

*MESSRS.*SPECIFICATION FOR APPROVAL
承 认 书

Product	DYNAMIC SPEAKER
Part No.	HDK-1808CC-1C1 (RoHS)
Customer Approval	

Approved By	Checked By	Made By
王台平 MAY-07-2019	曹丽萍 MAY-07-2019	LILY MAY-07-2019

常州华龙电子有限公司

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1. Specification

HDK-1808CC-1C1 (RoHS)

ITEM		SPECIFICATIONS	
01	Type	Dynamic speaker	
02	Dimension	External diameter 18 mm	
03	Rated Input Power	1.0W	
04	Max. Input Power	1.5W for 1 minute	
05	Impedance	8 ohm $\pm$ 15% at 1000Hz.	
06	Resonance Frequency (Fo)	600~780Hz at Fo, 1V	
07	Sensitivity (S.P.L.)	80dB (1.0W / 0.5m) $\pm$ 3 dB	at AVE 0.8K, 1.0K, 1.2K, 1.5KHz
08	Frequency Range	250 - 20KHz	
09	Total Harmonics Distortion	Max 5 % at 1 KHz, 1.0W.	
10	Magnet	Rare earth permanent (Nd-Fe-B) magnet	
11	Weight	3.6g $\pm$ 0.5g	
12	Appearance	Should not exist any obstacle to be harmful to normal operation; damages, cracks, rusts and distortions, etc.	
13	Operation Test	Must be normal at program source - 1.0W	
14	Buzz, Rattle, etc.	Should not be audible at 2.83V sine Wave between 250 to 20KHz	
15	Polarity	When positive voltage is applied to the terminal marked (+), diaphragm should move to the front.	
16	Terminal Strength	Capable of withstand 1kg load for 30 seconds without resulting in any damage or rejection.	
17	Temperature	Operating temperature: -25°C to +60°C Storage temperature: -25°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

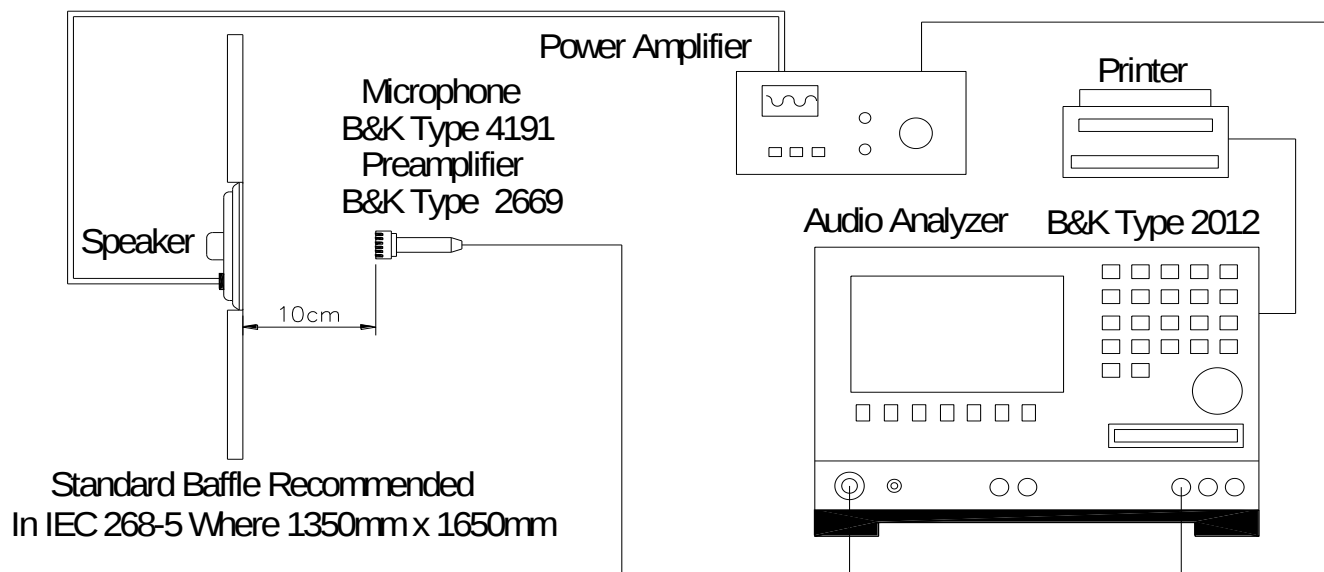
1. Input Power : 1.0W (2.83V)

2. Zero Level : -dB

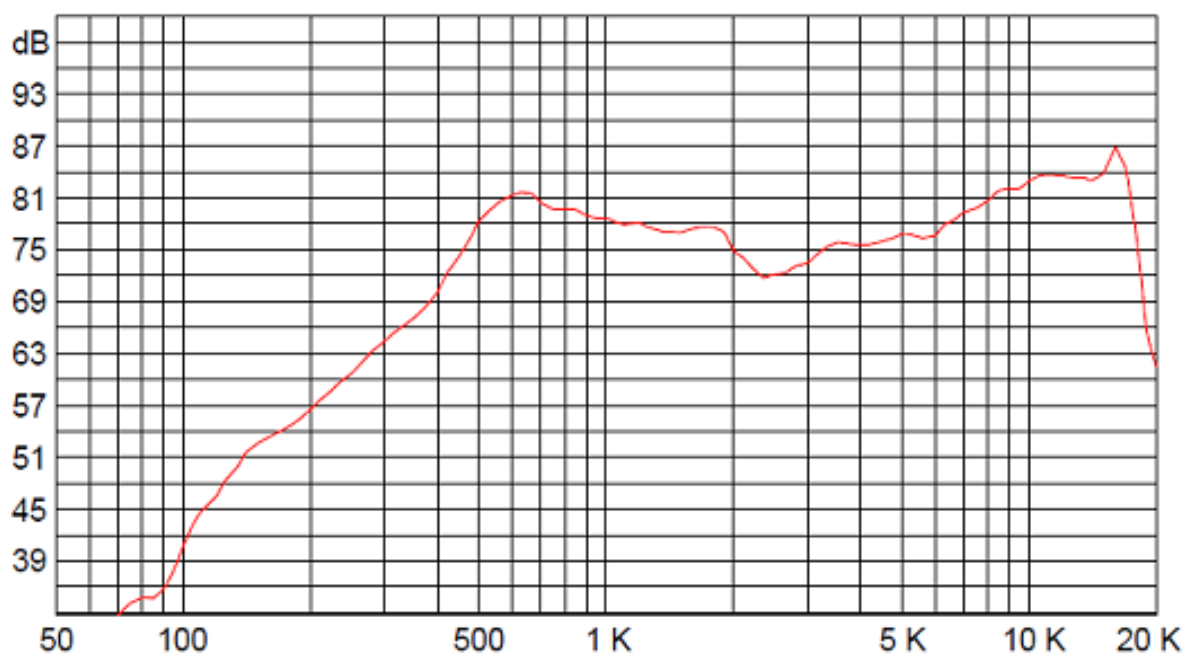
3. Mode : SPEAKER

4. potentiometer Range : 50dB

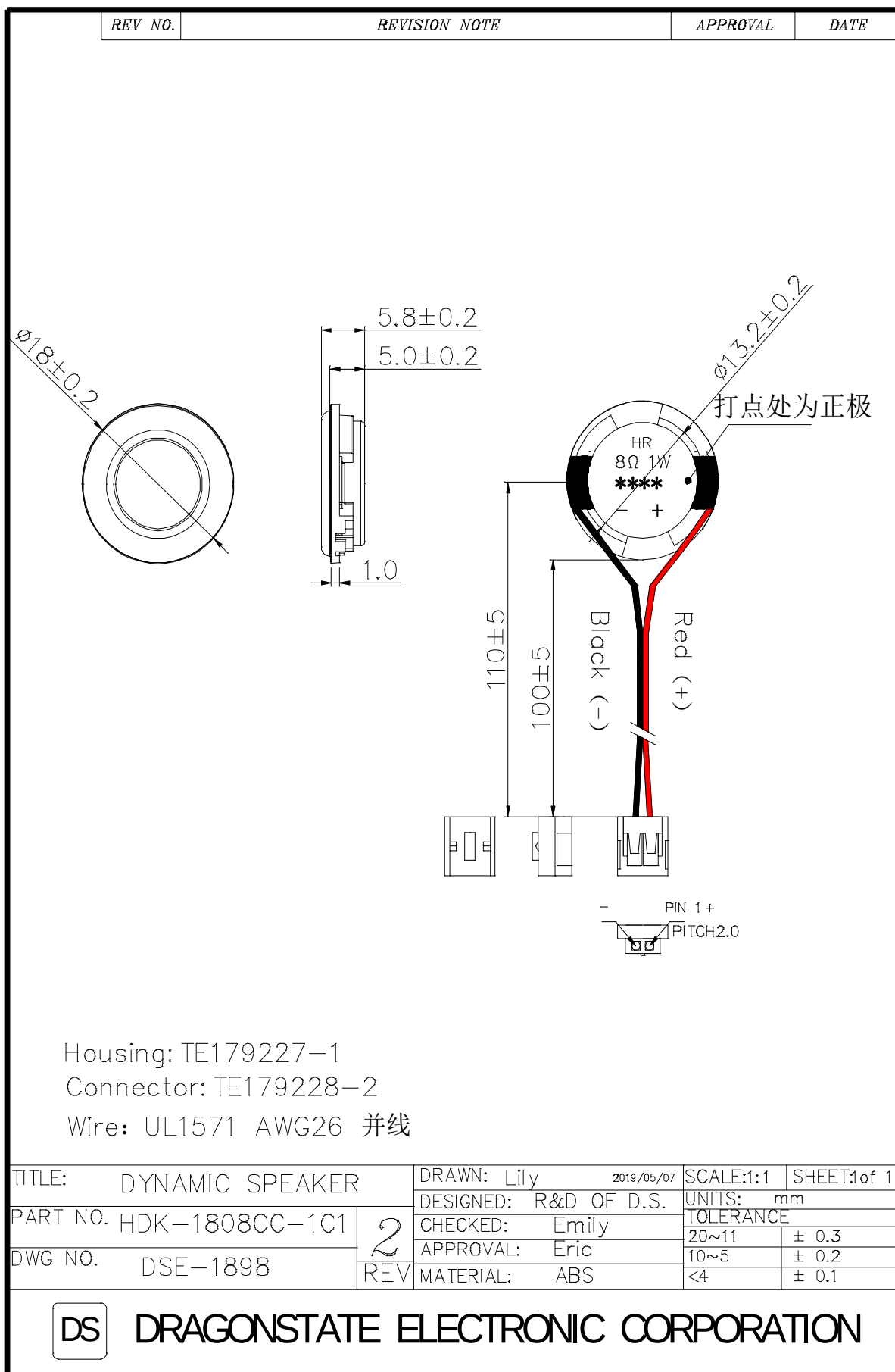
5. Sweep Time : 0.5sec



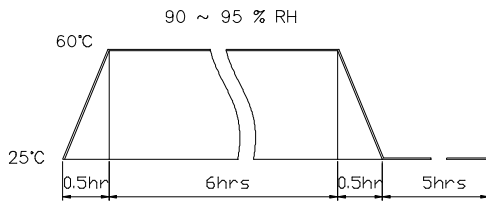
2-3. Frequency Response Curve



3. Dimension



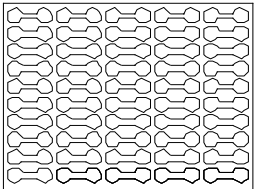
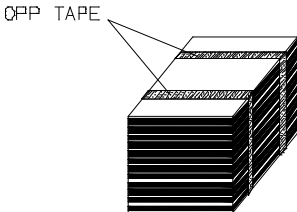
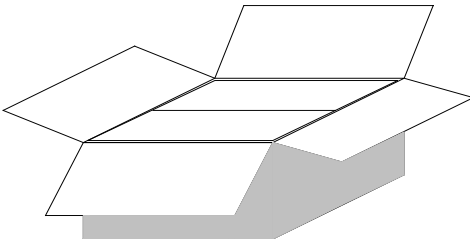
4. Reliability Tests

Items.		Specifications
01	High temp. Test	Keep 96 hours at $+60^{\circ}\text{C} \pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check
02	Low temp. Test	Keep 96 hours at $-25^{\circ}\text{C} \pm 3^{\circ}\text{C}$ 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: $-25^{\circ}\text{C} \pm 3^{\circ}\text{C}$, 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.

5. Packing

REV NO.	REVISION NOTE	APPROVAL	DATE
	 Cover(325*245*5mm) Material: Paper		
	 Box(325*245*13mm) 40pcs Material: Paper+Epe		
	 Middle(325*245*155mm) 400pcs(10*100pcs) Material: Paper+Epe		
	 Outer Box(490*360*350mm) 1600pcs(4*400pcs) Material: Paper		
	单位: mm		
TITLE: packing		DRAWN: Lily 2015/08/25	
PART NO.		DESIGNED: R&D QF D.S.	
DWG 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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6. History change record

[illegible]