

MESSRS.

SPECIFICATION FOR APPROVAL**承 认 书**

Product	DYNAMIC SPEAKER
Part No.	HDK-2732BA-1 (RoHS)
Customer Approval	

Approved By	Checked By	Made By
王台平 MAR-16-2017	曹丽萍 MAR-16-2017	LILY MAR-16-2017

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EDITION: 1. 1

1. Specification

HDK-2732BA-1 (RoHS)

ITEM		SPECIFICATIONS	
01	Type	Dynamic speaker	
02	Dimension	External diameter 27 mm	
03	Rated Input Power	20mW (Long Time)	
04	Max. Input Power	30mW for 1 minute	
05	Impedance	32 ohm \pm 15%	
06	Resonance Frequency (Fo)	180Hz \pm 20% at Fo 1V	
07	Sensitivity (S.P.L.)	123 \pm 3.0dB	at 1.0mW/ 1.0KHz.
08	Frequency Range	20Hz - 10KHz	
09	Total Harmonics Distortion	Max \leq 5.0 % at 1.0mW/ 1.0KHz.	
10	Voice Coil	Diameter Φ 13.3 mm	
11	Magnet	Rare earth permanent (Nd-Fe-B) magnet Φ 12.5x2.0mm	
12	Weight	8.7g \pm 0.1g	
13	Buzz, Rattle, etc.	Should not be audible at 0.8V sine Wave between 20 to 5KHz	
14	Temperature	Operating temperature: -20°C to +60°C Storage temperature: -20°C to +60°C	

2-1. Test Condition

Standard

Temperature : 15 ~ 35°C

Relative humidity : 25% ~ 85%,

Atmospheric pressure : 860mbar to 1060mbar.

Basic

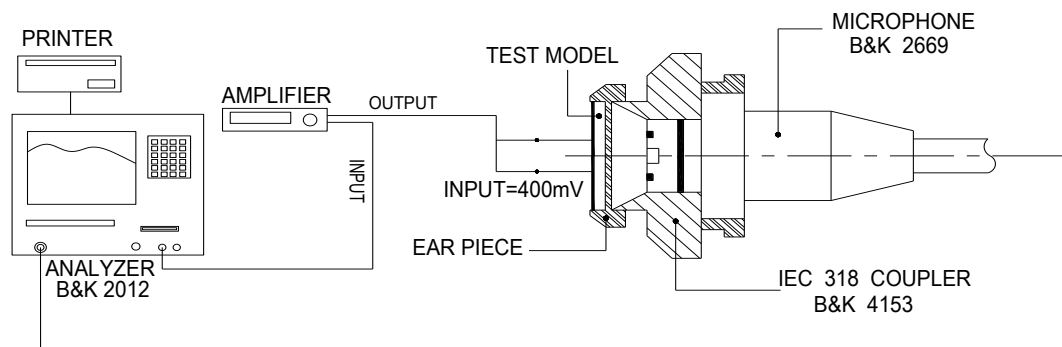
Temperature : $20 \pm 3^\circ\text{C}$

Relative humidity : 60% ~ 70%,

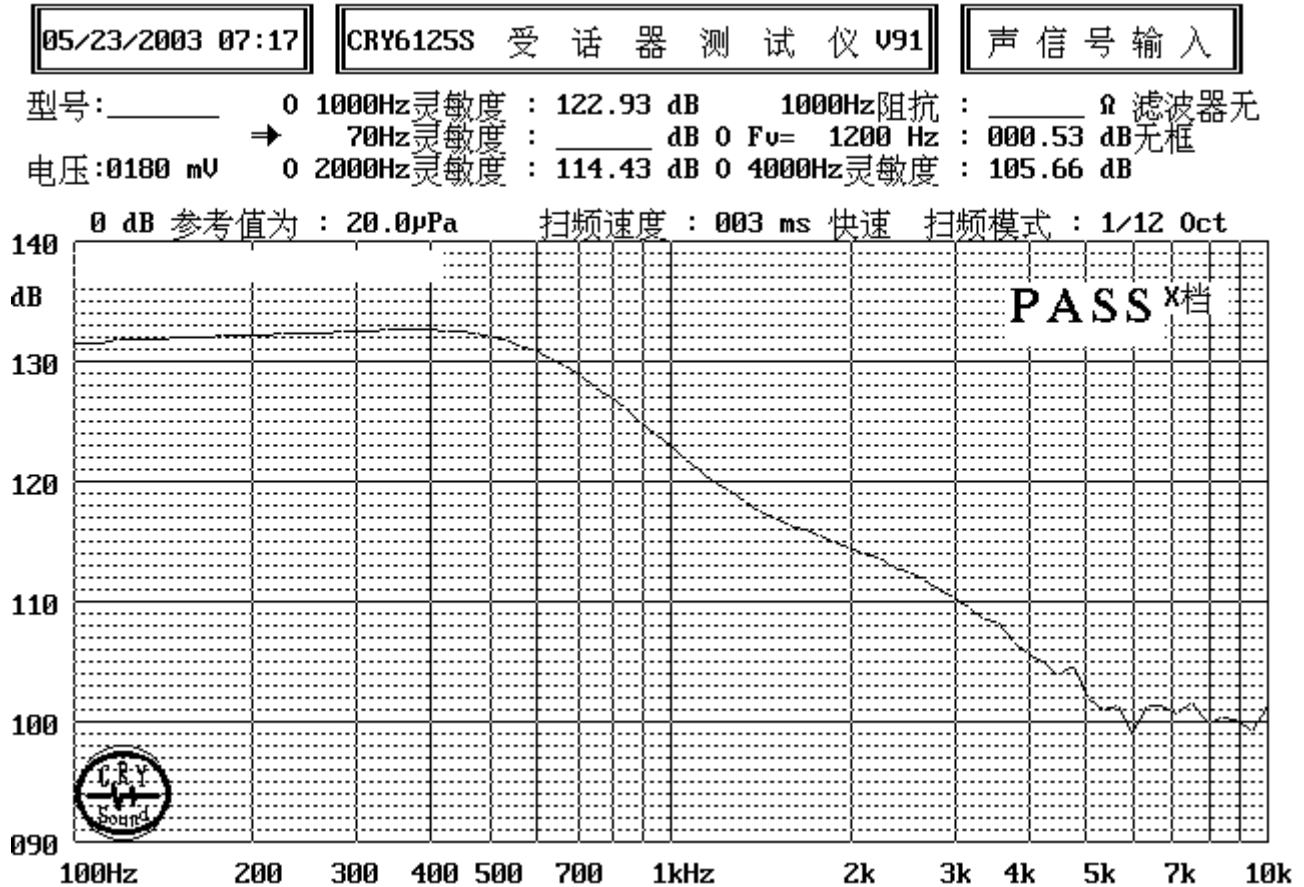
Atmospheric pressure : 860mbar to 1060mbar

2-2. Standard Test Fixture

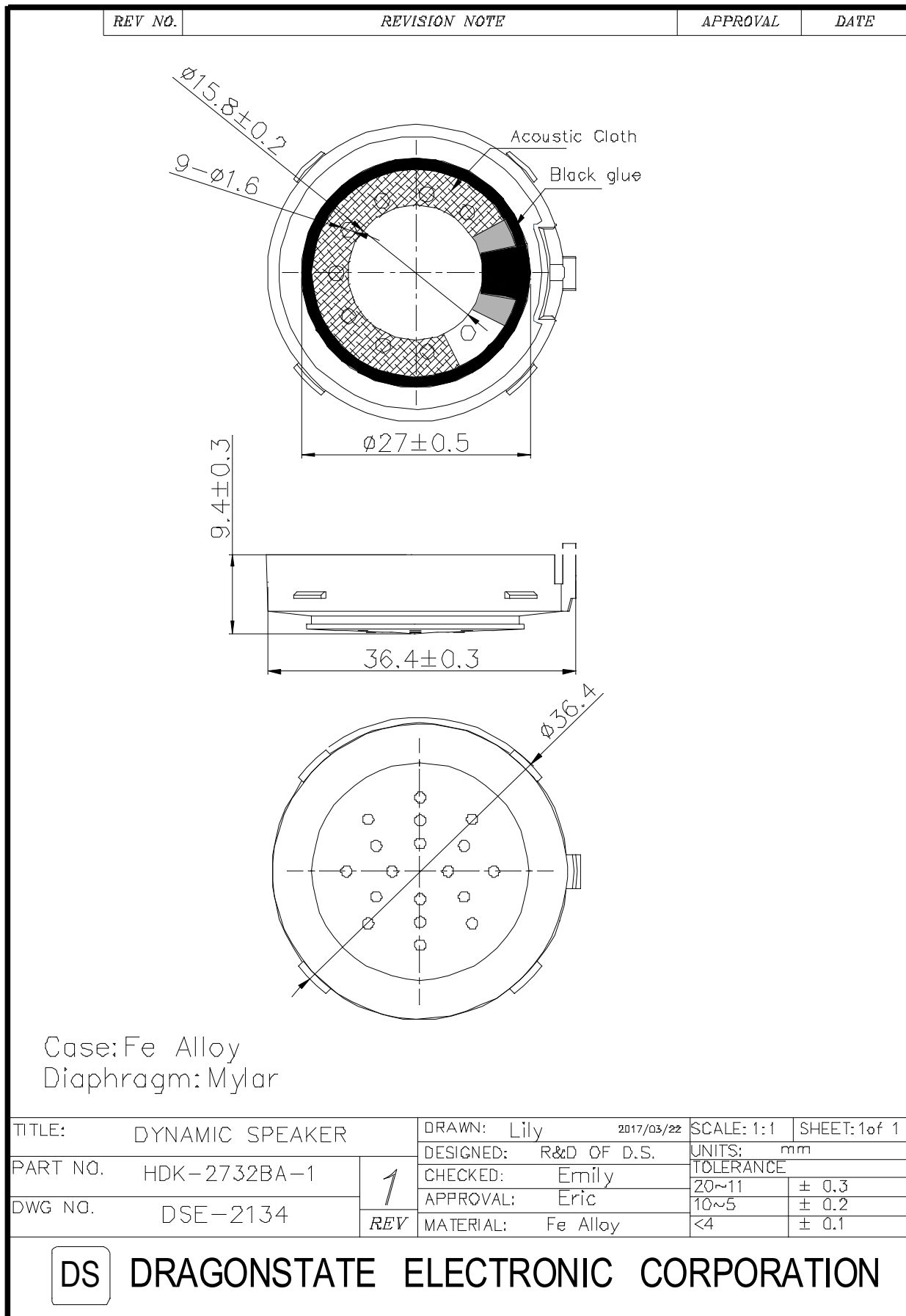
Input signal : 180mV



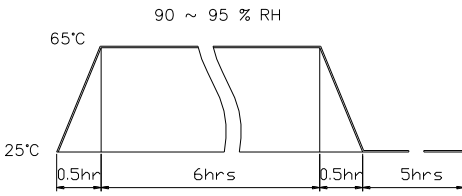
2-3. Frequency Response Curve



3. Dimension



4. Reliability Test

Items.		Specifications
01	High temp. Test	Keep 96 hours at $+60^{\circ}\text{C} \pm 3^{\circ}\text{C}$ 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: $-20^{\circ}\text{C} \pm 3^{\circ}\text{C}$, temperature: $+60^{\circ}\text{C} \pm 3^{\circ}\text{C}$, 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 ± 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.