MESSRS.

SPECIFICATION FOR APPROVAL
承 认 书

Product	**DYNAMIC SPEAKER**
Part No.	**HDK-1508EA-4 (RoHS)**
Customer Approval	

Approved By	Checked By	Made By
王台平 AUG-18-2009	曹丽萍 AUG-18-2009	LILY AUG-18-2009

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EDITION:1.1

1. SPECIFICATION

HDK-1508EA-4 (RoHS)

ITEM		SPECIFICATIONS	
01	**Type**	Dynamic speaker	
02	**Dimension**	External diameter 15 mm	
03	**Rated Input Power**	0.3W	
04	**Max. Input Power**	0.5W for 1 minute	
05	**Impedance**	8 ohm ± 15% at 1500Hz.	
06	**Resonance Frequency (Fo)**	950Hz ± 20% at Fo, 1V	
07	**Sensitivity (S.P.L.)**	87dB (0.1W / 0.1m) ± 3 dB 92dB (0.3W / 0.1m) ± 3 dB	at AVE 0.8K~1.5 KHz
08	**Frequency Range**	Fo – 20KHz	
09	**Total Harmonics Distortion**	Max 8 % at 1 KHz,0.3W.	
10	**Voice Coil**	Diameter 8.3 mm	
11	**Magnet**	Rare earth permanent (Nd-Fe-B) magnet Φ7.8*1.0mm	
12	**Weight**	1.5g ± 5%g	
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 – 0.3W	
15	**Buzz, Rattle, etc.**	Should not be audible at 1.55V 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℃	

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

Standard Test Fixture

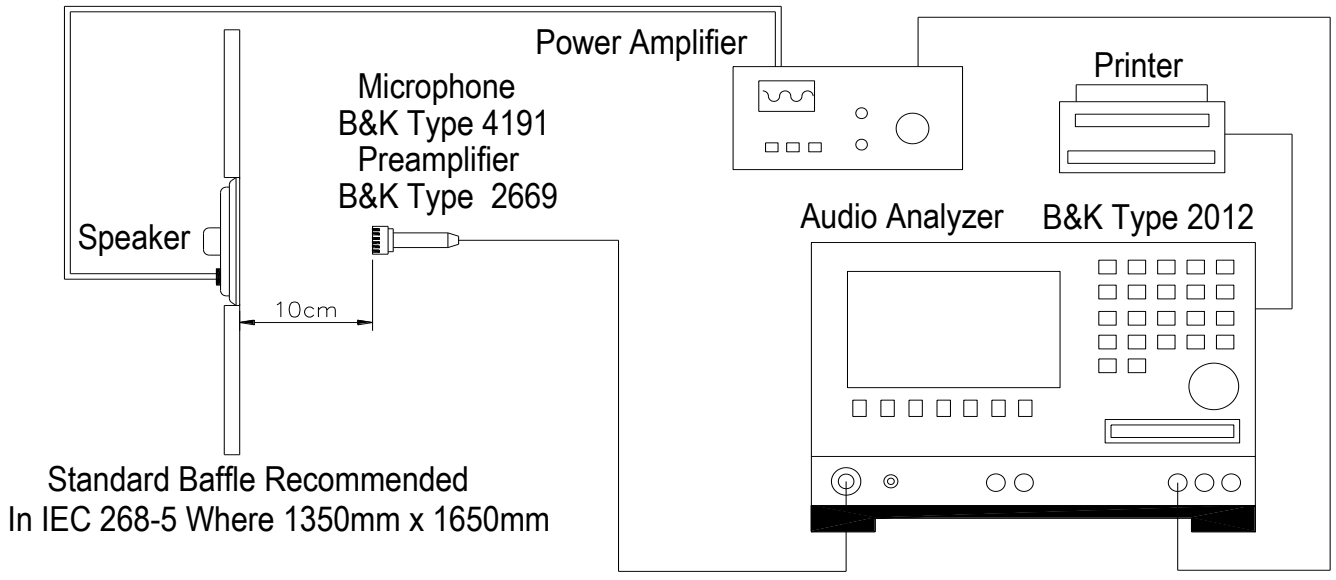
1.Input Power : 0.5W (2.0V)

2.Zero Level : -dB

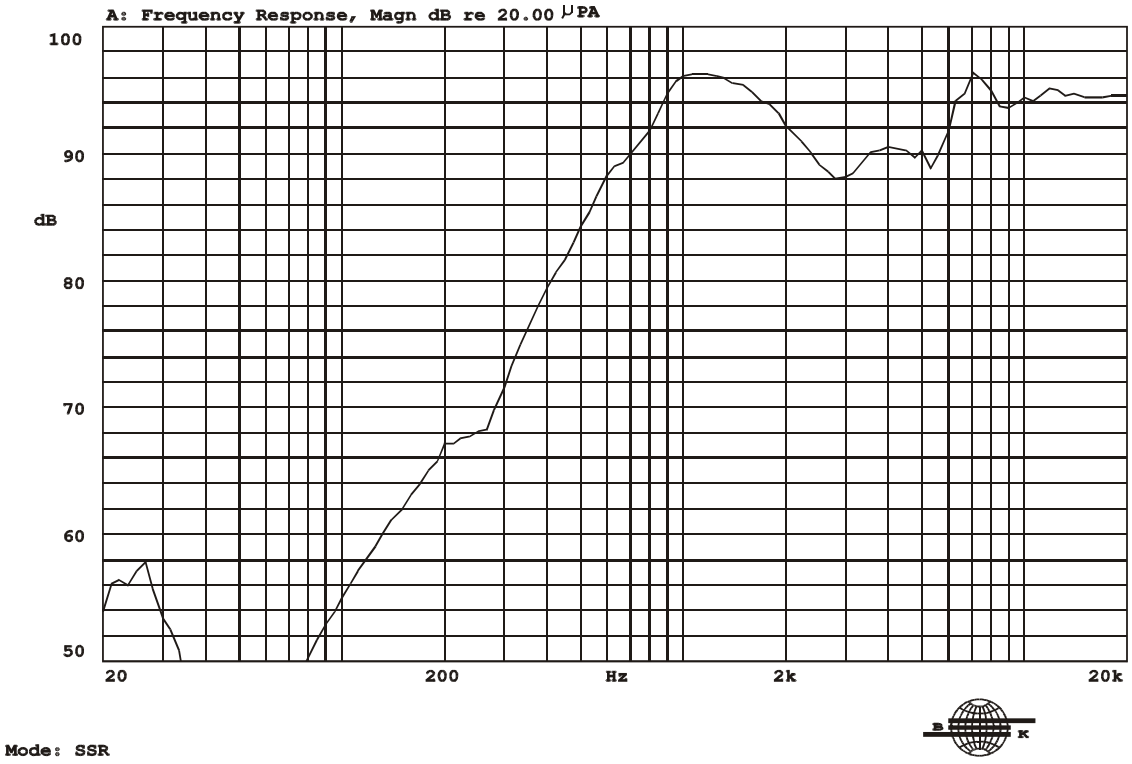
3.Mode : SPEAKER

4.potentiometer Range : 50dB

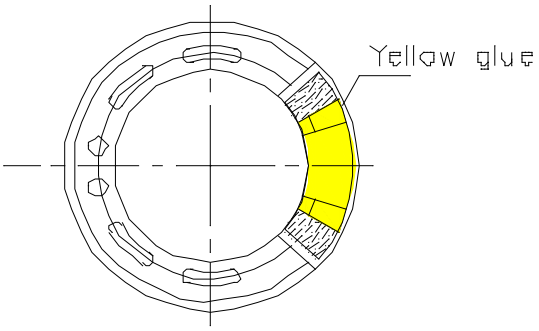
5.Sweep Time : 0.5sec

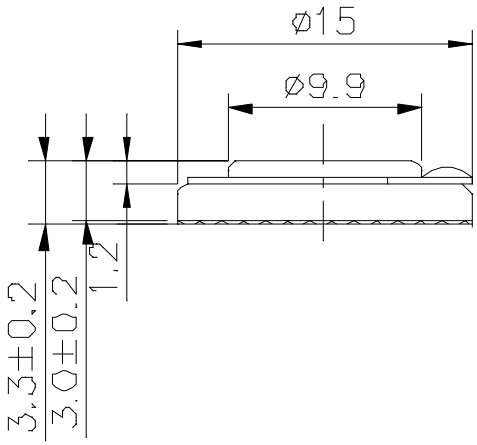


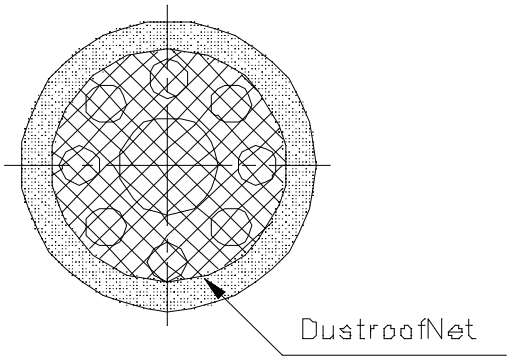
Frequency Response Curve



REV NO.	REVISION NOTE	APPROVAL	DATE





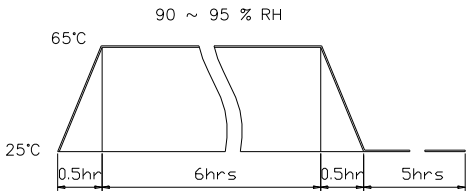


Case: Fe alloy
Diaphrgam: MYLAR

TITLE: DYNAMIC SPEAKER		DRAWN: Lily 2016/12/28	SCALE: 2:1 SHEET: 1 of 1
		DESIGNED: R&D OF D.S.	UNITS: mm
PART NO. HDK-1508EA-4	1	CHECKED: Emily	TOLERANCE ± 0.2
		APPROVAL: Eric	UNLESS OTHERWISE SPECIFIED: ONE PLACE DECIMAL ± *** TWO PLACE DECIMAL ± *** THREE PLACE DECIMAL ± ***
DWG NO. DSE-1845	REV	MATERIAL: Fe alloy	

DS **Changzhou Dragon State Electronic Co., Ltd**

RELIABLITY TESTS

Items.		Specifications
01	**High temp. Test**	Keep 96 hours at +70℃±3℃ and leave 3 hours in normal temperature and then check
02	**Low temp. Test**	Keep 96 hours at -30℃±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: -30℃±3℃, temperature:+70℃±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
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±10°C**.

Soldering time not over **3** seconds.