

MESSRS.

SPECIFICATION FOR APPROVAL**承 認 書**

Product	DYNAMIC SPEAKER
Part No.	HDK-5004BB-1 (RoHS)
Customer Approval	

Approved By	Checked By	Made By
王台平 APR-27-2017	曹丽萍 APR-27-2017	LILY APR-27-2017

常州华龙电子有限公司**DRAGONSTATE ELECTRONIC CORPORATION**

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1. Specification
HDK-5004BB-1 (RoHS)

ITEM		SPECIFICATIONS	
01	Type	Dynamic speaker	
02	Dimension	External diameter 50 mm	
03	Rated Input Power	2.0W	
04	Max. Input Power	2.5W for 1 minute	
05	Impedance	4 ohm \pm 15% at 1000Hz.	
06	Resonance Frequency (Fo)	350Hz \pm 20% at Fo, 1V	
07	Sensitivity (S.P.L.)	103dB (2.0W / 0.1m) \pm 2dB	at AVE 0.6K, 0.8K, 1.0K, 1.2 KHz
08	Frequency Range	Fo – 20KHz	
09	Total Harmonics Distortion	Max 10% at 1 KHz, 2.0W.	
10	Voice Coil	Diameter 13.3 mm	
11	Magnet	Rare earth permanent (Nd-Fe-B)magnet Φ 12.5x2.0 mm	
12	Weight	13.2g \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 2.83V 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. Test Condition

2.1 STANDARD

Temperature : 15 ~ 35°C

Relative humidity : 25% ~ 85%,

Atmospheric pressure : 860mbar to 1060mbar.

2.2 BASIC

Temperature : 20±3°C

Relative humidity : 60% ~ 70%,

Atmospheric pressure : 860mbar to 1060mbar

Standard Test Fixture

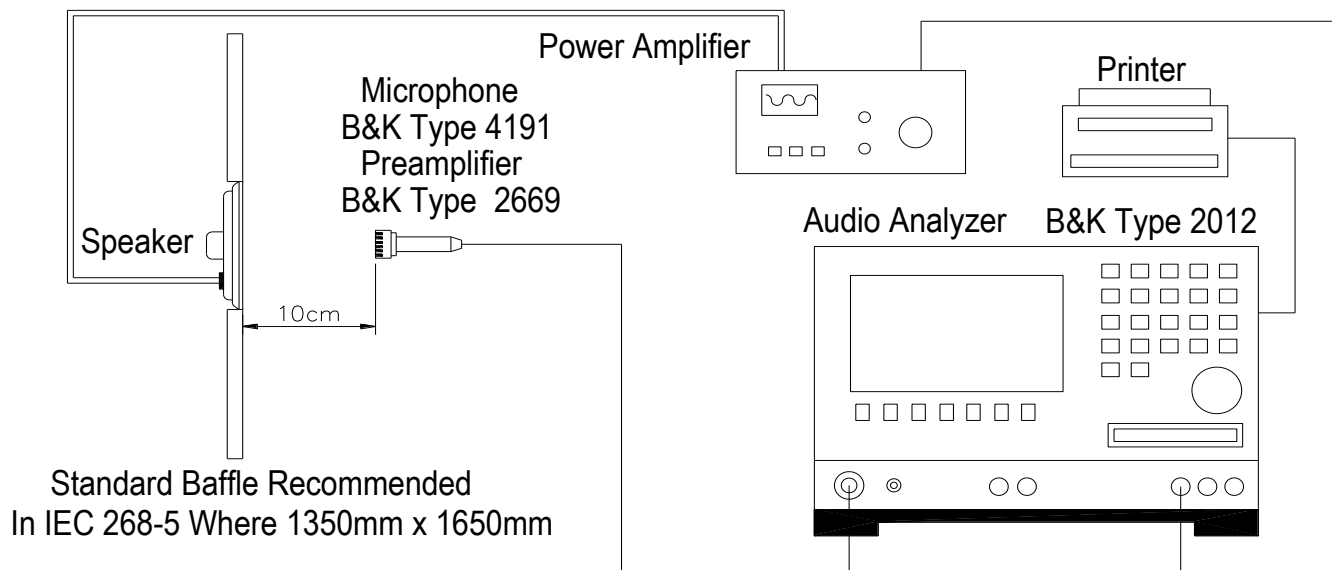
1. Input Power : 1.0W (2.0V)

2. Zero Level : -dB

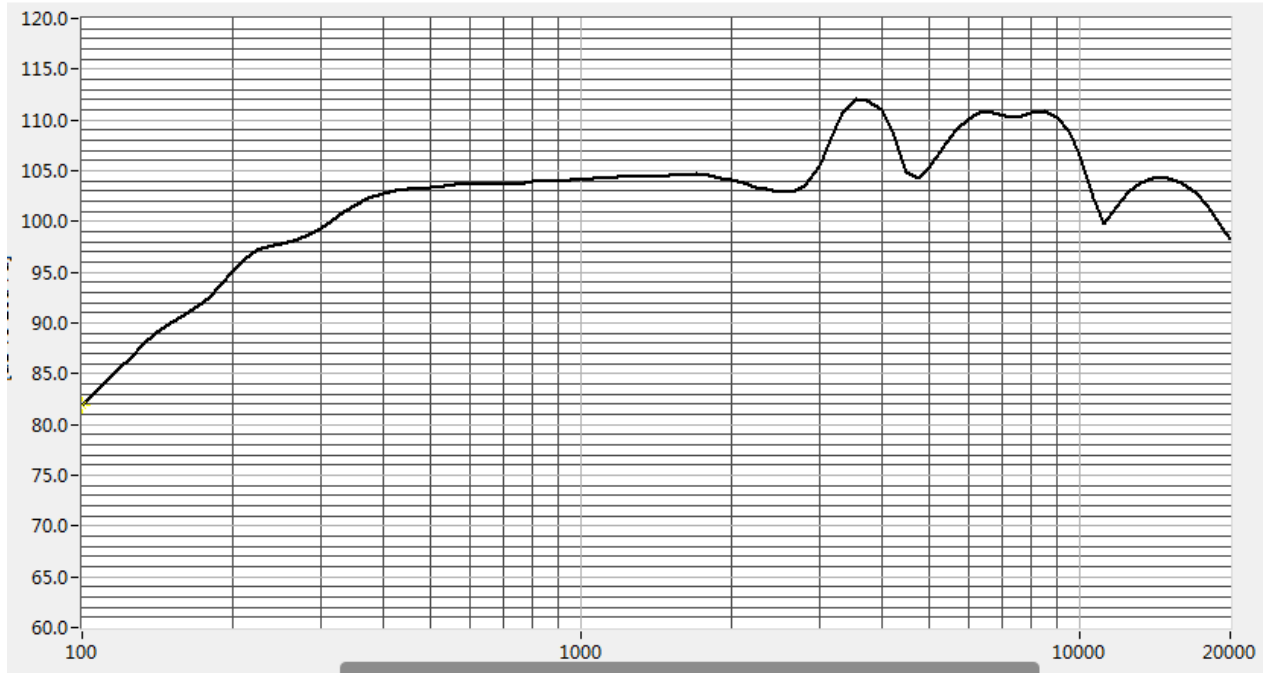
3. Mode : SPEAKER

4. potentiometer Range : 50dB

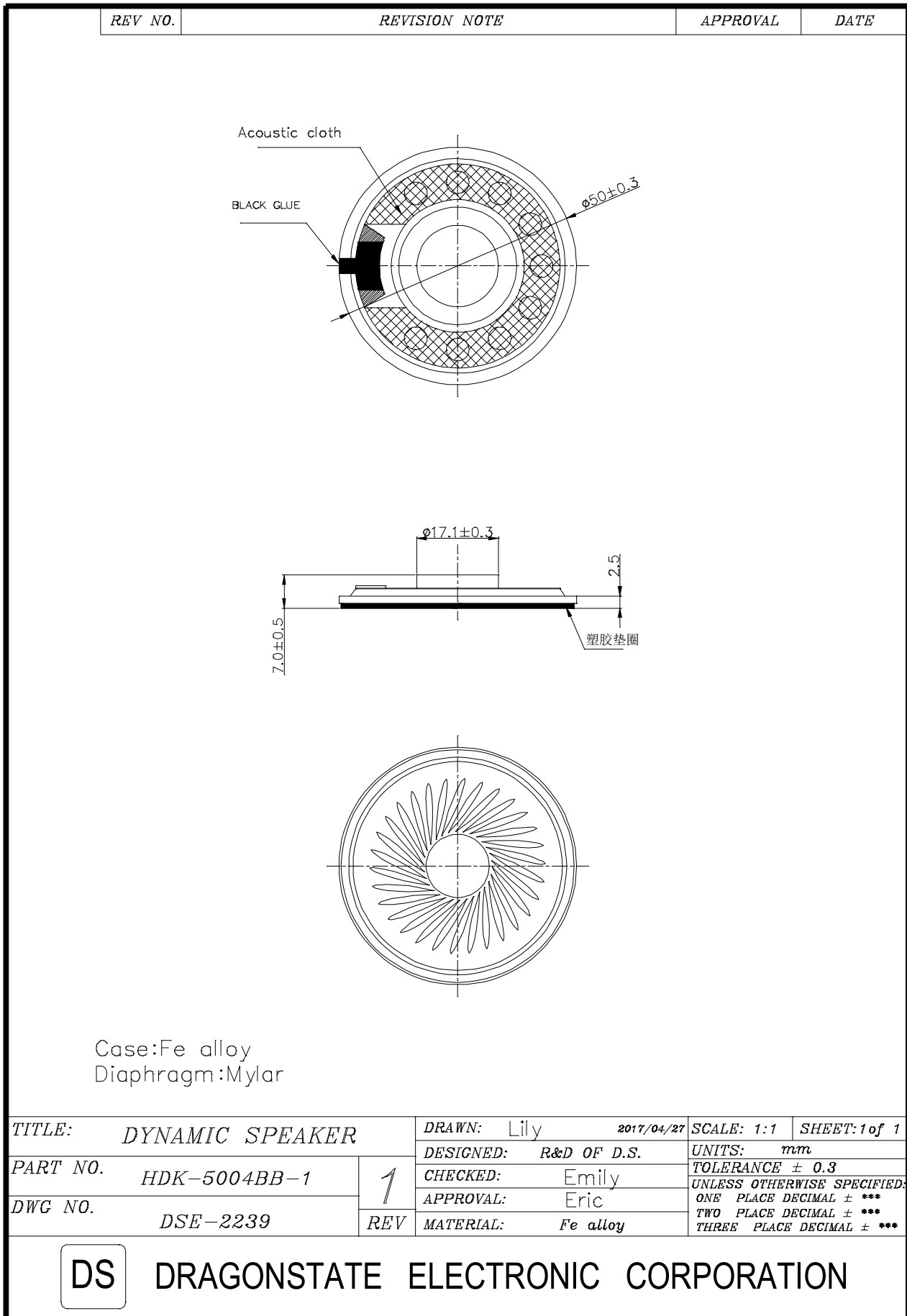
5. Sweep Time : 0.5sec



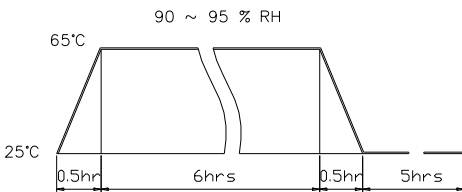
2.3. Frequency Response Curve





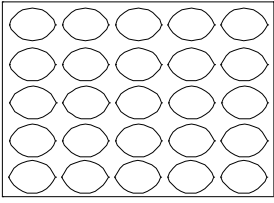

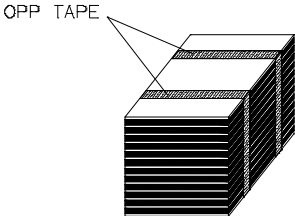

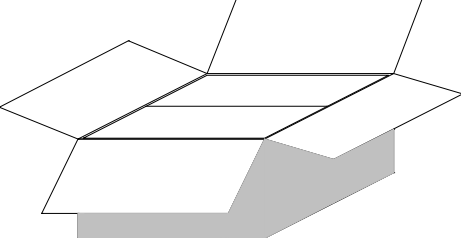
3.Dimension




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 $+60^{\circ}\text{C}\pm 3^{\circ}\text{C}$ 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 Pink 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.
<p>Criterion:</p> <p>After these test , the change of S.P.L shall be within ± 3 dB .</p>		

5.Packing

REV NO.	REVISION NOTE	APPROVAL	DATE
 <p>Cover(400*295*5mm) Material: Eps</p>			
			
 <p>Box(400*295*16mm) 25pcs Material: Eps</p>			
			
 <p>OPP TAPE</p> <p>Middle(400*295*160mm) 375pcs Material: Eps</p>			
			
 <p>Outer Box(450*310*360mm) 375PCS Material: Paper</p>			
单位: mm			
TITLE: packing		DRAWN: Lily 2014/06/09	
PART NO.		DESIGNED: R&D OF D.S.	
DWC NO.		CHECKED: Emily	
		APPROVAL: Eric	
REV		MATERIAL: ***	
		SCALE: 2:1	
		SHEET: 1 of 1	
		UNITS: mm	
		TOLERANCE	
		20~11 ± 0.3	
		10~5 ± 0.2	
		<4 ± 0.1	



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