

MESSRS.

SPECIFICATION FOR APPROVAL**承 認 书**

Product	DYNAMIC SPEAKER
Part No.	HDK-1508EA-12C1(RoHS)
Customer Approval	

Approved By	Checked By	Made By
王台平 JUN-30-2017	曹丽萍 JUN-30-2017	LILY JUN-30-2017

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1. Specification
HDK-1508EA-12C1 (RoHS)

ITEM		SPECIFICATIONS	
01	Type	Dynamic speaker	
02	Dimension	External diameter 15 mm	
03	Rated Input Power	0.5W	
04	Max. Input Power	0.7W for 1 minute	
05	Impedance	8 ohm \pm 15% at 2000Hz.	
06	Resonance Frequency (Fo)	950Hz \pm 20% at Fo, 1V	
07	Sensitivity (S.P.L.)	85dB (0.5W / 0.1m) \pm 3 dB	at AVE 900~4000 Hz
08	Frequency Range	Fo – 20KHz	
09	Total Harmonics Distortion	Max 5 % at 1 KHz,0.5W.	
10	Voice Coil	Diameter 8.5 mm	
11	Magnet	Rare earth permanent (Nd-Fe-B) magnet Φ 7.0x 1.0mm	
12	Weight	1.6 \pm 0.3g	
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 – 0.5W	
15	Buzz, Rattle, etc.	Should not be audible at 2.0V 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: -30 $^{\circ}$ C to +70 $^{\circ}$ C Storage temperature: -40 $^{\circ}$ C to +80 $^{\circ}$ C	

2-1. Test Condition

Standard

Temperature : 15 ~ 35°C

Relative humidity : 25% ~ 85%,

Atmospheric pressure : 860mbar to 1060mbar.

Basic

Temperature : 20±3°C

Relative humidity : 60% ~ 70%,

Atmospheric pressure : 860mbar to 1060mbar

2-2. Standard Test Fixture

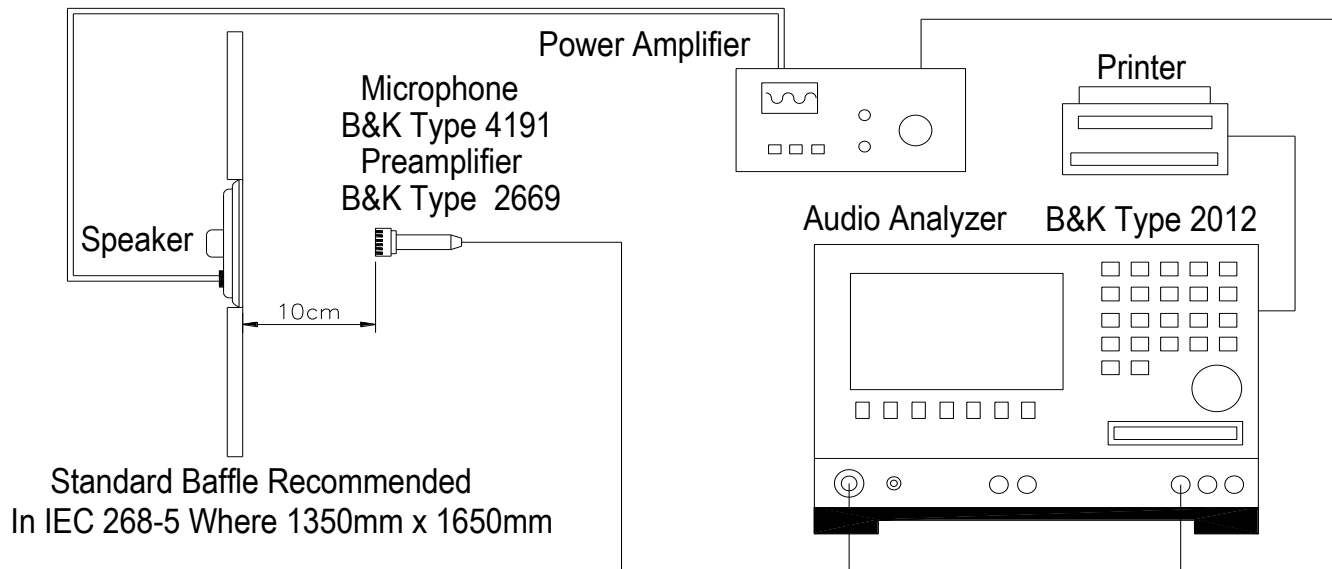
1. Input Power : 0.5W (2.0V)

2. Zero Level : -dB

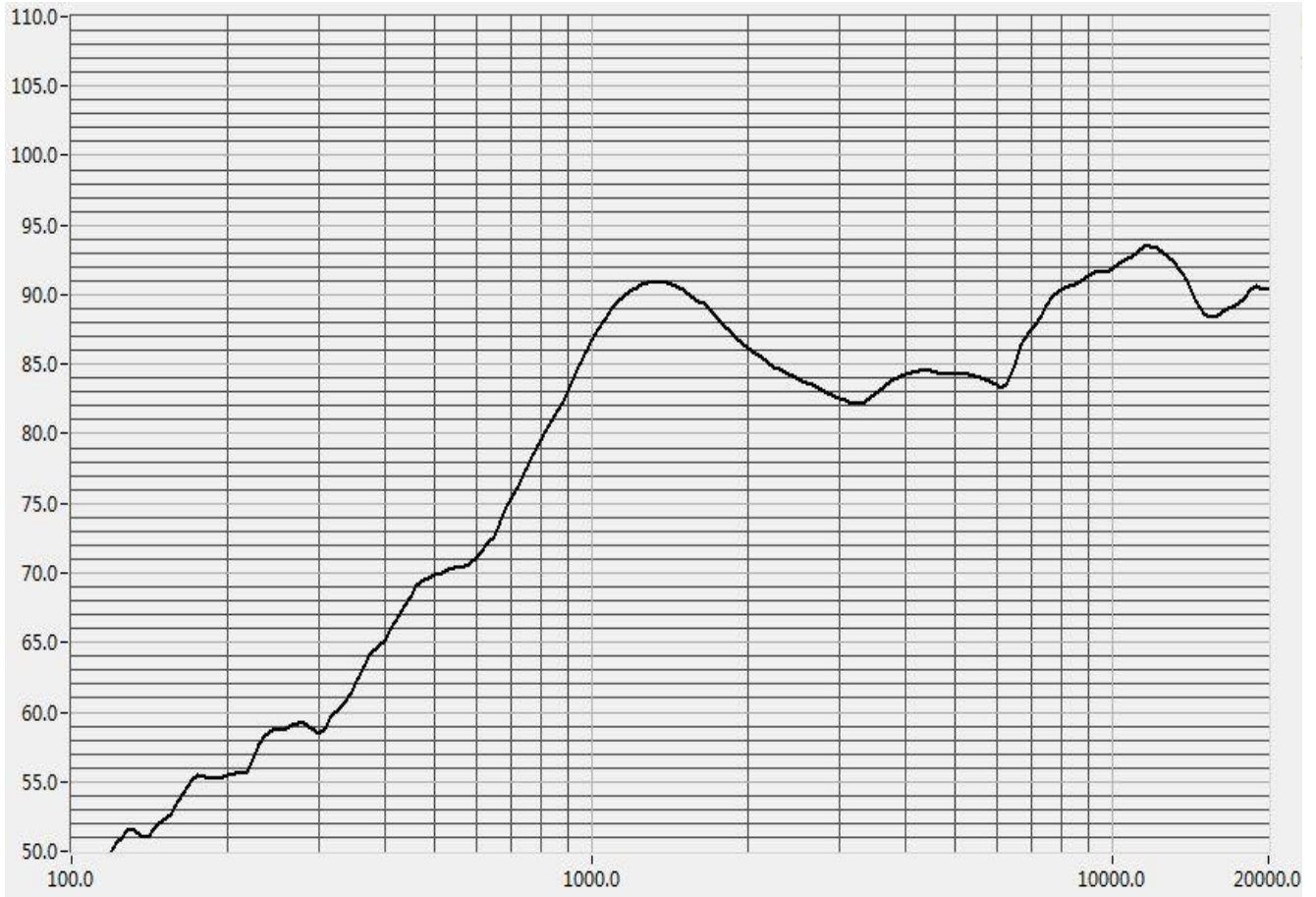
3. Mode : SPEAKER

4. potentiometer Range : 50dB

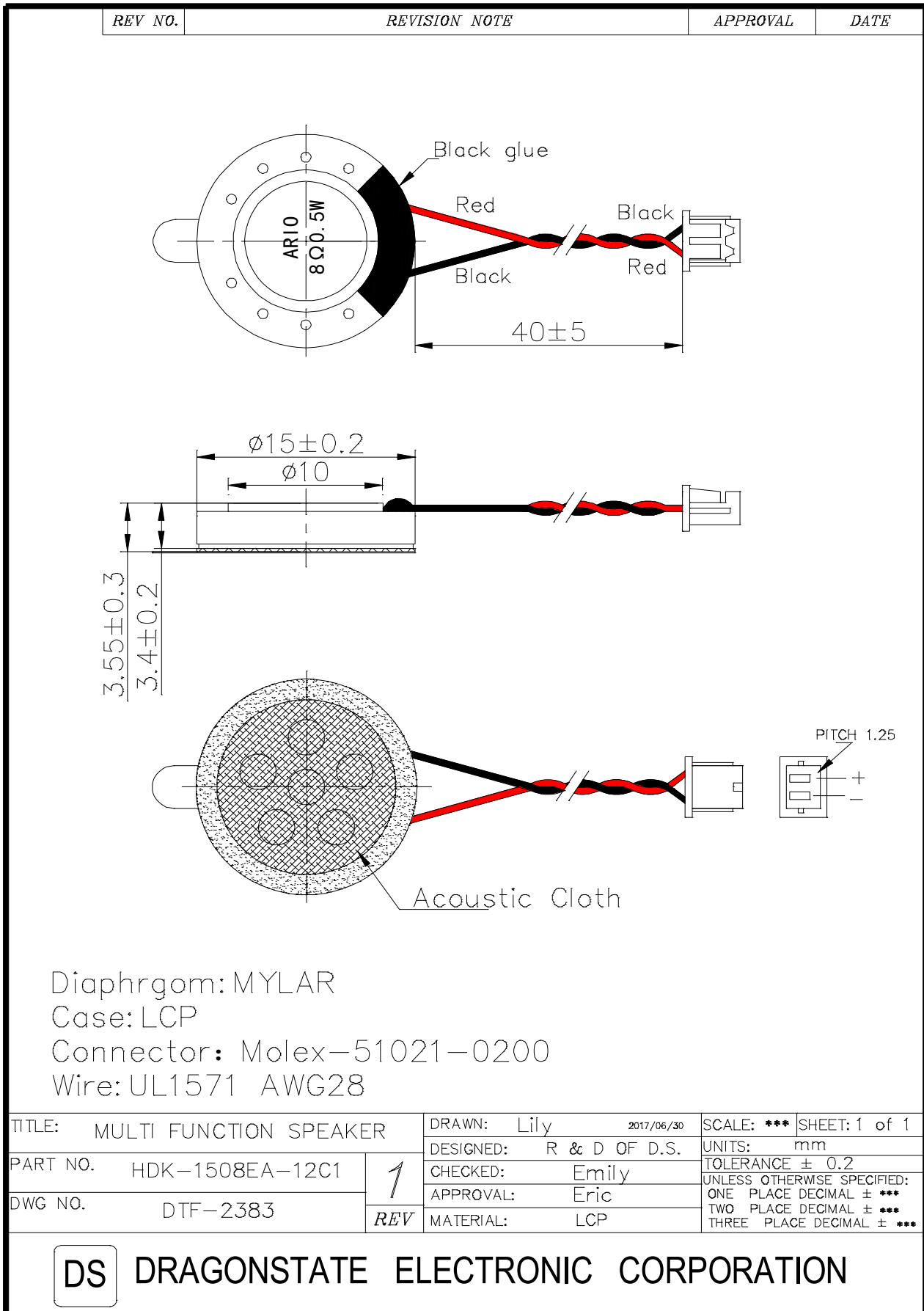
5. Sweep Time : 0.5sec



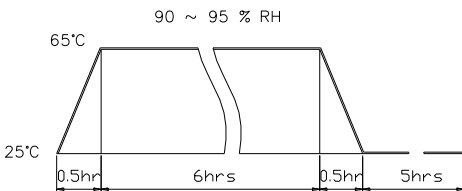
2-3.Frequency Response Curve



3.Dimension





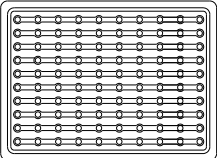
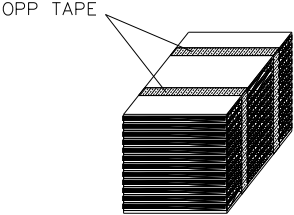

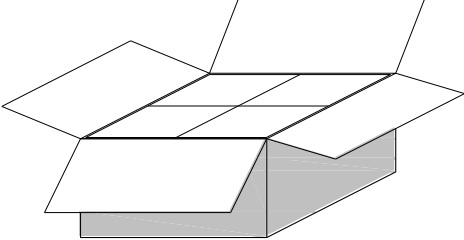

4. Reliability Tests

Items.		Specifications
01	High temp. Test	Keep 96 hours at $+80^{\circ}\text{C}\pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check
02	Low temp. Test	Keep 96 hours at $-40^{\circ}\text{C}\pm 3^{\circ}\text{C}$ 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: $-40^{\circ}\text{C}\pm 3^{\circ}\text{C}$, temperature: $+80^{\circ}\text{C}\pm 3^{\circ}\text{C}$, 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 48 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: After these test , the change of S.P.L shall be within ± 3 dB .</p>		

Soldering Condition

Recommend using constant branding iron in **15 ~ 30W**, and in temperature range **$350 \pm 10^{\circ}\text{C}$** . Soldering time not over **2** seconds.

5.Packing

REV NO.	REVISION NOTE	APPROVAL	DATE
	 HARD BOARD 225*165*10		
	  PE PAD 225*165*10 Q'TY=100 PCS		
	 OPP TAPE PE PAD 225*165*120 Q'TY=1000 PCS		
	  Total: 1000*6=6000pcs Box size: (LXWXH) mm: 450*310*360		
	单位: mm		
TITLE:	Packing	DRAWN: <i>Lily</i>	2009/05/16
PART NO.	1	DESIGNED: R&D OF D.S.	SCALE: 2:1
DWG NO.		CHECKED: <i>Emily</i>	SHEET: 1 of 1
	REV	APPROVAL: <i>Eric</i>	UNITS: mm
		MATERIAL:	TOLERANCE
			20~11 ± 0.3
			10~5 ± 0.2
			<4 ± 0.1
		DRAGONSTATE ELECTRONIC CORPORATION	