

MESSRS.**SPECIFICATION FOR APPROVAL****承 认 书**

Product	动态式扬声器 DYNAMIC SPEAKER
Part No.	HDK-201408ZA-8C (RoHS)
Customer	
Customer Part No.	E600

Approved By	Checked By	Made By
王台平 AUG-05-2017	曹丽萍 AUG-05-2017	LILY AUG-05-2017

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EDITION:1.1

1. Specification

HDK-201408ZA-8C (RoHS)

ITEM		SPECIFICATIONS
01	Type 屬性	Dynamic speaker 動態式揚聲器
02	Dimension 尺寸	External diameter 24*16 mm 外徑 24*16mm
03	Rated Input Power 額定輸入功率	0.8W
04	Max. Input Power 最大輸入功率	1.0W
05	Impedance 阻抗	8 ohm $\pm$ 15% at 1000Hz.
06	Resonance Frequency (Fo) 谐振频率	1300Hz $\pm$ 20%
07	Sensitivity (S.P.L.) 灵敏度	95 $\pm$ 3 dB /0.8W/0.1m at 2.0KHz
08	Frequency Range 频率范围	Fo – 20KHz
09	Total Harmonics Distortion 谐波失真	Max 5% at 1 KHz,0.8W.
10	Weight 重量	3.0g $\pm$ 5%g
11	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
12	Operation Test 工作测试	Must be normal at program source – 0.8W 测试的工作功率為 0.8W
13	Buzz, Rattle, etc. 异音测试	Should not be audible at 2.83V sine Wave between Fo to 20KHz 加電壓 2.83V 頻頻 Fo to 20KHz 的正旋波時不會聽到任何雜音
14	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
15	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
16	Temperature 温度	Operating temperature: -20°C to +60°C 工作溫度: -20°C to +60°C Storage temperature: -30°C to +70°C 儲存溫度: -30°C to +70°C

2-1.Test Condition 测试条件

Standard 标准测试

Temperature : 15 ~ 35℃

Relative humidity : 25% ~ 85%,

Atmospheric pressure : 860mbar to 1060mbar.

Basic 基本测试

Temperature 温度: 20±3℃

Relative humidity 相对湿度: 60% ~ 70%,

Atmospheric pressure 大气压力: 860mbar to 1060mbar

2-2.Standard Test Fixture 标准测试设置

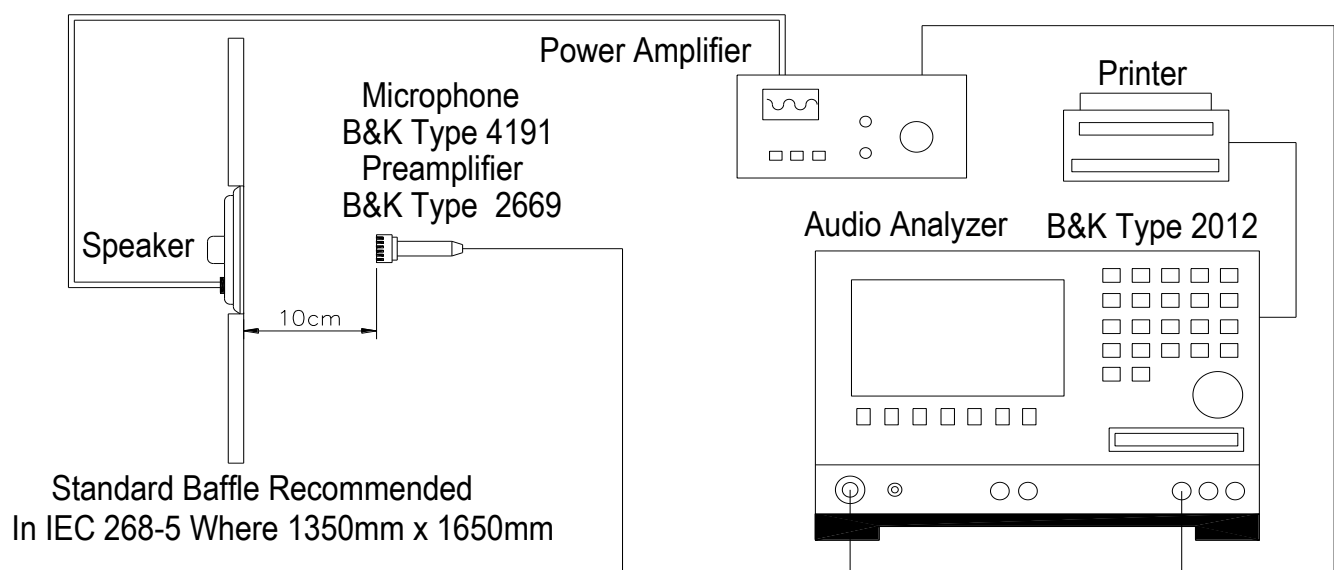
1.Input Power 输入功率: 0.8W (2.83V)

2.Zero Level : -dB

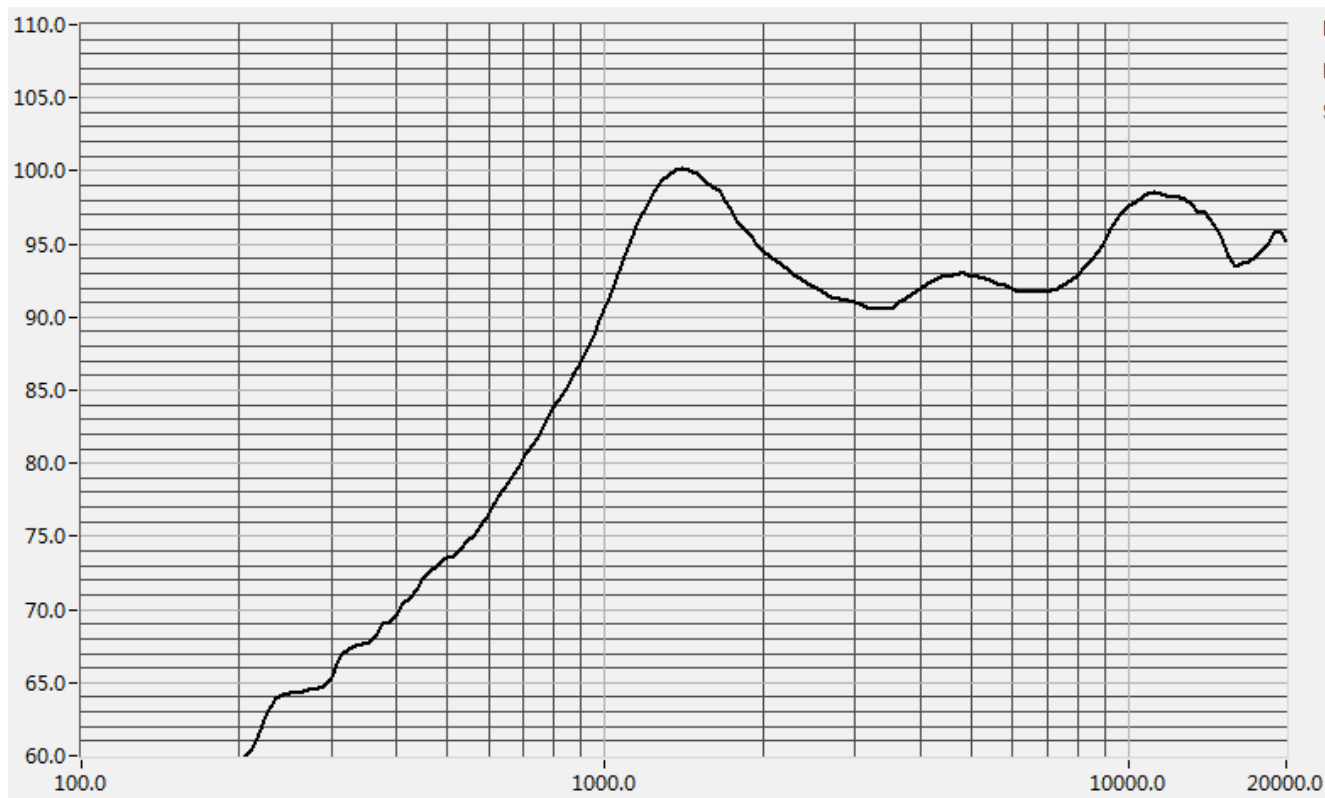
3.Mode 模式 : SPEAKER 喇叭

4.potentiometer Range : 50dB

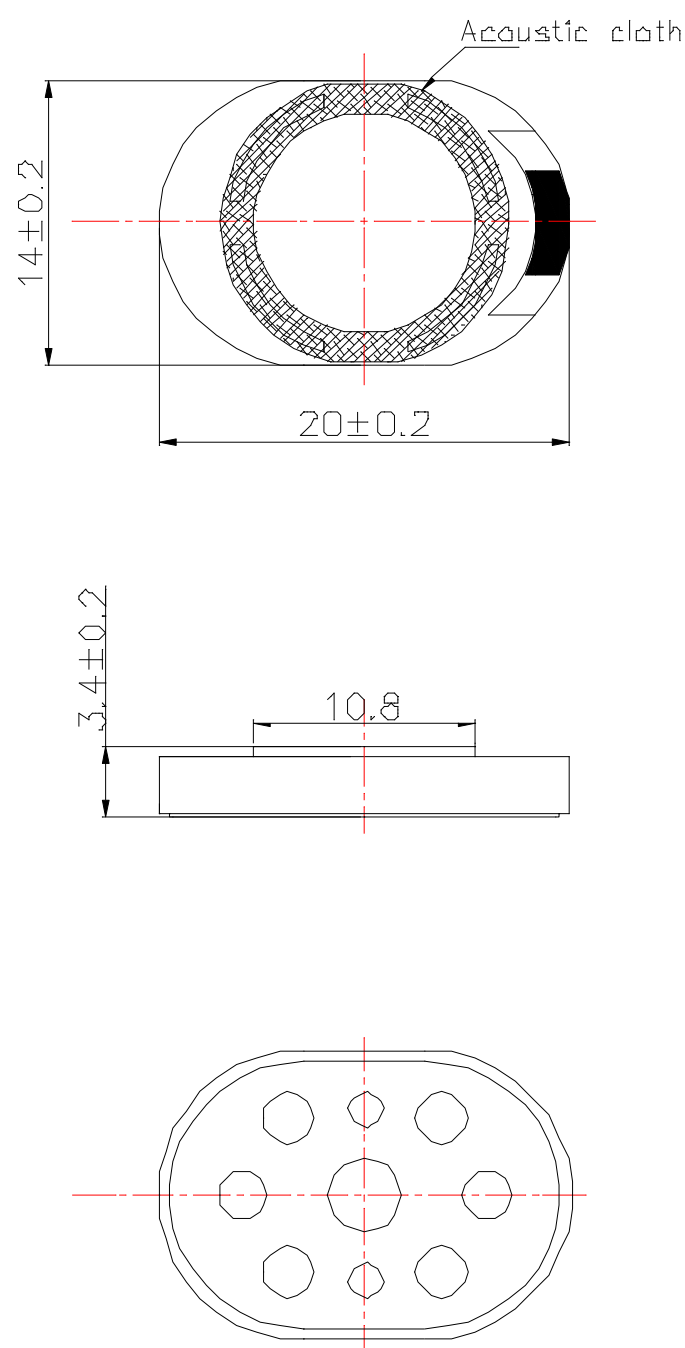
5.Sweep Time 扫描时间: 0.5sec



2-3. Frequency Response Curve 频响曲线

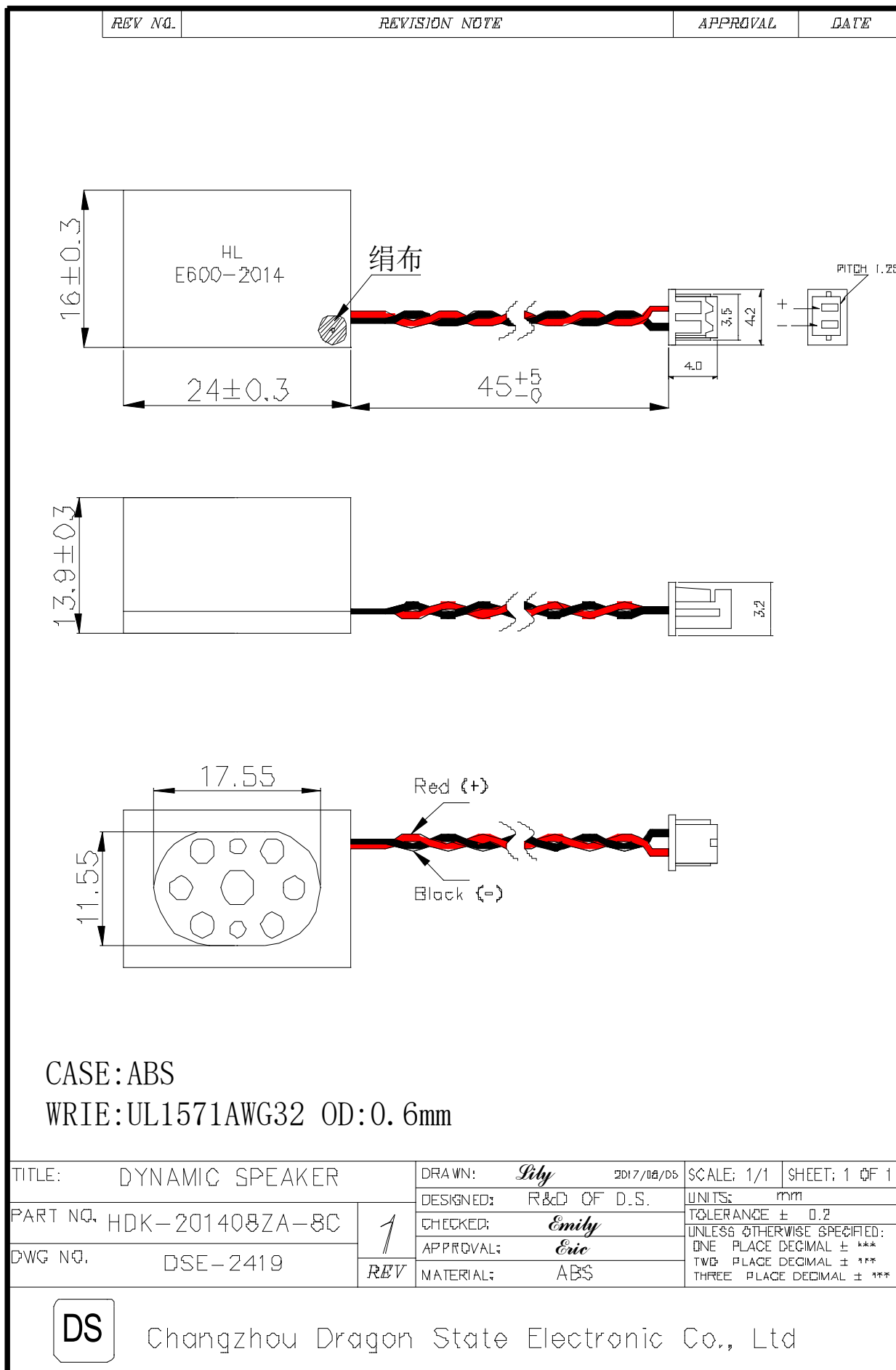


3.Dimension 尺寸

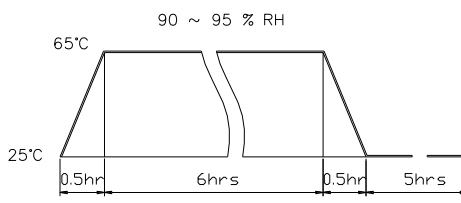
REV NO.	REVISION NOTE	APPROVAL	DATE
 Technical drawing of a dynamic speaker showing top, side, and bottom views with dimensions. Top view dimensions: 14 ± 0.2 (height), 20 ± 0.2 (width). Side view dimensions: 3.4 ± 0.2 (height), 10.8 (width). Bottom view shows a circular pattern of holes. Label: Acoustic cloth			
TITLE: DYNAMIC SPEAKER PART NO. HDK-201408EA-3 DWG NO. DSE-2413		DRAWN: Lily 2017/08/03 DESIGNED: R&D OF D.S. CHECKED: Emily APPROVAL: Eric MATERIAL: PBT	
1 REV		SCALE: 1/1	SHEET: 1 OF 1
		UNITS: mm TOLERANCE ± 0.2 UNLESS OTHERWISE SPECIFIED: ONE PLACE DECIMAL $\pm ***$ TWO PLACE DECIMAL $\pm ***$ THREE PLACE DECIMAL $\pm ***$	

DS

Changzhou Dragon State Electronic Co., Ltd



4. Reliability Test 可靠性测试

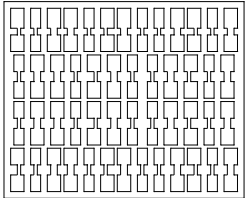
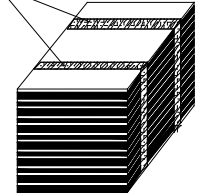
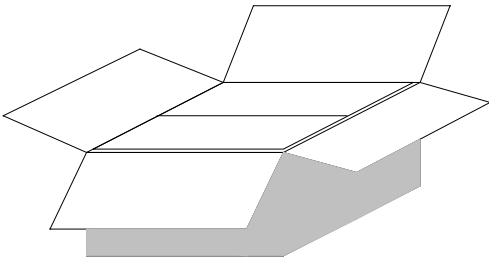
Items.		Specifications
01	High temp. Test 测试	高温 Keep 96 hours at $+70^{\circ}\text{C} \pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check $+70^{\circ}\text{C} \pm 3^{\circ}\text{C}$ 持续 96 小时, 在常温下存放 3 小时后测试
02	Low temp. Test 低温测试	Keep 96 hours at $-20^{\circ}\text{C} \pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check $-20^{\circ}\text{C} \pm 3^{\circ}\text{C}$ 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 $+40^{\circ}\text{C} \pm 3^{\circ}\text{C}$ relative humidity 95% and leave 3 hours in normal temperature and then checked. $+40^{\circ}\text{C} \pm 3^{\circ}\text{C}$ 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 度循环测试	温湿 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  The graph shows a temperature cycle between 25°C and 65°C. The temperature rises from 25°C to 65°C over 0.5 hours, stays at 65°C for 6 hours, and then falls back to 25°C over 0.5 hours. The relative humidity is maintained at 90% to 95% RH during the 6-hour high-temperature plateau.
05	Thermal cycle test. 循环测试	热 Low temperature: $-20^{\circ}\text{C} \pm 3^{\circ}\text{C}$, temperature: $+70^{\circ}\text{C} \pm 3^{\circ}\text{C}$, cycle: 1 hour/cycle each, and then keep 5 cycles in a room. 低温 $-20^{\circ}\text{C} \pm 3^{\circ}\text{C}$ 高温 $+70^{\circ}\text{C} \pm 3^{\circ}\text{C}$ 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 定跌落测试	固 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 24 hours (in 1cc box) 持续 24 hours (在 1cc 腔体内) 额定功率白噪声
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 测试	拉力 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 $350 \pm 10^{\circ}\text{C}$. Soldering time not over 3 seconds.

推荐使用恒温烙铁 15~30W, 在温度范围 $350 \pm 10^{\circ}\text{C}$. 焊接时间 2 秒。

5.Packing 包装

REV NO.	REVISION NOTE	APPROVAL	DATE
 Cover{350*280*5mm} Material: Paper  Box{350*285*16mm} 100pcs Material: Paper+Epe  OPP TAPE ↓  Outer Box{490*360*350mm} 5000pcs{5*1000pcs} Material: Paper			
单位: mm			
TITLE: packing		DRAWN: Lily 2014/10/14	
PART NO.		DESIGNED: R&D OF D.S.	
		CHECKED: Emily	
DWG NO.		APPROVAL: Eric	
		MATERIAL: ***	
DS		SCALE: 2:1	
		SHEET: 1 of 1	
1		UNITS: mm	
		TOLERANCE	
REV		20~11	
		± 0.3	
1		10~5	
		± 0.2	
1		<4	
		± 0.1	
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