

MESSRS.

SPECIFICATION FOR APPROVAL

承 认 书

Product	DYNAMIC SPEAKER
Part No.	HDK-3208BB-5 (RoHS)
Customer	
Customer Part No.	

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

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1. Specification

HDK-3208BB-5 (RoHS)

ITEM		SPECIFICATIONS	
01	Type	Dynamic speaker	
02	Dimension	External diameter 32 mm	
03	Rated Input Power	2.0W	
04	Max. Input Power	2.5 W for 1 minute	
05	Impedance	8 ohm $\pm$ 15% at 800Hz.	
06	Resonance Frequency (Fo)	550Hz $\pm$ 20% at Fo, 1V	
07	Sensitivity (S.P.L.)	87dB (0.1W / 0.1m) $\pm$ 3 dB	at AVE 0.8 K, 1.0 K, 1.2K, 1.5KHz
		102dB (2.0W / 0.1m) $\pm$ 3 dB	
08	Frequency Range	Fo - 20KHz	
09	Total Harmonics Distortion	Max 50 % at 300Hz, 2.0W.	
		Max 35% at 500Hz, 2.0W.	
		Max 10 % at 1.0 ~10KHz, 2.0W.	
10	Voice Coil	Diameter 13.3*2.3*0.065 mm	
11	Magnet	Rare earth permanent (Nd-Fe-B) magnet Φ 12.5x1.5 mm	
12	Weight	8.0g $\pm$ 0.5g	
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 - 2.0W	
15	Buzz, Rattle, etc.	Should not be audible at 4.0V 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	
		Storage temperature: -30°C to +70°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

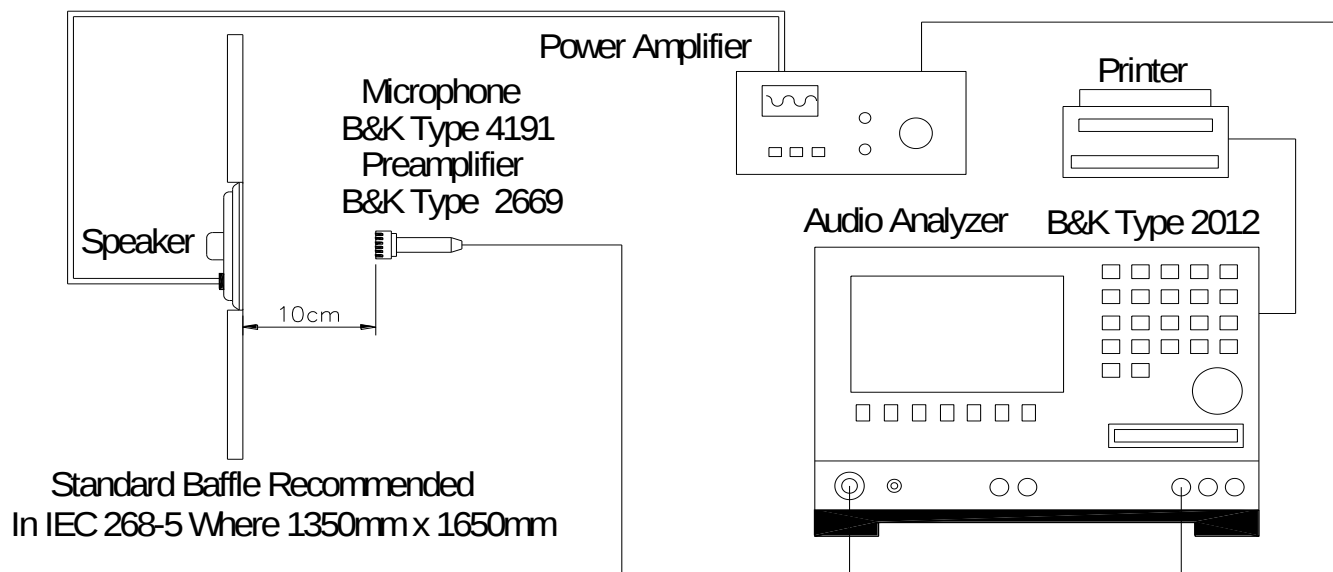
1. Input Power : 2.0W (4.0V)

2. Zero Level : -dB

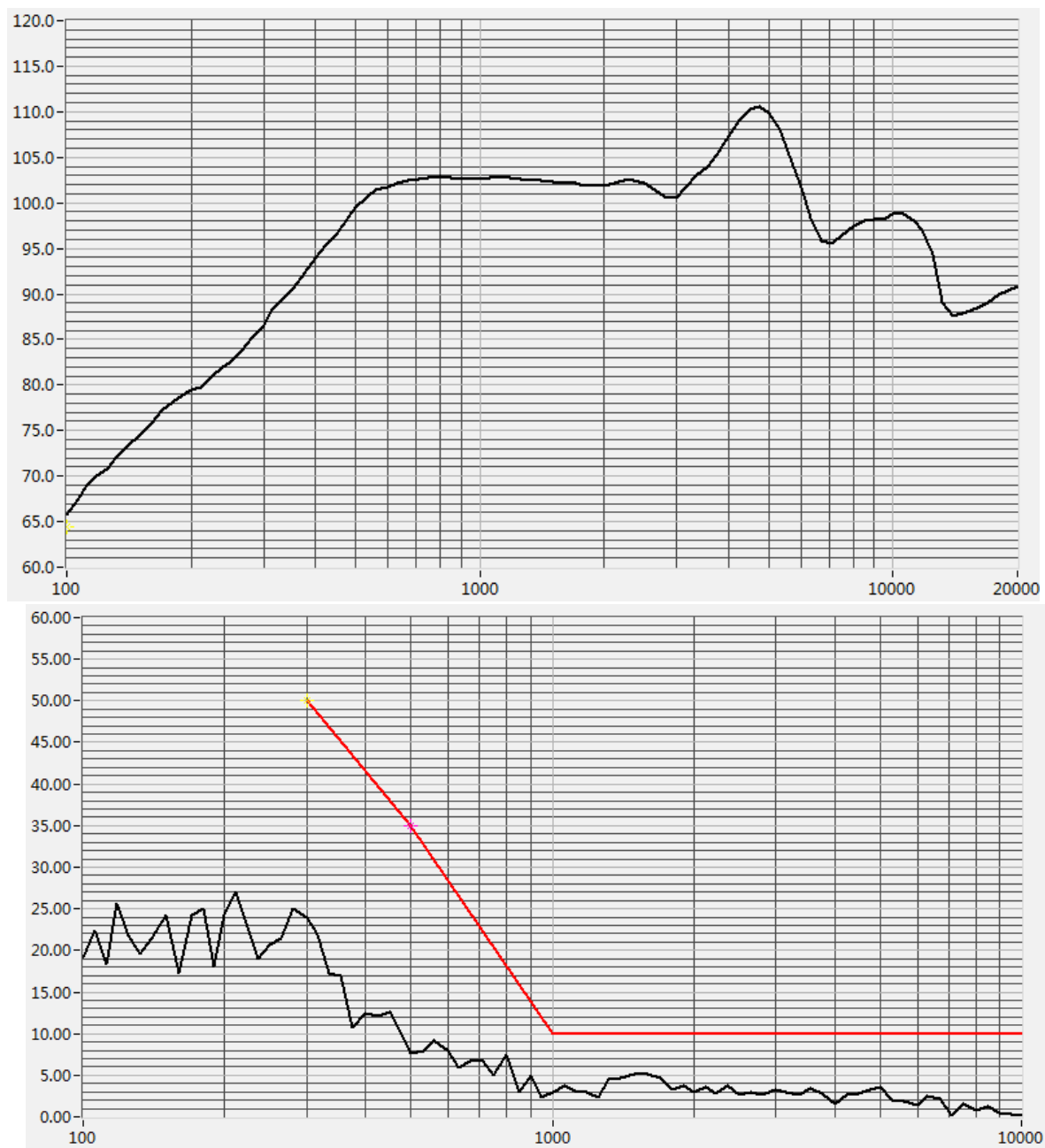
3. Mode : SPEAKER

4. potentiometer Range : 50dB

5. Sweep Time : 0.5sec

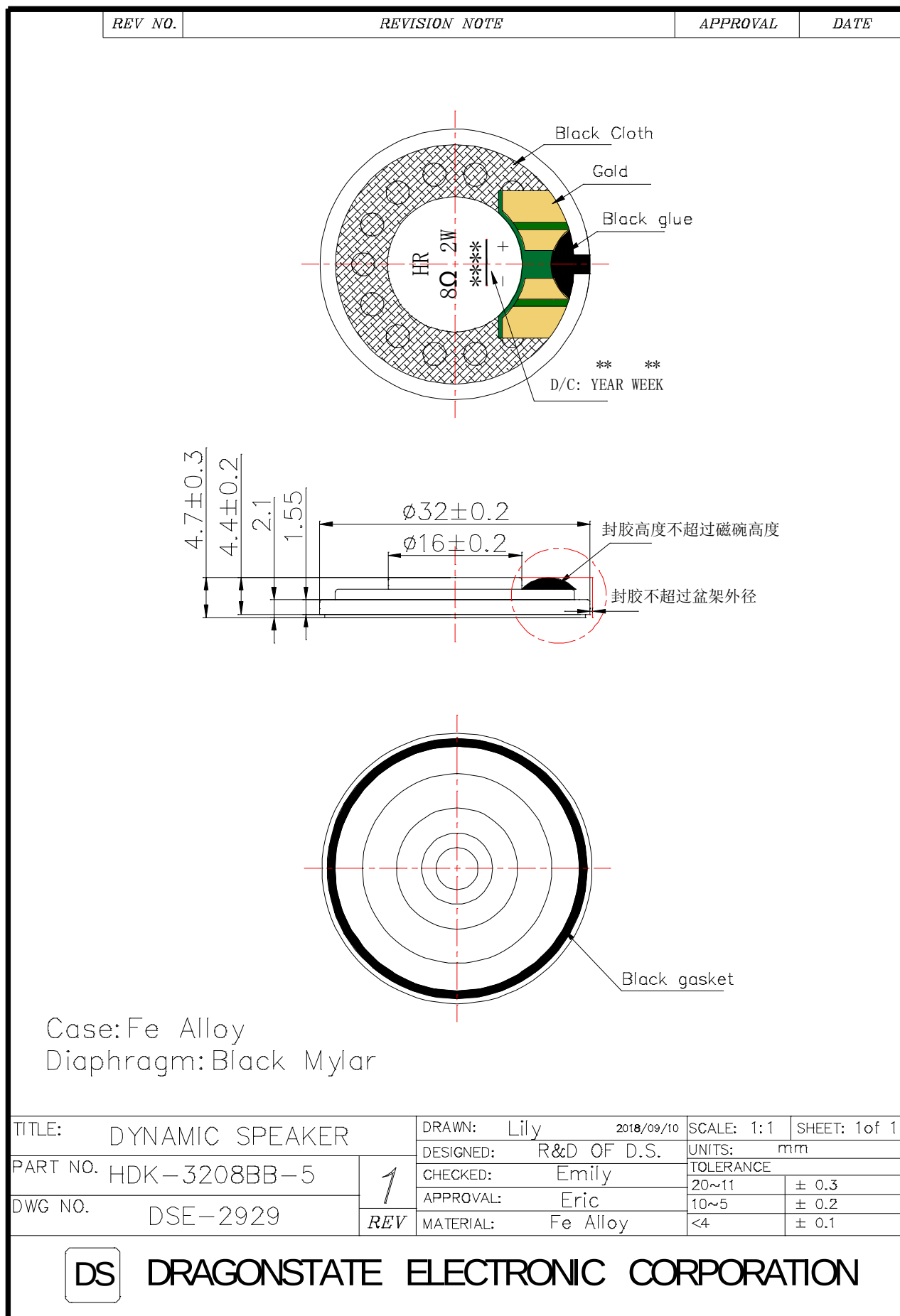


2-3. Frequency Response Curve & THD

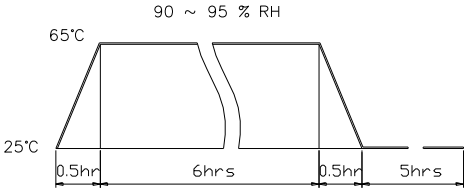


frequency (Hz)	upper limit (%)
300	50
500	35
1000	10
10000	10

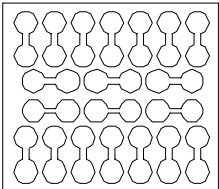
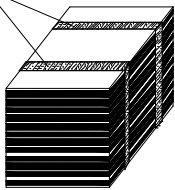
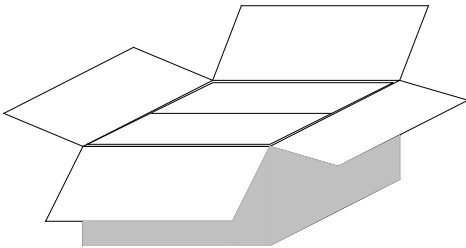
3. Dimension



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	The part shall be subjected 5 cycles. One cycle shall be 12 hours and consist of; 
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. Load 510g, 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 120cm height to the concrete floor X, y, z 6 direction. 5 times each, total 30 times.
09	Rated Power test	Rated Power Pink noise is applied for 100 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 .		

5. Packing

REV NO.	REVISION NOTE	APPROVAL	DATE
 Cover(330*250*5mm) Material: Eps  Box(330*250*16mm) 40pcs Material: Eps OPP TAPE  Middle(330*250*160mm) 400pcs Material: Eps  Outer Box(490*350*360mm) 1600pcs Material: Paper 单位: mm			
TITLE: packing		DRAWN: Lily 2014/06/09	
PART NO.		DESIGNED: R&D QF D.S.	SCALE: 2:1
1 REV		CHECKED: Emily	SHEET: 1 of 1
		APPROVAL: Eric	UNITS: mm
		MATERIAL: ***	TOLERANCE
DWG NO.		20~11	± 0.3
		10~5	± 0.2
		<4	± 0.1

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