



产 品 规 格 书

PRODUCT SPECIFICATION

客户名称 CUSTOMER: _____

产品型号 MODEL: HNR-2310A

客户型号 USER'S MODEL: _____

日 期 DATE: 2020-3-22

江苏华能电子有限公司 HUAWHA			客户回签 CUSTOMER		
SERVE RATITY			CUSTOMER RATIGY		
拟制 REPORT	审核 CHECKED	批准 APPROVED	检验 TEST	审核 CHECKED	批准 APPROVED
唐华萍	唐华萍	张长华			

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1.基本规格/General specification

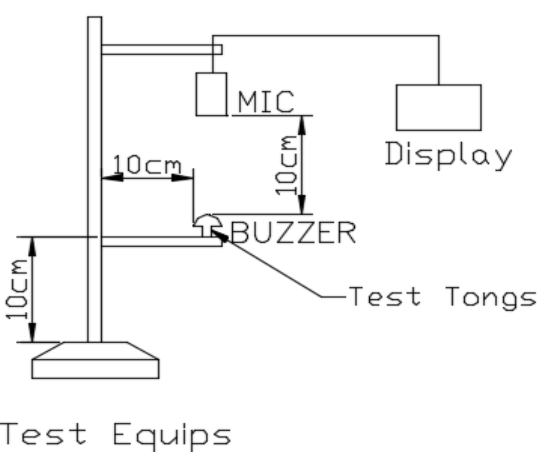
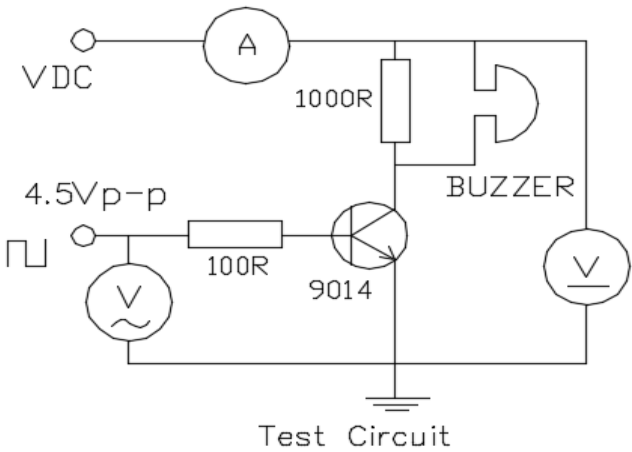
项目/Item		规格/Spec	条件/Condition
1	额定电压 Rated voltage	12Vp-p	
2	工作电压 Operation voltage	1-30Vp-p	
3	声压 Sound Pressure Level=SPL	Min80dB	测试环境：标准状态，标准驱动电路， 额定电压 测试距离：0.1m Standard State,Standard Drive Circuit. Rated voltage,Distance at 0.1m
4	电流 current	Max4mA	
5	振荡频率 Oscillation frequency	3500±500Hz	
6	工作温度范围 Operating Temperature	-20~+70℃	
7	保存温度范围 Storage temperature	-30~+80℃	
8	外部尺寸 Externals size （mm）	Φ23*H9.8	参阅附图 Refer to the attached drawing
9	重量 Mass	3g	
10	材质 Housing Material	PPO	

2.电气和声学测试条件/Electrical And Acoustical Measuring Condition

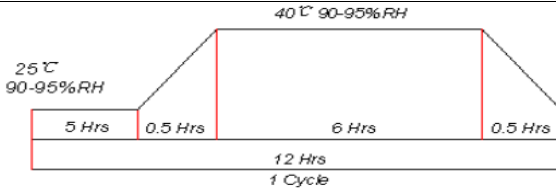
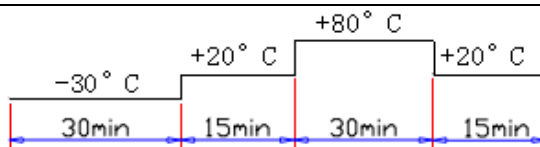
驱动电路/Recommended Driving Circuit

设置 Recommended Setting

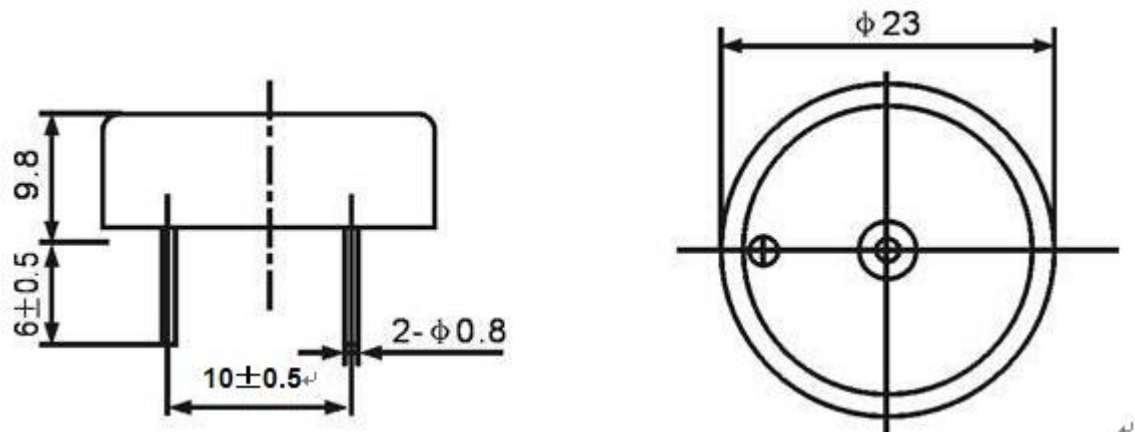
Resonant frequency, 1/2 duty cycle. Square wave.
Signal amplitude should be large enough to saturate the transistor.



3.可靠性测试/Reliability Test

	项目 ITEM	测试方法 TEST						
1	高温试验 High Temperature Test	在 $+80^{\circ}\text{C}\pm 2^{\circ}\text{C}$ 储存温度下存放 96 小时，恢复 2 小时后测试 After being placed in a chamber with $+80\pm 2^{\circ}\text{C}$ for 96 hours and then being placed in normal condition for 2 hours						
2	低温试验 Low Temperature Test	在 $-20^{\circ}\text{C}\pm 2^{\circ}\text{C}$ 储存温度下存放 96 小时，恢复 2 小时后测试 After being placed in a chamber with $-20\pm 2^{\circ}\text{C}$ for 96 hours and then being placed in normal condition for 2 hours						
3	恒定湿热试验 Humidity Test							
4	温度变化试验 Temperature Cycle Test	 Make this test for 5 cycle without applying power, then expose to the room temperature for 2 hours 不加负载，按 5 次循环测试，然后在室温下恢复 2 小时						
5	振动试验 Vibration Test	振幅为 0.75mm，频率为 10~30~10Hz，三个不同轴方向各振动 1 小时，试验后测量。 Sounder shall be measured after being applied vibration of amplitude of 0.75mm with 10 to 30 to 10Hz band of vibration frequency to each of 3 perpendicular directions for 1 hour.						
6	跌落试验 Drop Test	70cm 高自由掉落到 40mm 的木板上，每个方向三次 Drop on a hard wood board of 40mm thick, any directions, three times, at the height of 70cm						
7	插针的抗拉强度试验 Terminal Strength Pulling Test	插针承受 1.0kg 拉力，负荷时间 5s The force 5 seconds of 1.0kg is applied to each terminal.						
8	可焊性试验 Solder ability Test	焊锡温度 $255\pm 5^{\circ}\text{C}$ ，浸润时间为 $3\pm 0.5\text{s}$ ，试验后目测产品情况 Lead terminals are immersed in rosin for 5 seconds and then immersed in solder bath of $255\pm 5^{\circ}\text{C}$ for 3 ± 0.5 seconds.						
9	回流焊测试 Soldering Test	<table border="1"> <thead> <tr> <th>温度 Temp.($^{\circ}\text{C}$)</th><th>时间 Time(Sec.)</th><th>可焊接次数 Times</th></tr> </thead> <tbody> <tr> <td>245 ± 15</td><td>180°C 预热 40~70 秒 245°C 3 秒 above 180°C time 40~70</td><td>3</td></tr> </tbody> </table>	温度 Temp.($^{\circ}\text{C}$)	时间 Time(Sec.)	可焊接次数 Times	245 ± 15	180°C 预热 40~70 秒 245°C 3 秒 above 180°C time 40~70	3
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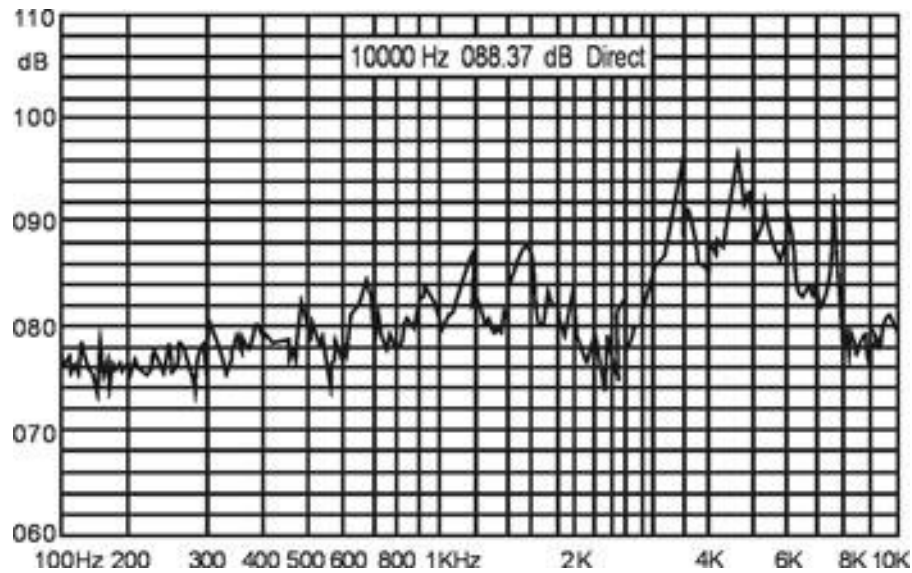
4.尺寸图 Dimension



*Unit: mm; Tolerance: $\pm 0.5\text{mm}$ Except Specified

*Housing Material: Black PPO

5.频率响应/Frequency Response



12Vo-p 50% duty Square wave,10cm