LOT Number:

Specification of Electret Condenser Microphone

(RoHS Compliance&Halogen-Free)

Customer Name :

Customer Model :

GoerTek Model : B6027AP-056

GoerTek		CUSTOMER APPROVAL
DESIGN	Leo 2016.12.12	
CHECK	Vincent 2016.12.12	
STANDARD	Lari 2016.12.12	
APPROVAL	Anson 2016.12.12	

10644 ISO/TS16949:2002
2551 ISO14001:2004
2728 ISO9001:2000

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Restricted

1 Security warning

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2 Publication history

Version	Date	Description	Design	Approval
1.0	2016.12.10	New Design	Leo	Anson

3 Symbols Show

Symbols	Show
©	Signify Customer's Special Characteristic.
©	Signify GoerTek Special Characteristic.

Contents

PRODUCT SPECIFICATIONS

Type ： Electret Condenser Microphone

Model: B6027AP-056

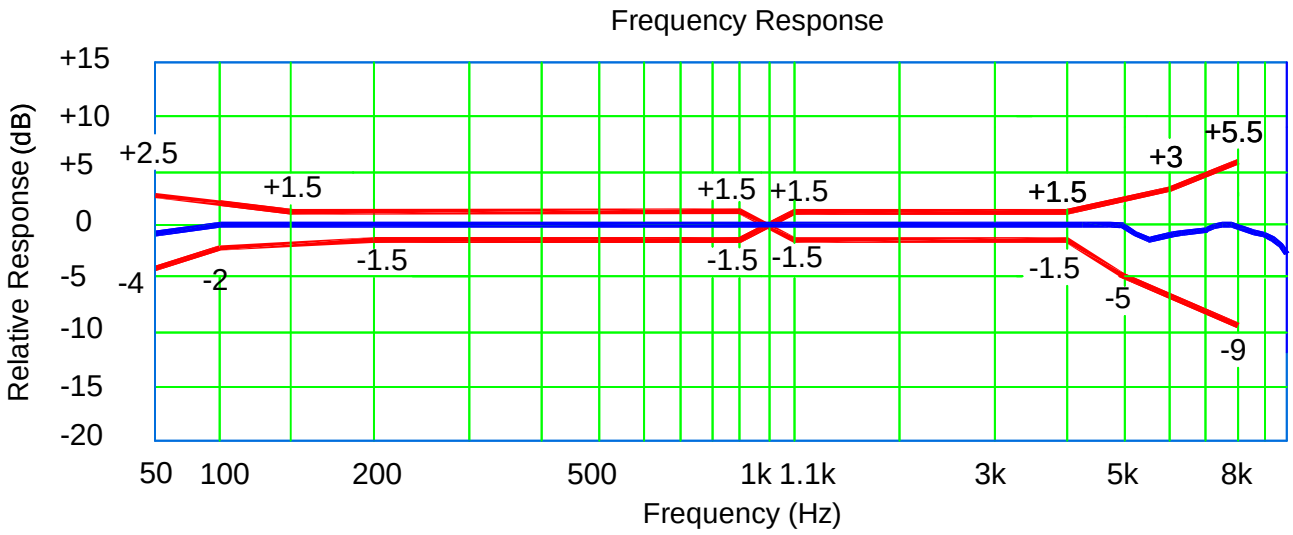
1 Test Condition (Vs=2.0V , RL=2.2kΩ, L=50cm)

Standard Conditions (Re. IEC 60268-4)	Temperature	Humidity	Air pressure
Environment Conditions	+15℃～+35℃	25％RH～75%RH	86kPa～106kPa
Judgement Conditions	+20℃±2℃	60％RH～70%RH	86kPa～106kPa

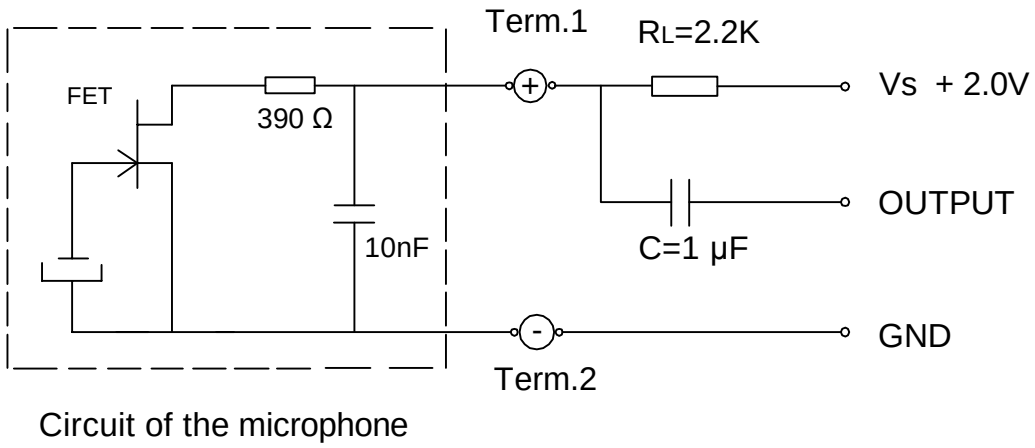
2 Electrical Characteristics

Item	Symbol	Test Conditions	Min	Standard	Max	Unit
Sensitivity ©	S	f=1kHz, Pin=1Pa	-41	-38	-35	dB 0dB=1V/Pa
Output Impedance	Zout	f=1kHz, Pin=1Pa			2.2k	Ω
Directivity	D(θ)	Omnidirectional				dB
Current Consumption	I		120		380	μA
S/N Ratio	S/N(A)	f=1kHz, Pin=1Pa A-Weighted Curve	62			dB
Decreasing Voltage Characteristic	ΔS	f=1kHz, Pin=1Pa Vs=2.0-- 1.5V			-3	dB
Operating Voltage Range	Vs		1.0		10	V
Distortion	THD	f=1kHz, Pin=100dB			1	%

3 Frequency Response Curve and Limits

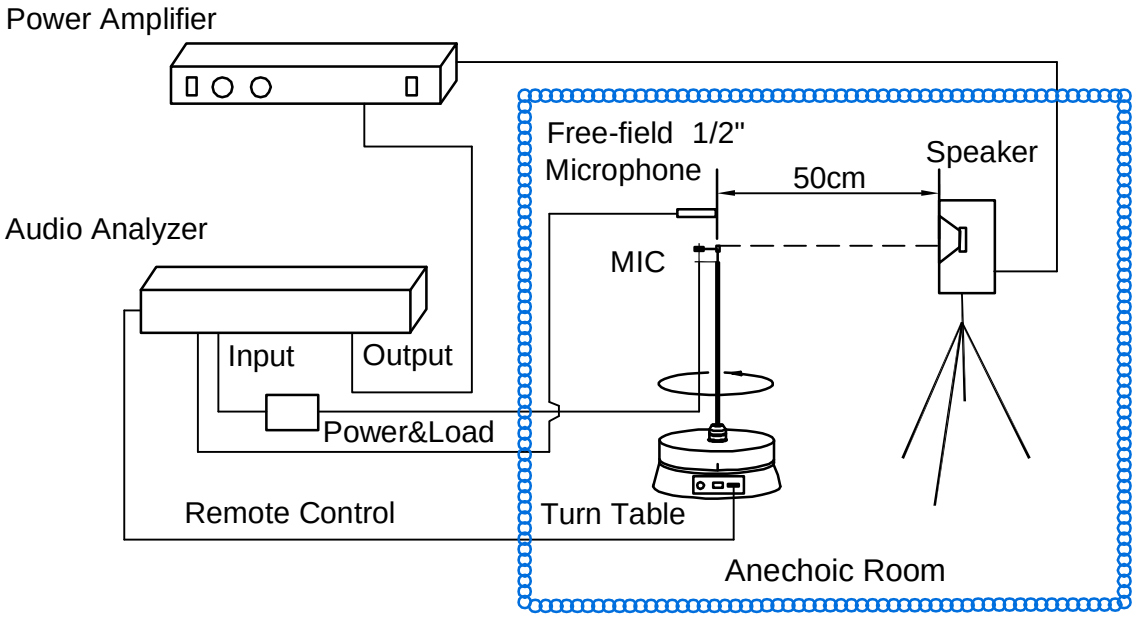


4 Measurement Circuit



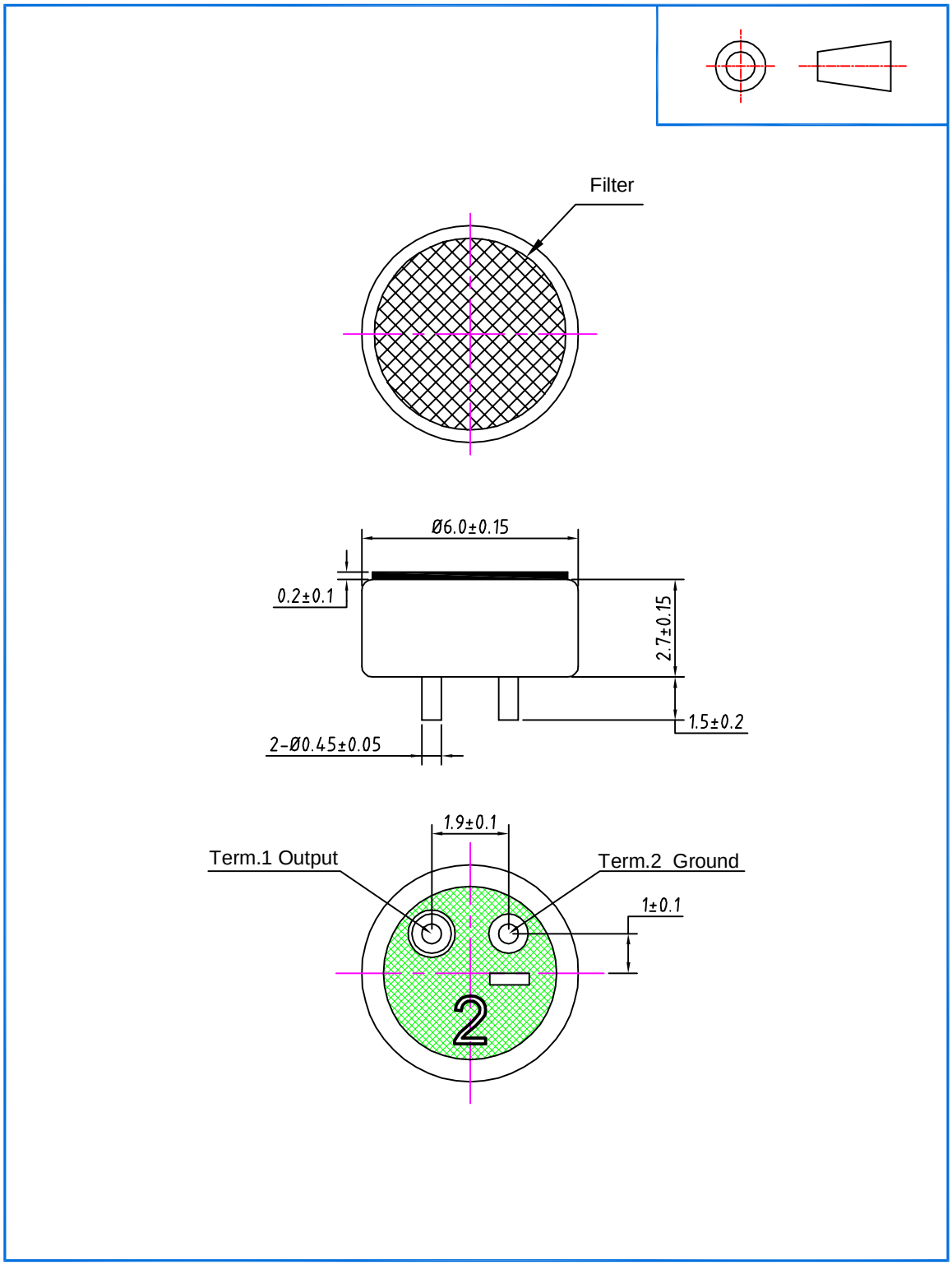
Circuit of the microphone

5 Test Setup Drawing



6 Mechanical Characteristics

6.1 Appearance Drawing (Unit: mm)

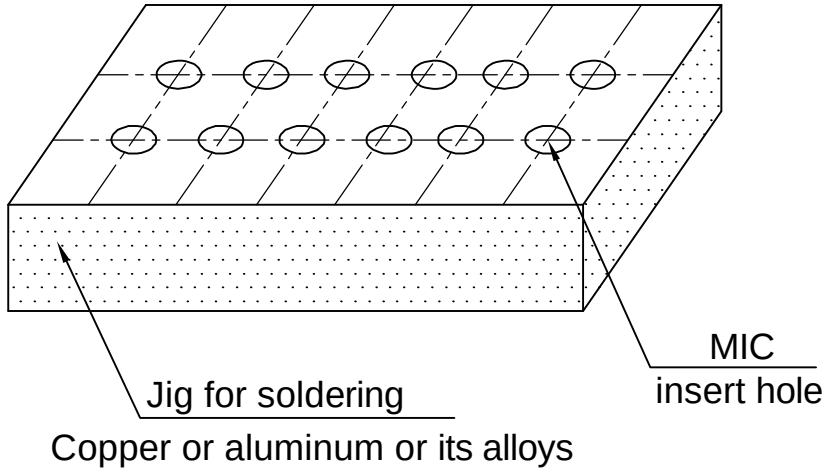


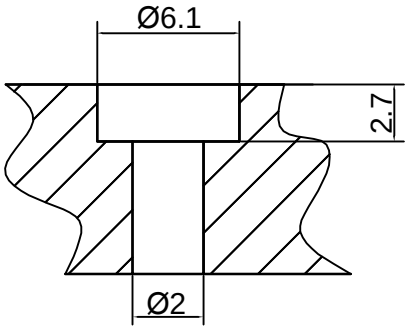
6.2 Weight

Less than 0.2g.

7 Soldering

7.1 Jig for soldering (Unit: mm)





Shape of the individual hole

7.2 Cautions

7.2.1 We use antistatic welding machine which can control soldering temperature automatically during soldering process.

7.2.2 The temperature of the high-frequency electric welding machine is set at 280 ℃ and welding time less than 2 seconds.

7.2.3 ECM should be fixed on the soldering jig which has higher heat radiation effects during soldering process.

7.2.4 ECM may be destroyed by static electricity easily, so the measures for eliminating static electricity should be executed.

7.2.5 Don 't do the /No X-ray inspection on ECM after being assembled on the main board.

7.2.6 Don't do the cleaning process with any kind of volatile solvent (Acetone, TCE, alcohol, etc.,), water, or detergent. Any dust or particle got into ECM can reduce the sensitivity of the microphone.

7.2.7 Process conditions may affect the acoustic characteristics.

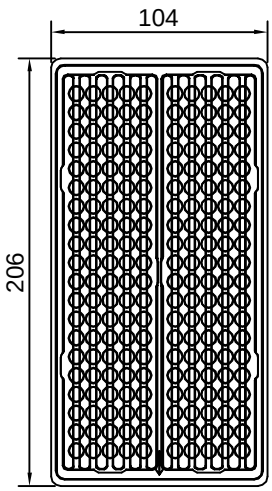
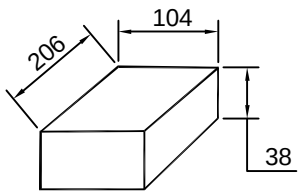
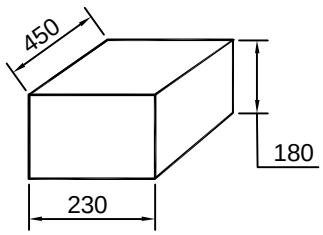
7.2.8 Wave soldering conditions may affect the acoustic characteristics.

8 Reliability Test

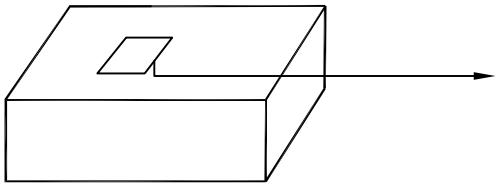
8.1 Vibration Test	To be no interference in operation after vibrations,10Hz to 55 Hz for 1 minute full amplitude 1.52mm,for 2 hours at three axises in state of standard packing,sensitivity to be within ±3dB from initial sensitivity. (The measurement to be done after 2 hours of conditioning at +15 ℃～+35℃, R.H 25%～75%)
8.2 Drop Test	To be no interference in operation after dropped to concrete floor each one time from 1 meter height at three directions in state of Outer packing,sensitivity to be within ±3dB from initial sensitivity. (The measurement to be done after 2 hours of conditioning at +15 ℃～+35℃, R.H 25%～75%)
8.3 Temperature Test	a) After exposure at +70°C for 200 hours,sensitivity to be within ±3dB from initial sensitivity. (The measurement to be done after 2 hours of conditioning at +15 ℃～+35℃, R.H 25%～75%) b) After exposure at -25°C for 200 hours,sensitivity to be within ±3dB from initial sensitivity. (The measurement to be done after 2 hours of conditioning at +15 ℃～+35℃, R.H 25%～75%)
8.4 Humidity Test	After exposure at +40℃ and 90%~95% relative humidity for 200 hours,sensitivity to be within ±3dB from initial sensitivity. (The measurement to be done after 2 hours of conditioning at +15 ℃～+35℃, R.H 25%～75%)
8.5 Temperature Cycle Test	After exposure at -25℃ for 30 minutes, at 20℃ for 10 minutes, at+70℃ for 30 minutes,at 20℃ for 10 minutes,5 cycles,sensitivity to be within ±3dB from initial sensitivity. (The measurement to be done after 2 hours of conditioning at +15 ℃～+35℃, R.H 25%～75%)
8.6 Soldering Heat Shock	To be no interference in operation after soldering heat shock,temperature 260 ℃±10℃ for (2±0.5) seconds.If customer confirm to use lead-free soldering,the soldering temperature is 320℃±10℃ for less than 2.0 seconds,sensitivity to be within ±3dB from initial sensitivity. (The measurement to be done after 2 hours of conditioning at +15 ℃～+35℃, R.H 25%～75%)
8.7 Temperature Shock Test	After exposure at -25℃ for 60 minutes, at+70℃ for 60 minutes(change time 20 seconds), 32 cycles,sensitivity to be within ±3dB from initial sensitivity. (The measurement to be done after 2 hours of conditioning at +15 ℃～+35℃, R.H 25%～75%)
8.8 ESD Shock Test	Without ground,Under C=150pF,R=330ohm,15kV "+"、"-"charge air discharge,5 times,sensitivity to be within ±3dB from initial sensitivity. Without ground,Under C=150pF,R=330ohm,8kV "+"、"-"charge contact discharge,5 times,sensitivity to be within ±3dB from initial sensitivity.

9 Packing

9.1 Packing Specification

	Drawing(Unit: mm)	Qty(pcs.)	Material	Marking
Packing		200	APET	\
Middle Box		5×200	Paper	\
Outer Box		12×1000	Paper	\

9.2 Packing Explain



10 Stock and Transportation

10.1 Keep ECM in warehouse with less than 75% humidity and without sudden temperature change, acid air, any other harmful air or strong magnetic field.

10.2 The ECM with normal pack can be transported by ordinary conveyances.Please protect products against moist, shock, sunburn and pressure during transportation.

10.3 Storage Temperature Range ： -25℃～+70℃

10.4 Operating Temperature Range ： -20℃～+70℃

11 Output Inspection standard

Output inspection standard is excuted according to 《ISO2859-1:1999》.