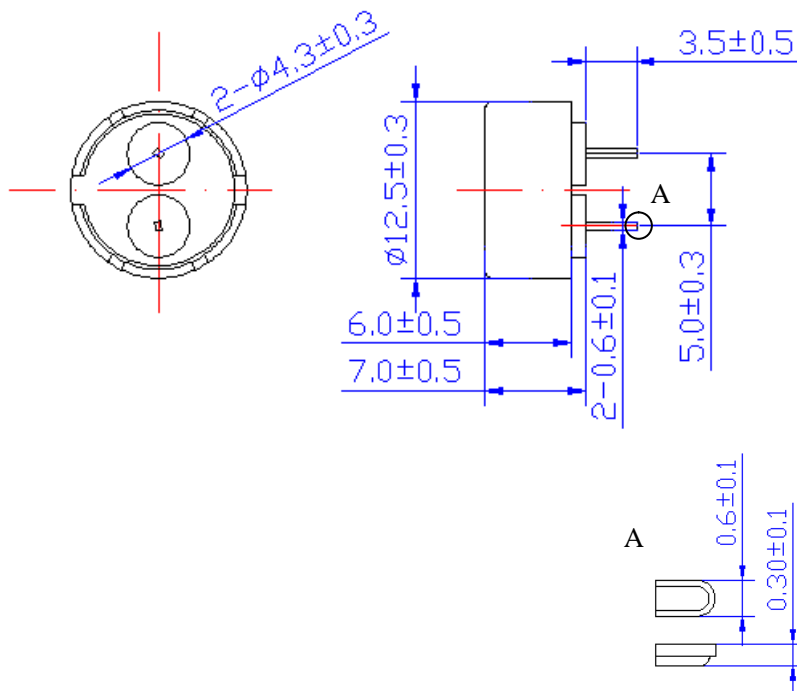


NINGBO KLS ELECTRONIC CO.,LTD

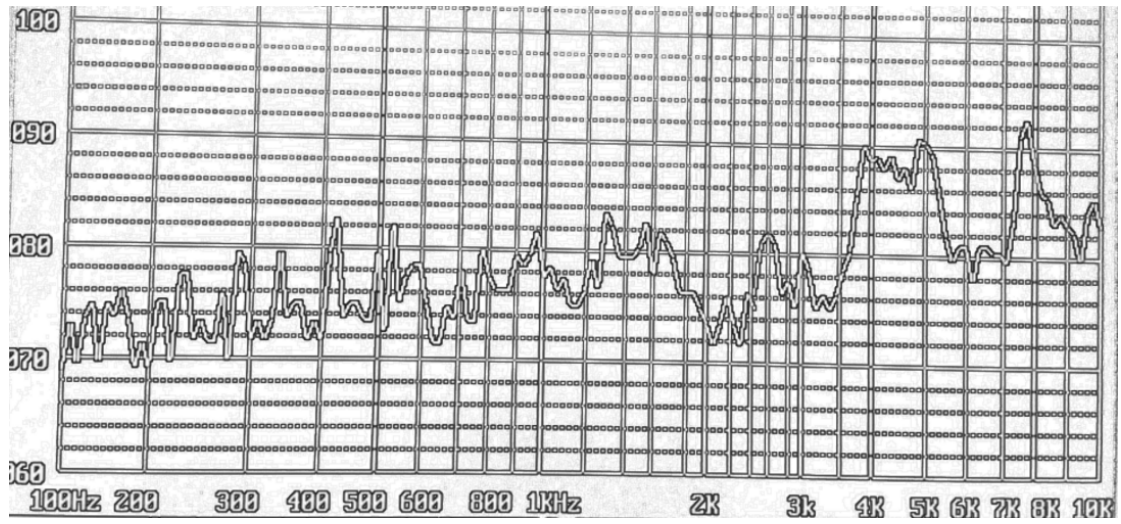
1 . *Electrical Characteristics* 电性能

Type型号	L-KLS3-PT-13*07-P5
Resonant Frequency 谐振频率 (KHz)	4.0±0.5
Operating Voltage 工作电压 (Vp-p)	1.0—30.0
Sound Pressure Level 输出音压 (dB)	Min78/10cm/5.0Vp-p/4.0 KHz
Current Consumption 工作电流 (max)(mA)	2.0 at 5.0Vp-p/4.0 KHz
Capacitance 电容 (nF)	8.0±30% at100Hz 20°C
Operating Temperature 工作温度 (°C)	-20 - +85
Storage Temperature 贮存温度 (°C)	-20 - +85
material 材质	PBT

2. *Dimensions:Unit(mm)* 尺寸:单位

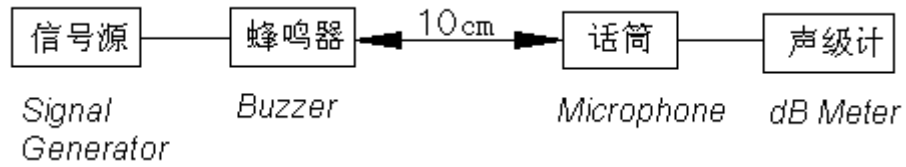


3. Typical Frequency Response Curve 频响曲线



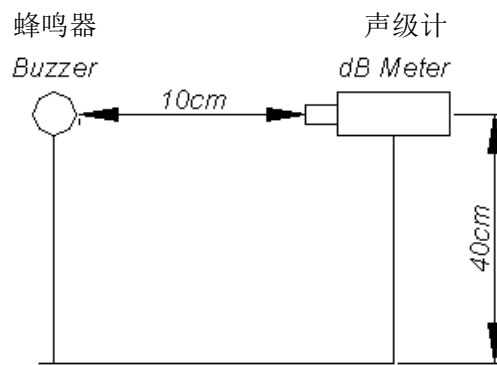
1. 产品测试仪连接:

Connection Diagram Of Testing Apparatus:



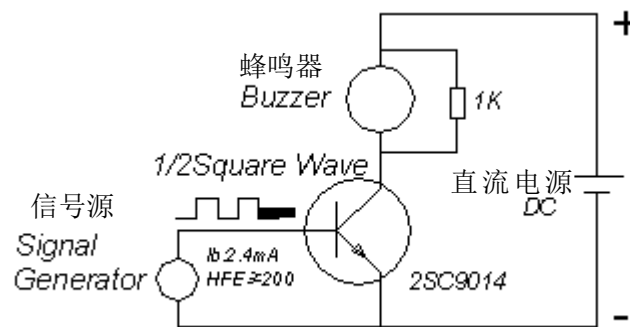
2. 产品测试方法:

Testing Method:



3. 驱动电路:

Circuit Diagram:

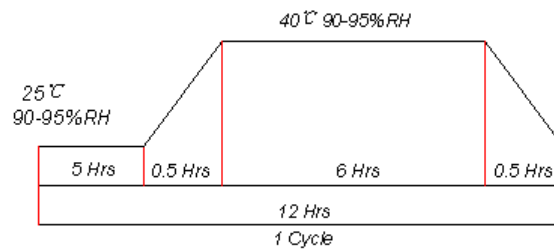


可靠性试验 **RELIABILITY TEST**

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试验项目 <i>ITEM</i>	测试方法 <i>METHOD OF TEST</i>	标准 <i>STANDARD</i>
高温试验 <i>Dry Heat Test</i>	+85℃±2℃, 96h, 恢复 2 小时后测量 <i>After being placed in a chamber with +85±2℃ for 96 hours and then being placed in natural condition for 2 hours, sounder shall be measured.</i>	试验后所有指标都满足 <i>All specification must be satisfied after the test.</i>
低温试验 <i>Cold Test</i>	-20℃±2℃, 96h, 恢复 2 小时后测量 <i>After being placed in a chamber with -20±2℃ for 96 hours and then being placed in natural condition for 2 hours, sounder shall be measured.</i>	试验后所有指标都满足 <i>All specification must be satisfied after the test.</i>
恒定湿热试验 <i>Humidity Test</i>	将产品置于+40℃±2℃, 相对湿度保持在 90%-95%中的环境中放置 96h, 恢复 2 小时后测量。 (见图 FIG.1) <i>After being placed in a chamber with, 90%-95%R.H. at +40℃±2℃ for 96 hours and then being placed in natural condition for 2 hours, sounder shall be measured.</i> (Attached FIG.1)	试验后所有指标都满足 <i>All specification must be satisfied after the test.</i>
温度变化试验 <i>Temperature Cycle Test</i>	产品在-20℃的试验箱和温度为+85℃的试验箱各放置 30 分钟, 为一次温度循环。产品承受 5 次温度循环后, 放置 2h 后进行测量(见图 FIG.2) <i>After being placed in a chamber at -20℃±2℃ for 30 minutes, sounder shall be placed at room temperature(+20℃). After 15 minutes at this temperature, sounder shall be placed in a chamber at +85℃±2℃. After 30 minutes at this temperature, sounder shall be returned to room temperature(+20℃) for 15 minutes. After 5 above cycles, sounder shall be measured after being placed in natural condition for 2 hours. (Attached FIG.2)</i>	试验后所有指标都满足 <i>All specification must be satisfied after the test</i>
振动试验 <i>Vibration Test</i>	频率 10-55-10(Hz), 单振幅: 1.5 (mm) 扫频时间 1min, 振动时间 30min(见图 FIG.3) <i>Sounder shall be measured after being applied vibration of amplitude of 1.5mm with 10-55Hz band of vibration frequency for 30 minutes. Sweep time is 1 minute. (Attached FIG.3)</i>	试验后所有指标都满足。 <i>All specification must be satisfied after the test.</i>
碰撞试验 <i>Shock Test</i>	X,Y,Z 三个方向分别承受 100G 的冲击力, 每向各冲击 3 次 <i>Sounder shall be measured after being applied shock (100G) for each three mutually perpendicular directions to each of 3 times.</i>	试验后所有指标都满足 <i>All specification must be satisfied after the test.</i>
插针的抗拉强度试验 <i>Terminal Strength Pulling Test</i>	插针承受 5 牛顿拉力, 负荷时间 5s, 然后进行检查, 不出现焊点脱落断裂现象 <i>The force 5 seconds of 5N is applied to each terminal. No visible damage and cutting off.</i>	试验后所有指标都满足。 <i>All specification must be satisfied after the test.</i>
可焊性试验 <i>Solder ability Test</i>	焊锡温度 255℃±5℃, 浸润时间为 3±0.5s, 试验后采用目测的方法检查浸润,表面焊锡的浸润情况 <i>Lead terminals are immersed in rosin for 5 seconds and then immersed in solder bath of +255±5℃ for 3±0.5 seconds.</i>	试验后所有指标都满足。 <i>All specification must be satisfied after the test.</i>

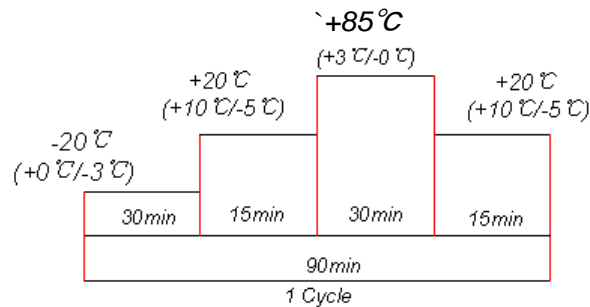
FIG.1



将产品置于 $+40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ ，相对湿度保持在90%-95%中的环境中放置96h，恢复2h后测量（见图FIG.1）

After being placed in a chamber with,90%-95%R.H. at $+40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ for 96hours and then being placed in natural condition for 2 hours,sounder shall be measured (Attached FIG.1)

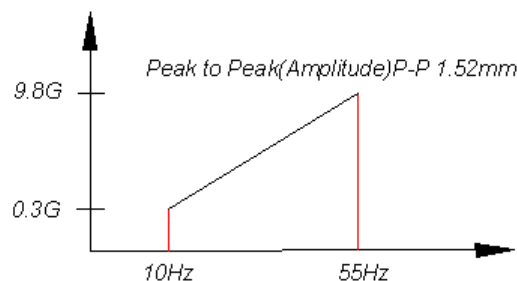
FIG.2



产品在 -20°C 的试验箱和温度为 $+85^{\circ}\text{C}$ 的试验箱各放置30min，为一次温度循环。产品承受5次温度循环后，放置2h后进行测量（见图FIG.2）

After being placed in a chamber at $-20^{\circ}\text{C} \pm 2^{\circ}\text{C}$ for 30 minutes,sounder shall be placed at room temperature($+20^{\circ}\text{C}$).After 15 minutes at this temperature,sounder shall be placed in a chamber at $+85^{\circ}\text{C} \pm 2^{\circ}\text{C}$.After 30 minutes at this temperature , sounder shall be returned to room temperature($+20^{\circ}\text{C}$)for 15 minutes.After 5 above cycles,sounder shall be measured after being placed in natural condition for 2 hours(Attached FIG.2)

FIG.3



频率10-55-10 (Hz)，单振幅：1.5 (mm) 扫频时间1min，振动时间30min（见图FIG.3）。

Sounder shall be measured after being applied vibration of amplitude of 1.5mm with 10-55Hz band of vibration frequency for 30 minutes.Sweep time is 1 minute.(Attached FIG.3)