

MESSRS.

SPECIFICATION FOR APPROVAL**承 认 书**

Product	动态式扬声器 DYNAMIC SPEAKER
Part No.	HDK-1808AA-3C11 (RoHS)
Customer	
Customer Part No.	

Approved By	Checked By	Made By
王台平 OCT-25-2017	曹丽萍 OCT-25-2017	LILY OCT-25-2017

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1. Specification

HDK-1808AA-3C11 (RoHS)

ITEM		SPECIFICATIONS	
01	Type 属性	Dynamic speaker 动态式扬声器	
02	Dimension 尺寸	External diameter $\Phi 18$ mm 外径 $\Phi 18$ mm	
03	Rated Input Power 额定输入功率	0.8W	
04	Max. Input Power 最大输入功率	1.0W for 1 minute 1.0W 在内 1 分钟	
05	Impedance 阻抗	8 ohm \pm 15% at 2000Hz 1.0V	
06	Resonance Frequency (Fo) 谐振频率	750Hz \pm 20% at Fo 1V	
07	Sensitivity (S.P.L.) 灵敏度	97dB (1.0W / 0.1m) \pm 3 dB	at AVE 0.8K, 1.0K, 1.2K, 1.5KHz
08	Frequency Range 频率范围	Fo - 20KHz	
09	Total Harmonics Distortion 谐波失真	Max 8 % at 1 KHz, 0.8W.	
10	Voice Coil 音圈	Diameter 10.25 mm	
11	Magnet 磁铁	Rare earth permanent (Nd-Fe-B) magnet $\Phi 9.8 \times 1.2$ mm 钕铁硼材质外径 $\Phi 9.8 \times 1.2$ mm	
12	Weight 重量	2.8g \pm 0.2g	
13	Appearance 外观	Should not exist any obstacle to be harmful to normal operation; damages, cracks, rusts and distortions, etc. 沒有會影響功能的: 損壞, 裂痕, 鏽跡, 變型等	
14	Operation Test 工作测试	Must be normal at program source - 1.0W 测试的工作功率為 0.8W	
15	Buzz, Rattle, etc. 异音测试	Should not be audible at 2.83V sine Wave between Fo to 20KHz 加電壓 2.53V 频率 Fo D 到 20KHz 的正旋波時不會聽到任何杂音	
16	Polarity 极性	When positive voltage is applied to the terminal marked (+), diaphragm should move to the front. 正電壓接至 (+) 極時, 音膜振動是朝向喇叭前方	
17	Terminal Strength 端子强度	Capable of withstand 1kg load for 30 seconds without resulting in any damage or rejection. 能夠承受 1kg 負載達 30 秒不會造成任何損壞	
18	Temperature 温度	Operating temperature: -20°C to $+70^{\circ}\text{C}$ 工作温度: -20°C to $+60^{\circ}\text{C}$ Storage temperature: -30°C to $+80^{\circ}\text{C}$ 儲存温度: -30°C to $+70^{\circ}\text{C}$	

2-1. Test Condition 测试条件

Standard 标准测试

Temperature 温度 : 15 ~ 35°C

Relative humidity 相对湿度 : 25% ~ 85%,

Atmospheric pressure 大气压力 : 860mbar to 1060mbar.

Basic 基本测试

Temperature 温度: 20±3°C

Relative humidity 相对湿度: 60% ~ 70%,

Atmospheric pressure 大气压力: 860mbar to 1060mbar

2-2. Standard Test Fixture 标准测试设备

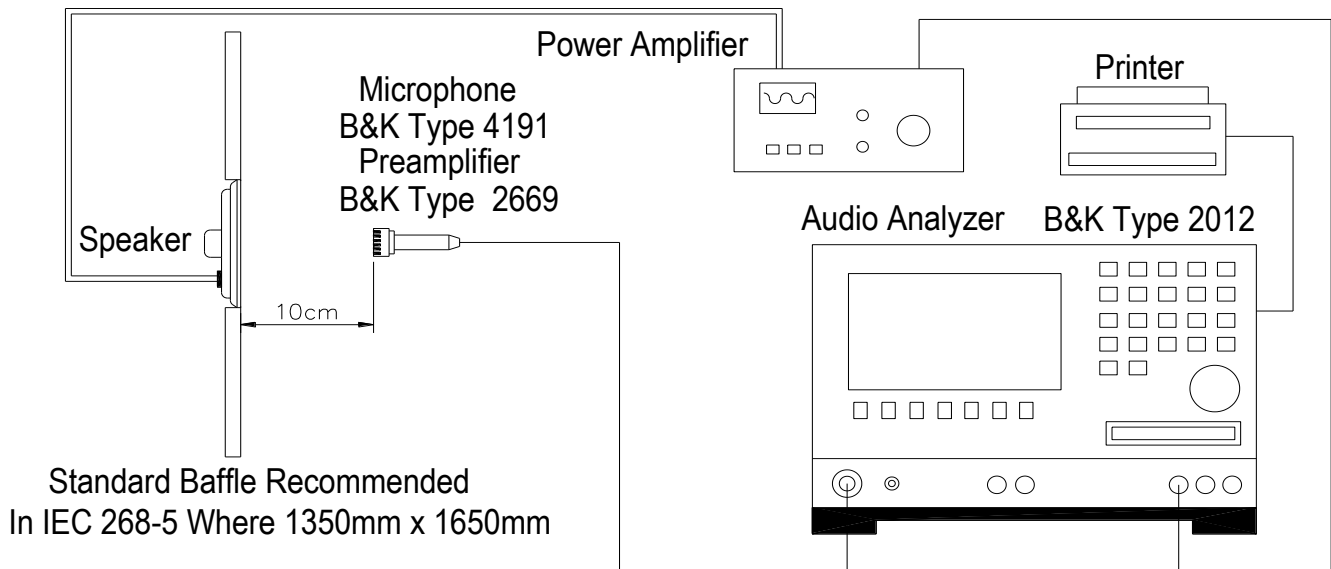
1. Input Power 输入功率: 1.0W (2.83V)

2. Zero Level : -dB

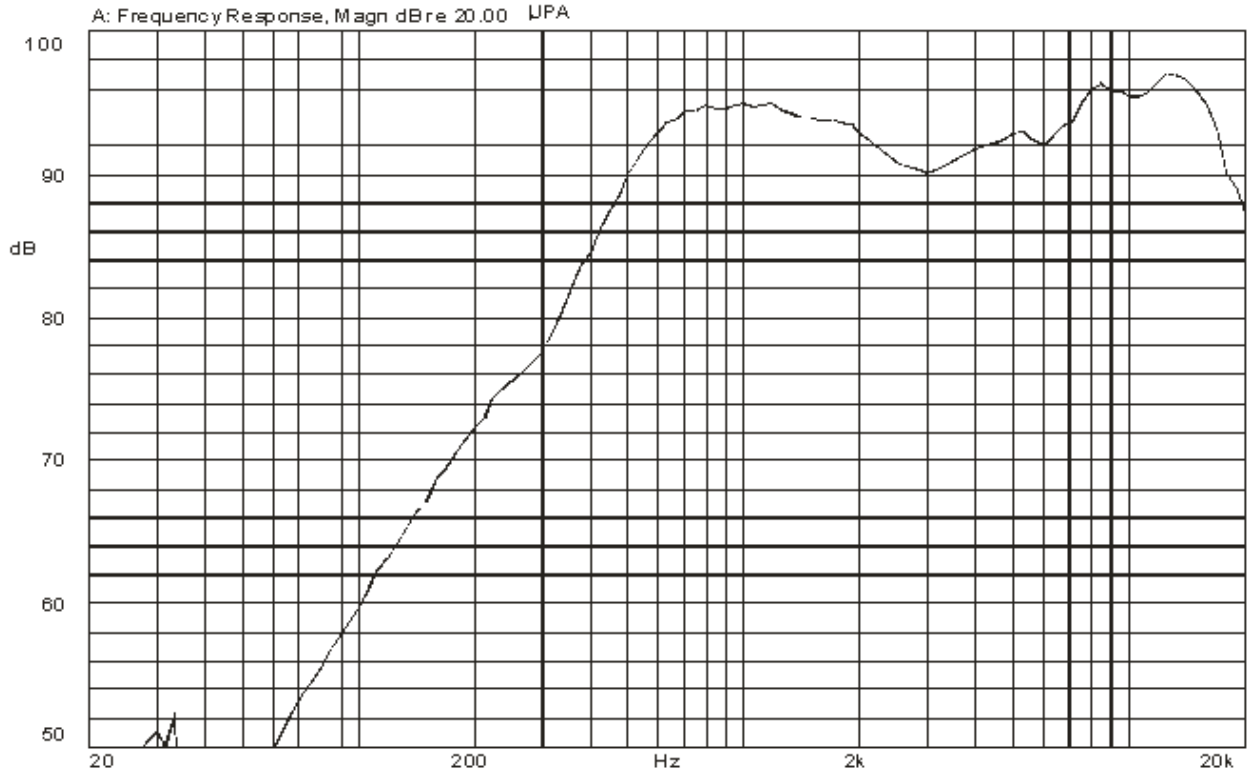
3. Mode 模式: SPEAKER 喇叭

4. potentiometer Range : 50dB

5. Sweep Time 扫描时间: 0.5sec



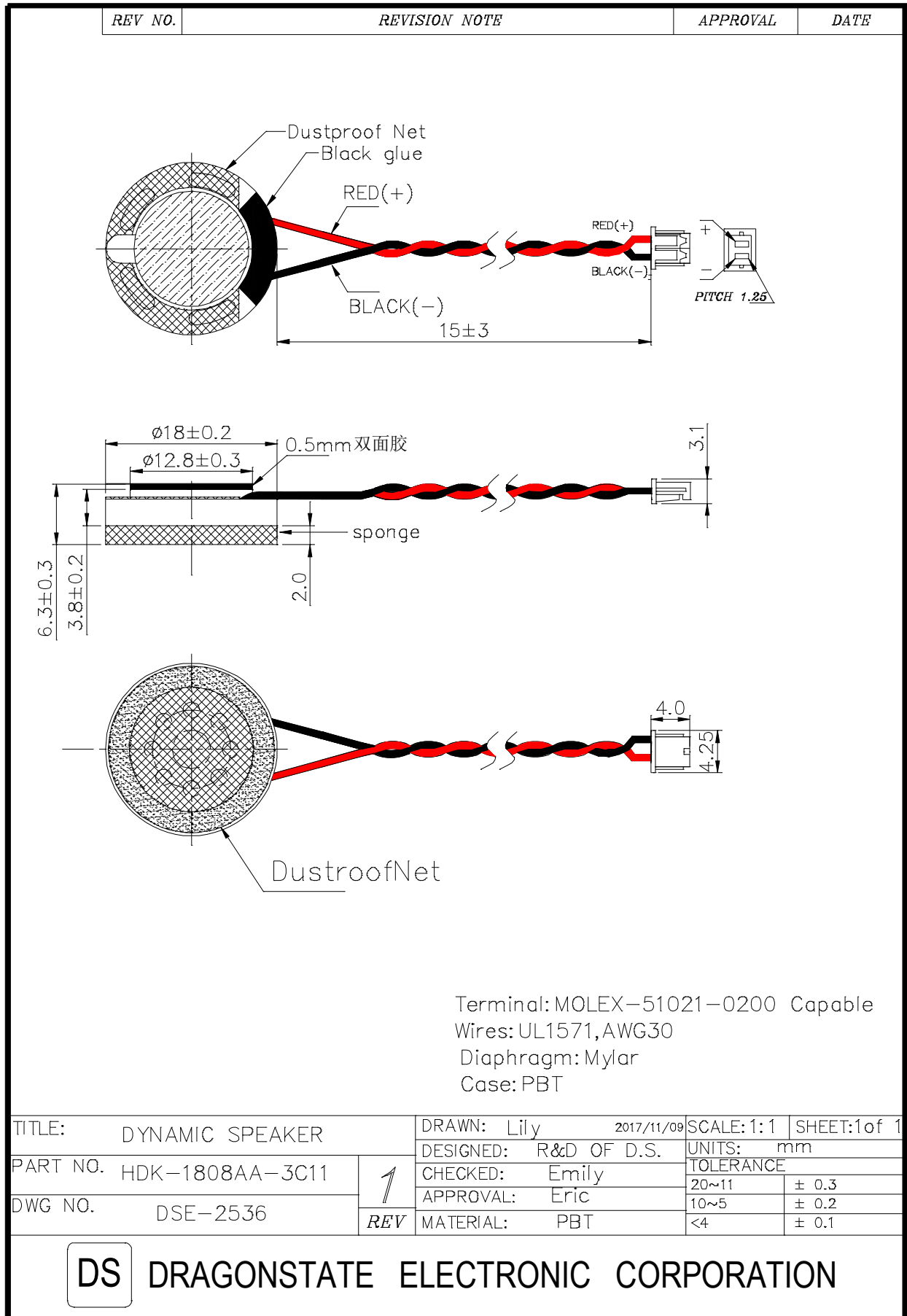
2.3 Frequency Response Curve 频响曲线



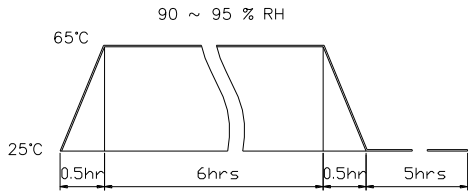
Mode: SPEAKER



3. Dimension 尺寸





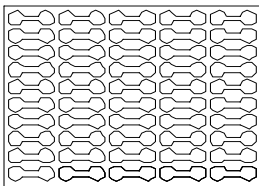
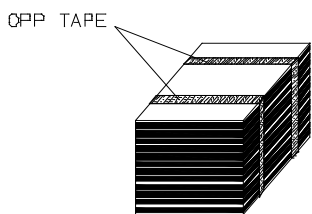

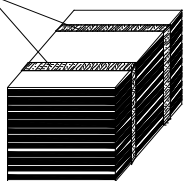

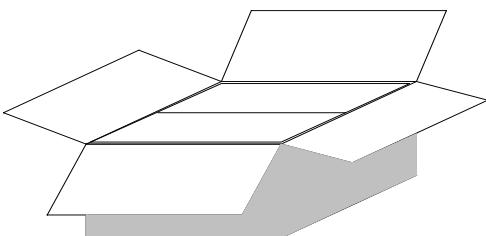
4. Reliability Test 可靠性测试

Items.		Specifications
01	High temp. Test 高温测试	Keep 96 hours at +70°C±3°C and leave 3 hours in normal temperature and then check +70°C±3°C持续 96 小时, 在常温下存放 3 小时后测试
02	Low temp. Test 低温测试	Keep 96 hours at -20°C±3°C and leave 3 hours in normal temperature and then check -20°C±3°C持续 96 小时, 在常温下存放 3 小时后测试
03	Humidity test 湿度测试	Keep 96 hours at + 40°C±3°C relative humidity 95% and leave 3 hours in normal temperature and then checked. +40°C±3°C相对湿度 95%持续 96 小时, 在常温下存放 3 小时后测试
04	Temp./Humidity cycle 温湿度循环测试	The part shall be subjected 5 cycles. One cycle shall be 12 hours and consist of; 在以下条件 5 次循环, 每次 12 小时, 在常温下存放 3 小时后测试  <p>The graph shows a temperature cycle starting at 25°C, rising to 65°C over 0.5hr, holding at 65°C for 6hrs, falling back to 25°C over 0.5hr, and then holding at 25°C for 5hrs. The humidity is maintained at 90~95% RH during the 6hr high-temperature hold.</p>
05	Thermal cycle test. 热循环测试	Low temperature: -20°C±3°C, temperature:+70°C±3°C, cycle: 1 hour/cycle each, and then keep 5 cycles in a room. 低温-20°C±3°C高温+70°C±3°C一小时一个周期, 同一个试验箱 5 个周期
06	Vibration 振动测试	10~200~10Hz sin-wave sweep 15min. 5G(constant) X, Y, Z 3 direction. 2 hours each, total 6 hours. 10~200~10Hz 正弦波振动 15 分钟, X, Y, Z 三个面, 2 小时一次, 共 6 小时
07	Fix drop test 固定跌落测试	Fix on jig. Then drop from 152cm height to the concrete floor X, y, z 6 direction. 5 times each, total 30 times. 固定夹具中, 152cm 跌落水泥地, X, Y, Z 六个面, 每面 5 次, 共 30 次
08	Free drop test 自由跌落测试	Free drop from 100cm height to the concrete floor X, y, z 6 direction. 1 times each, total 6 times. 100cm 跌落水泥地, X, Y, Z 六个面,, 每面 1 次, 共 6 次
09	Rated Power test 额定功率测试	Rated Power white noise is applied for 96 hours 额定功率白噪声持续 96 hours
10	Max Power test 最大功率测试	Max power 1 min on - 2 min off 10 cycles. 最大功率 1 分钟通, 停 2 分钟, 10 次循环
11	Terminal strength test 拉力测试	Capable of withstand 1kg load for 30 seconds without resulting in any damage or rejection 1kg 拉力 30 秒, 没有导致产品损坏
Criterion: After these test , the change of S.P.L shall be within ±3 dB . 所有试验后, 音压都在 ±3 dB 之内		

Soldering Condition 焊接条件

Recommend using constant branding iron in 15 ~ 30W, and in temperature range 350±10° C. Soldering time not over 3 seconds. 推荐使用恒温烙铁 15~30W, 在温度范围 350±10° C. 焊接时间 2 秒。

5. Packing 包装

REV NO.	REVISION NOTE	APPROVAL	DATE
	 <p>Cover(325*245*5mm) Material: Paper</p>		
			
	 <p>Box(325*245*13mm) 100pcs Material: Paper+Epe</p>		
	 <p>CPP TAPE</p>		
			
	 <p>Middle(325*245*155mm) 1000pcs(10*100pcs) Material: Paper+Epe</p>		
			
	 <p>Outer Box(490*360*350mm) 4000pcs(4*1000pcs) Material: Paper</p>		
单位: mm			
TITLE: packing		DRAWN: Lily	2015/09/25
PART NO.		DESIGNED: R&D OF D.S.	SCALE: 2:1
DWC NO.		CHECKED: Emily	SHEET: 1 of 1
REV: 1		APPROVAL: Eric	UNITS: mm
		MATERIAL: ***	TOLERANCE
			20~11 ± 0.3
			10~5 ± 0.2
			<4 ± 0.1
<div style="border: 1px solid black; display: inline-block; padding: 2px 5px;">DS</div> DRAGONSTATE ELECTRONIC CORPORATION			

