

## A. SCOPE 适用范围

This specification applies electret condenser microphone ATC140AU

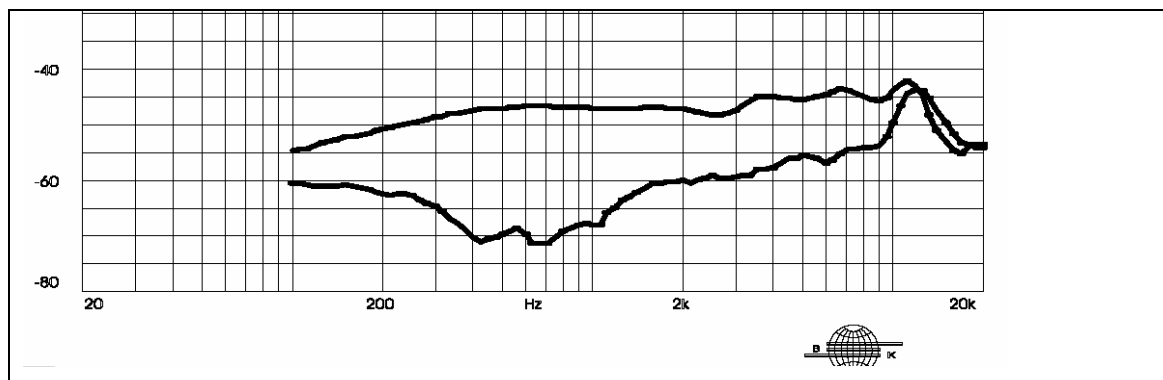
此规格书适用于电容式麦克风 ATC140AU

## B. ELECTRICAL CHARACTERISTICS 电气特性

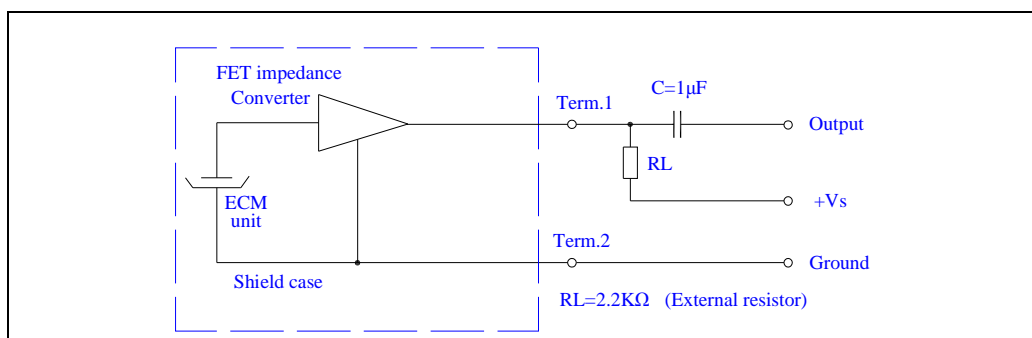
Temp. =  $20 \pm 2$  °C Room Humidity 60-70 %

NO	Parameter	Symbol	Condition	Limits			Unit
				Min	Center	Max	
1	Directivity 指向性	U	Unidirectional 单指向				
2	Sensitivity 灵敏度	S	f=1KHZ, S.P.L=1Pa (0dB=1V/Pa)	-43	-40	-37	dB
3	Output impedance 输出阻抗	Zout	f=1KHZ			2.2K	$\Omega$
4	Current Consumption 耗电流	IDss	VCC=2.0V, RL=2.2K $\Omega$			0.5	mA
5	Operating Voltage 工作电压			1.0		10	V
6	Standard Operating Voltage 标准工作电压				1.5		V
7	Decreasing Voltage 减电压灵敏度	$\Delta S-VS$	VS=2.0V to 1.5V			-3	dB
8	Total Harmonic Distortion 谐波失真		94dB SPL @ 1kHz			1	%
			115dB SPL @ 1kHz			3	%
9	Signal to Noise Ratio 信噪比	S/N	f=1KHZ, S.P.L=1Pa (A-Weighted curve)	60			dB
10	Max Input S.P.L 最大输入音压		THD < 3% (f=1KHZ)			115	dB

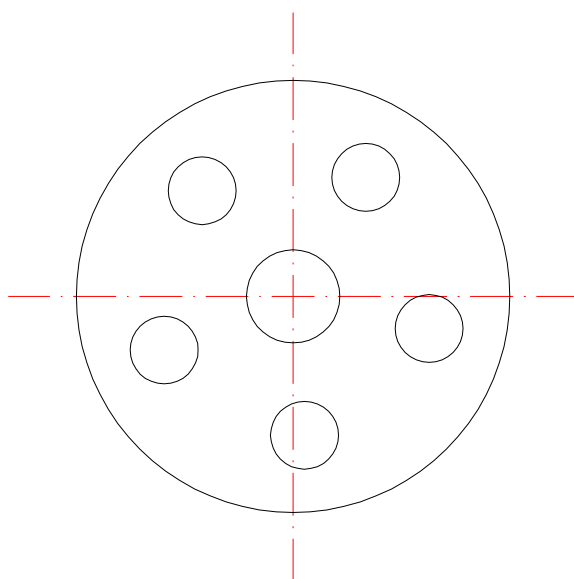
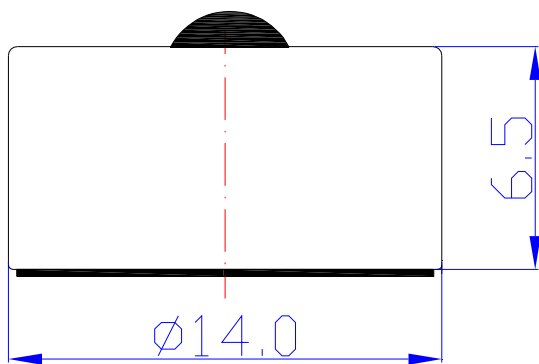
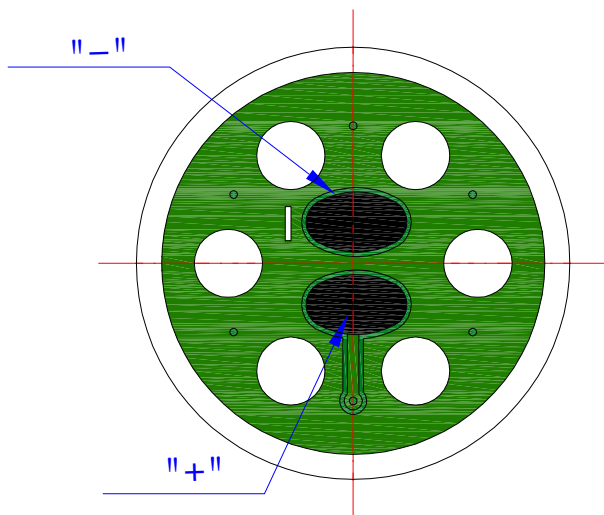
## C. TYPICAL FREQUENCY RESPONSE CURVE 频率响应曲线



## D. MEASUREMENT CIRCUIT 测量线路



E. APPEARANCE & DIMENSIONS DRAWING 外观尺寸图



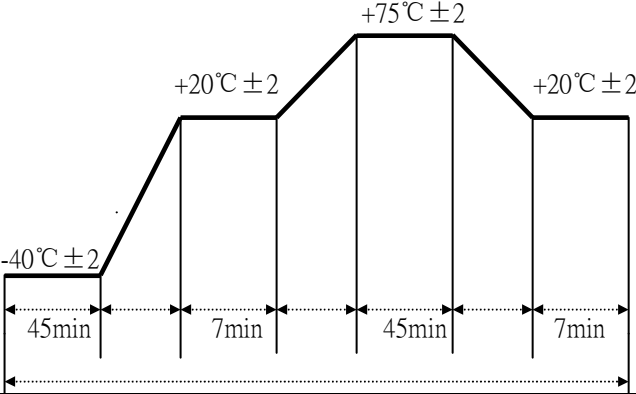
Unit: mm

TOL:±0.2

## F. MECHANICAL CHARACTERISTICS 机械特性

No.	Item	Test condition	Evaluation standard
1	Vibration Test 振动测试	The part shall be measured after being applied vibration of amplitude of 3mm with 10 to 55hz band of vibration frequency to each of 3 per-pendicular directions for 30minutes. 振动周波数 10~55HZ、全振幅 3mm 于 X.Y.Z 3 个方向, 各 30 分钟.	After any tests, the sensitivity to be within $\pm 3\text{dB}$ 测试其灵敏度须与原测试值的差异不超过 $\pm 3 \text{ dB}$ .
2	Drop Test 落下测试	The part unit without packaged must be subjected to each 3 drops at three axes from the height of 1 meter to 20 mm thick wooden board. 未包装麦克风单体从 1 米高处, X.Y.Z.3 个方向, 各 3 回, 落于 20mm 厚木板上.	

## G. ENVIRONMENTAL TEST 环境试验

No.	Item	Test conditions	Evaluation standard
1	High temp. test 高温测试	After being placed in a chamber at $+80^{\circ}\text{C}$ for 200 hours. 置于 $+80^{\circ}\text{C}$ 环境中 200 小时	After any tests, the sensitivity to be within $\pm 3\text{dB}$ of initial sensitivity after 6 hours of conditioning at $+20^{\circ}\text{C}$ 经测试后麦克风, 须静置于 $+20^{\circ}\text{C}$ (室温) 环境中 3 小时后, 测试其灵敏度须与原测试值的差异不超过 $\pm 3\text{dB}$ .
2	Low temp. test 低温测试	After being placed in a chamber at $-40^{\circ}\text{C}$ for 200hours. 置于 $-40^{\circ}\text{C}$ 环境中 200 小时	
3	Humidity test 相对湿度测试	After being placed in a chamber at $+50^{\circ}\text{C}$ and 90~95% relative humidity for 200 hours. 置于 $+50^{\circ}\text{C}$ , 相对湿度 90~95% 环境中 200 小时	
4	Temp. cycle test 温度循环测试	The part shall be subjected to 27 cycles. One cycle shall be consist of : 单体承受温度循环测试 27 次, 其循环内容如图所示: 	
5	Electrostatic discharge 静电放电 Tested to IEC61000-4-2 level 3	a) Contact discharge 接触放电 The microphone shall operate normally after 10 discharges to the output. The charge voltage is $\pm 6000\text{VDC}$ and the discharge network is 150PF and 330 $\Omega$ 。 b) Air discharge 空气放电 The microphone shall operate normally after 10 discharges to the sound hole. The charge voltage is $\pm 8000\text{VDC}$ and the discharge network is 150PF and 330 $\Omega$ 。	

### TEMPERATURE CONDITIONS.

Storage Temperature 储存温度  $-25^{\circ}\text{C} \sim 85^{\circ}\text{C}$  With 40% ~ 75% R.H. humidity  
Operating Temperature 操作温度  $-20^{\circ}\text{C} \sim 70^{\circ}\text{C}$  With 45% ~ 85% R.H. humidity

We use "Pascal(Pa)" indication of sensitivity as per the recommendation of I.E.C.(International Electro technical Commission).

The Sensitivity of "Pa" will increase 20dB comparing with "ubar" indication.

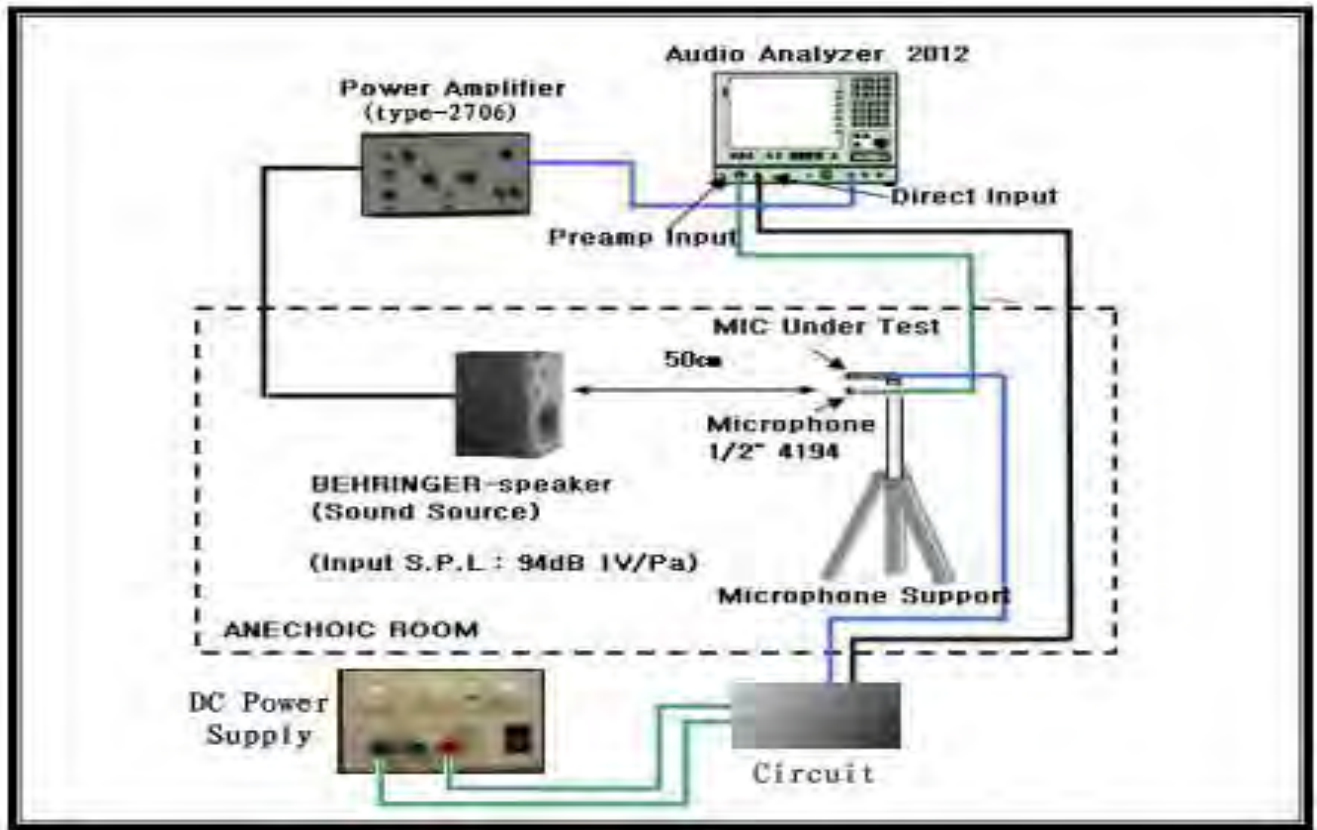
Example:  $-60\text{dB}(0\text{dB}=1\text{V}/\text{ubar}) = -40\text{dB}(1\text{V}/\text{Pa})$

依 I.E.C.(国际电子协会) 建议, 以 "Pa" 为灵敏度标示单位比 "ubar" 灵敏度标示单位增加 20dB

例如:  $-60\text{dB}(0\text{dB}=1\text{V}/\text{ubar}) = -40\text{dB}(1\text{V}/\text{Pa})$

## H. MEASUREMENT SYSTEM 测量系统

### Far field measurement system

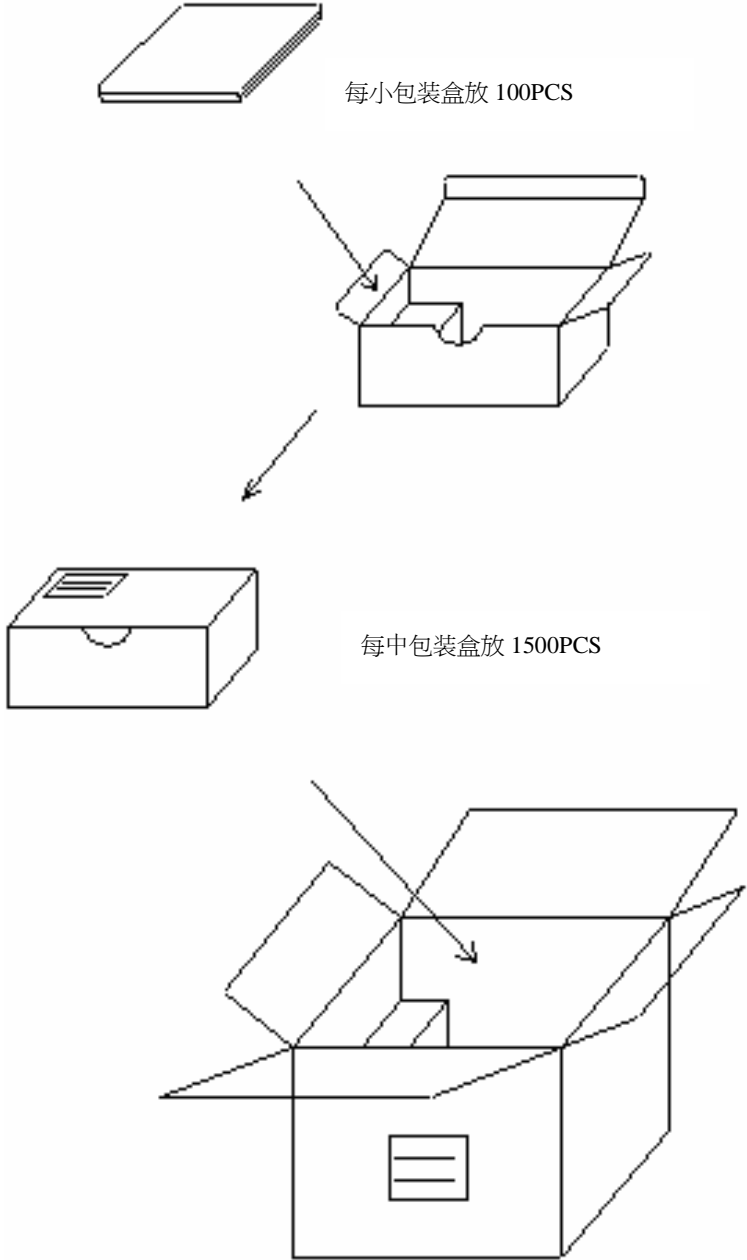


### I.Soldering Condition 焊接条件

No.	REGARDING THE SOLDERING OPERATION
1	The soldering copper of a type of 30W~45W shall be applied. 焊接使用 30W~45W 的烙铁
2	The temperature of the working surface of the soldering copper shall be $350 \pm 10^{\circ}\text{C}$ . 电烙铁表面温度 $350 \pm 10^{\circ}\text{C}$
3	ECM shall be soldered fixed on the metal block(heat sink)which has the higher radiation effects said heat sink Shall contact with of ECM . 焊接时把麦克风嵌入散热能力强的金属块内
4	time for each terminal shall be 3sec. 焊接时间控制在 3 秒内
5	The pinhole after soldering shall be avoided. 焊接后不能出现针孔
6	ECM may easily destroyed by the static electricity and the countermeasure for eliminating the static electricity(the ground for soldering copper, for worktable and for human body)shall be executed. 静电容易破坏麦克风必须采取措施避免（电烙铁接地，戴静电环等）
7	Shape of heat sink 散热板形状



## J、PACKING STANDARD 包装规格

包装明细	包装图
<p>一、产品编号： ATC140AU</p> <p>二、包装尺寸： 长*宽*高</p> <p>a. 小包装袋</p> <p>b. 中包装盒</p> <p>c. 外箱</p> <p>三、使用设备</p> <p>d. 胶带机</p> <p>e. 自动打包机</p> <p>四、包装明细</p> <p>f. 小包装盒放 100PCS</p> <p>g. 中包装盒放 1500PCS</p> <p>h. 纸箱放 6000PCS</p> <p>五、标签规定</p> <p>a. 由最小包装盒到最大外纸箱都要贴标签 (式样如下图)</p> <p>b. 尺寸大小应以显眼易见为原则</p>	 <p>每小包装盒放 100PCS</p> <p>每中包装盒放 1500PCS</p>