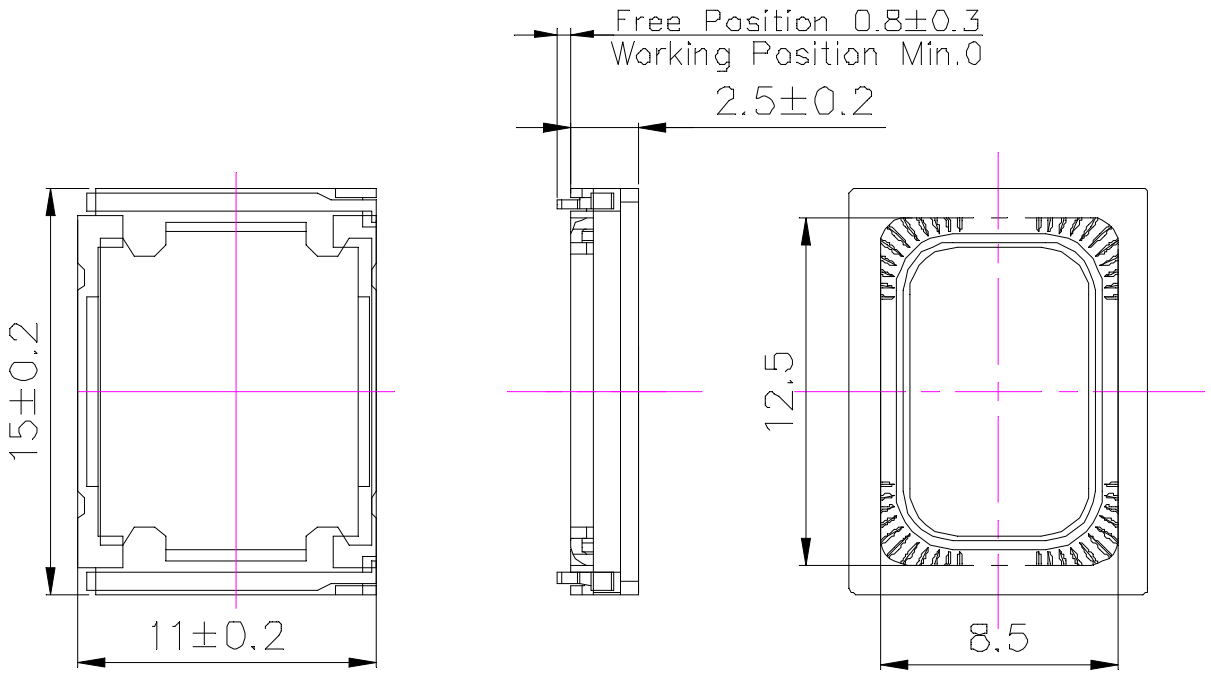


2-3.Frequency Response Curve



3.Dimension

REV NO.	REVISION NOTE	APPROVAL	DATE



TITLE: DYNAMIC SPEAKER		DRAWN: Lily 2018/04/18	SCALE: 2/1	SHEET: 1 OF 1	
PART NO. HDK-151106ZA-3P	1	DESIGNED: R&D OF D.S.	UNITS: mm		
DWG NO. DSE-2755	REV	CHECKED: Emily	TOLERANCE ±0.2		
		APPROVAL: Eric	UNLESS OTHERWISE SPECIFIED: ONE PLACE DECIMAL ± *** TWO PLACE DECIMAL ± *** THREE PLACE DECIMAL ± ***		
		MATERIAL: PBT			

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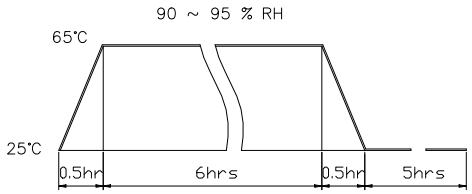
4.Reliablity Tests

Items.		Specifications
01	**High temp. Test**	Keep 96 hours at +85℃±3℃ and leave 3 hours in normal temperature and then check
02	**Low temp. Test**	Keep 96 hours at -40℃±3℃ and leave 3 hours in normal temperature and then check
03	**Humidity test**	Keep 96 hours at + 60℃±3℃ relative humidity 95% and leave 3 hours in normal temperature and then checked.
04	**Temp./Humidity cycle**	The part shall be subjected 5 cycles. One cycle shall be 12 hours and consist of; 
05	**Thermal cycle test.**	Low temperature: -40℃±3℃, temperature:+85℃±3℃, 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 in 1cc box
10	**Max Power test**	Max power 1 min on – 2 min off 10 cycles in 1cc box
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±10°C**.
Soldering time not over **3** seconds.