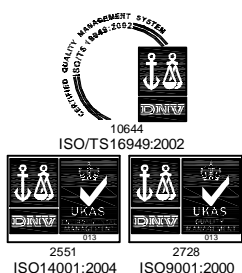


LOT Number:

## Specification of Electret Condenser Microphone (RoHS Compliance&Halogen-Free)

Customer Name :  
Customer Model :  
GoerTek Model : B6027AP-056

GoerTek	CUSTOMER APPROVAL
<p><b>DESIGN</b>     <u>Leo     2016.12.12</u></p> <p><b>CHECK</b>     <u>Vincent 2016.12.12</u></p> <p><b>STANDARD</b> <u>Lari     2016.12.12</u></p> <p><b>APPROVAL</b> <u>Anson 2016.12.12</u></p>	Empty space for customer approval



Tel : + 86 536 8525155  
 Fax : + 86 536 8525000  
 E- Mail : [goertek@goertek.com](mailto:goertek@goertek.com)  
 Website: <http://www.goertek.com>  
 Address: No.268 Dongfang Road, High-Tech Industry  
 Development District, Weifang, Shandong, P.R.C.

## Restricted

### 1 Security warning

The information contained in this document is the exclusive property of GoerTek Inc. and should not be disclosed to any third party without the written consent of GoerTek Inc.

### 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

1	Test Condition	4
2	Electrical Characteristics	4
3	Frequency Response Curve and Limits	4
4	Measurement Circuit	5
5	Test Setup Drawing	5
6	Mechanical Characteristics	6
6.1	Appearance Drawing	6
6.2	Weight	6
7	Soldering	7
7.1	Jig for soldering	7
7.2	Cautions	7
8	Reliability Test	8
8.1	Vibration Test	8
8.2	Drop Test	8
8.3	Temperature Test	8
8.4	Humidity Test	8
8.5	Temperature Cycle Test	8
8.6	Soldering Heat Shock	8
8.7	Temperature Shock Test	8
8.8	ESD Shock Test	8
9	Packing	9
9.1	Packing Specification	9
9.2	Packing Explain	10
10	Stock and Transportation	10
10.1	Stock	10
10.2	Transportation	10
10.3	Storage Temperature Range	10
10.4	Operating Temperature Range	10
11	Output Inspection standard	10

## PRODUCT SPECIFICATIONS

Type : Electret Condenser Microphone

Model: B6027AP-056

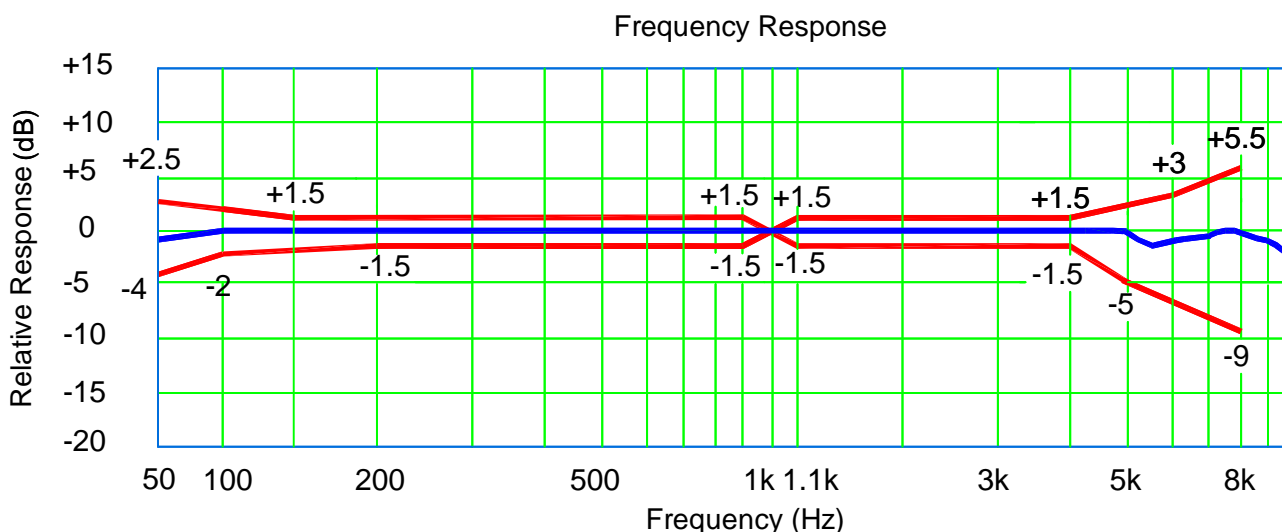
### 1 Test Condition ( $V_s=2.0V$ , $R_L=2.2k\Omega$ , $L=50cm$ )

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

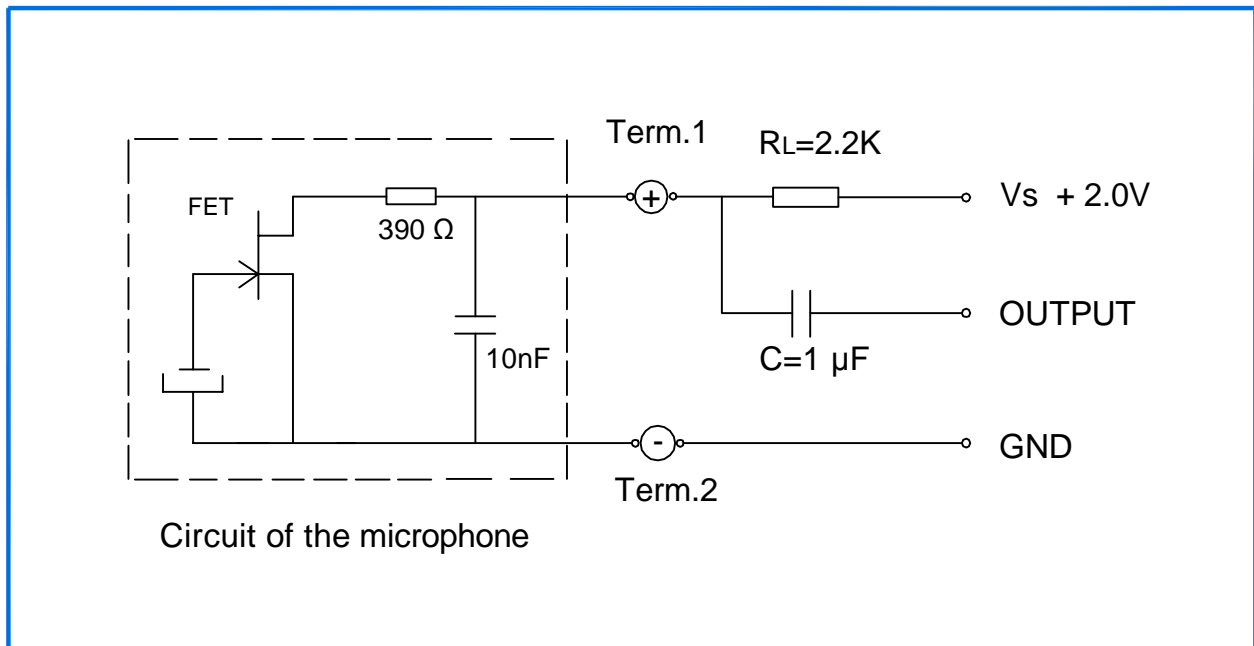
### 2 Electrical Characteristics

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

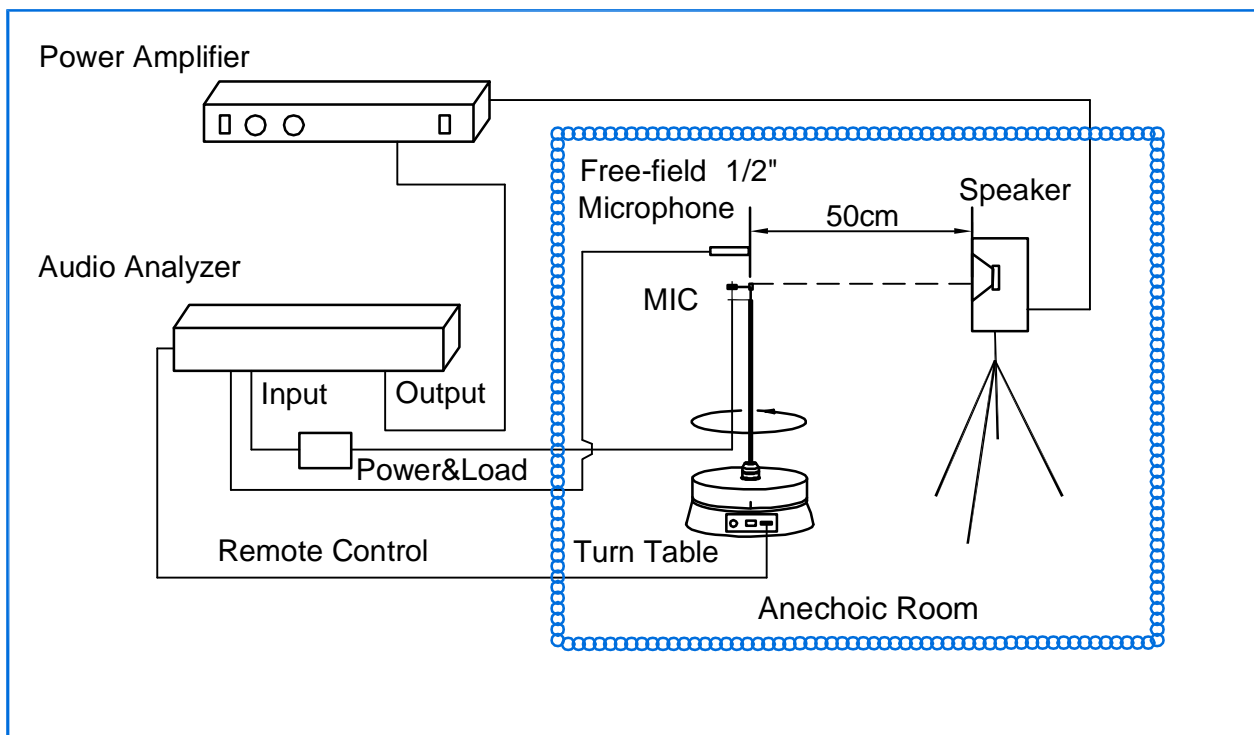
### 3 Frequency Response Curve and Limits



## 4 Measurement Circuit

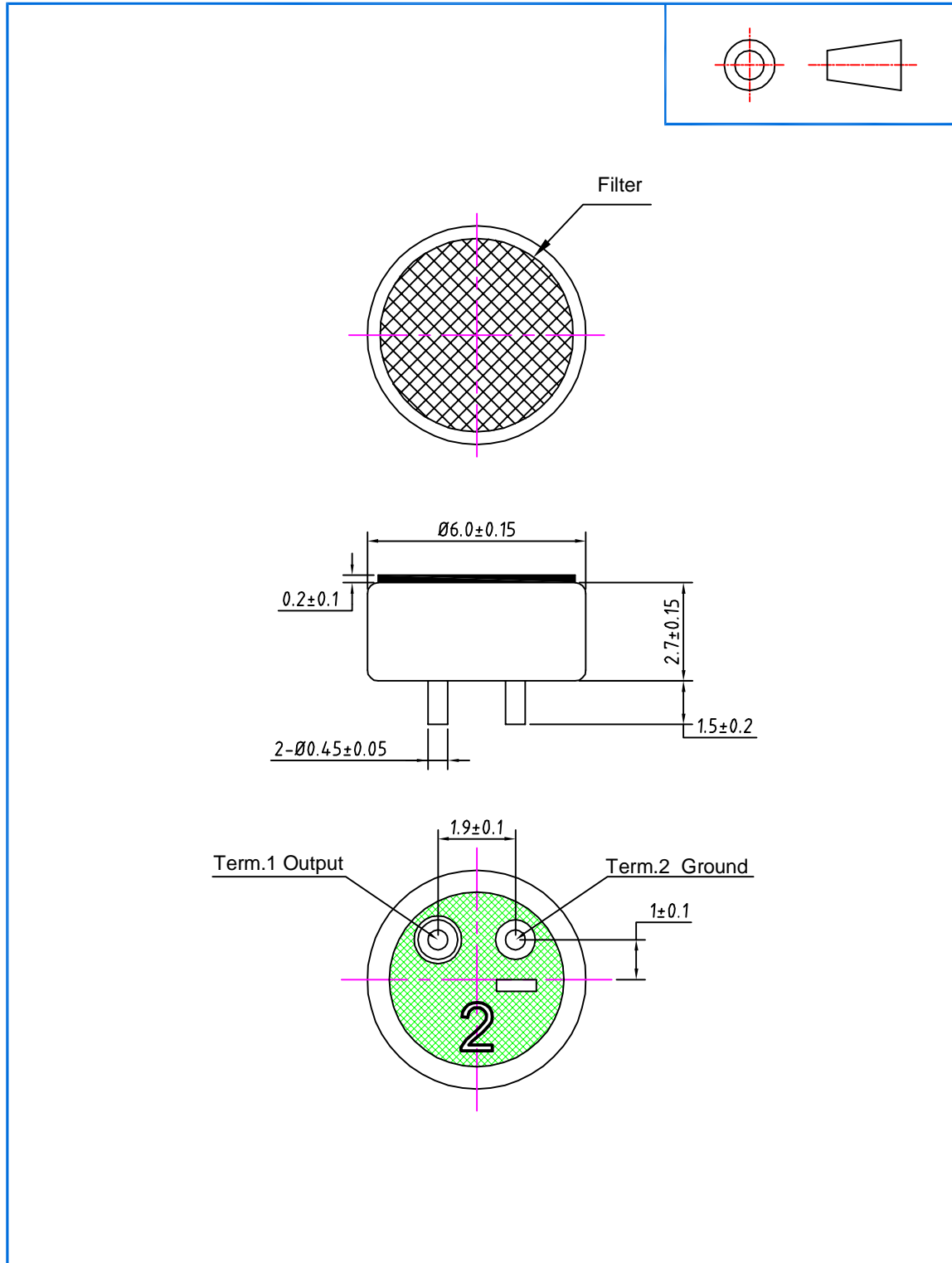


## 5 Test Setup Drawing



## 6 Mechanical Characteristics

### 6.1 Appearance Drawing (Unit: mm)

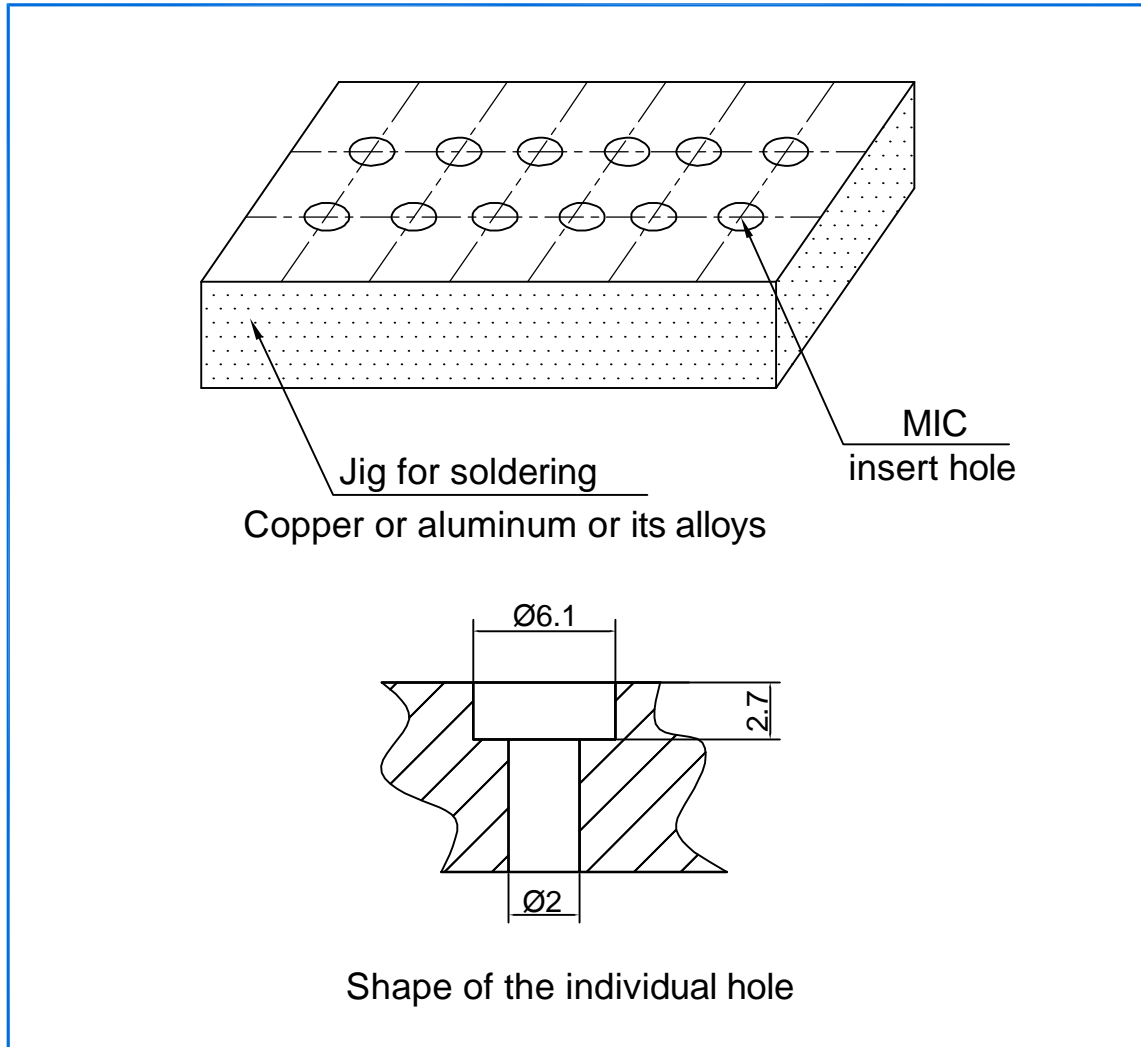


### 6.2 Weight

Less than 0.2g.

## 7 Soldering

### 7.1 Jig for soldering (Unit: mm)



### 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  $280\text{ }^{\circ}\text{C}$  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.

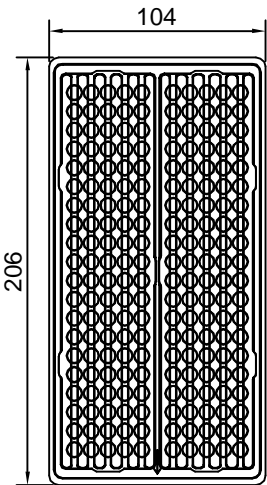
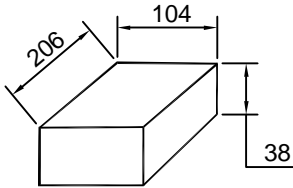
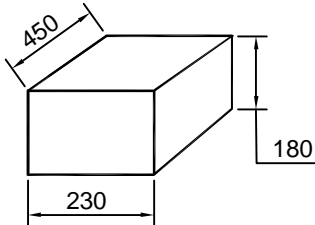
## 8 Reliability Test

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

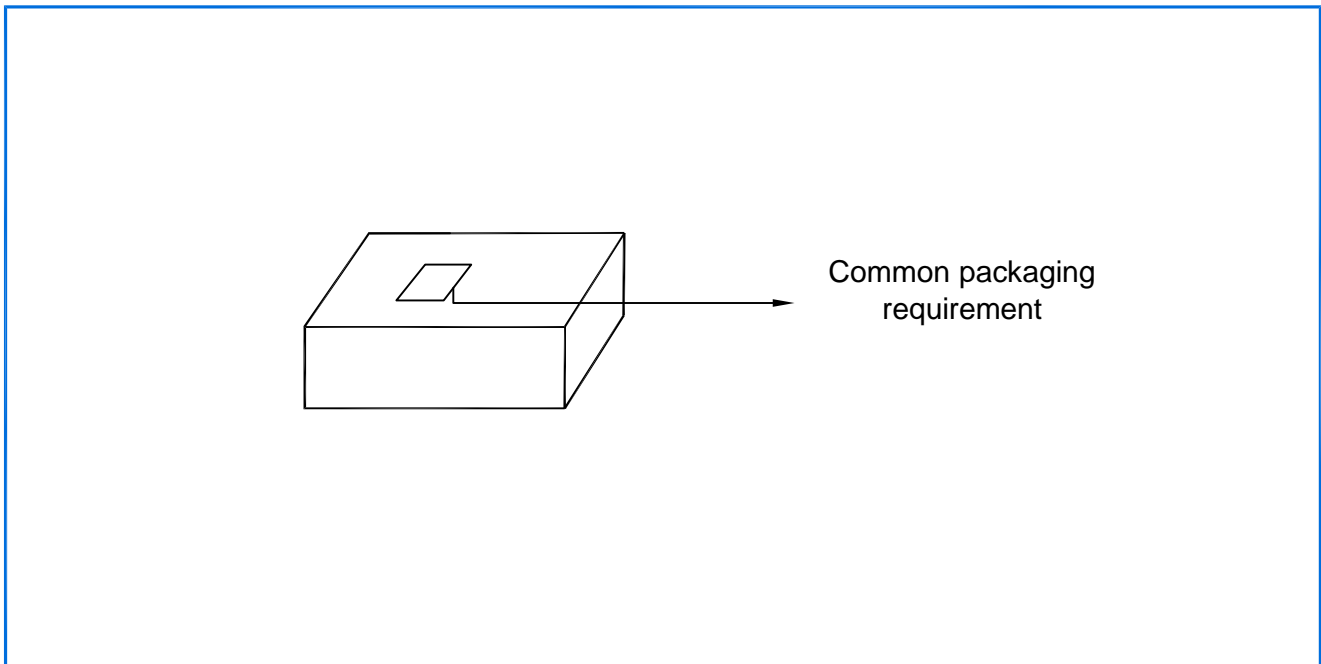


## 9 Packing

### 9.1 Packing Specification

	Drawing(Unit: mm)	Qty(pcs.)	Material	Marking
<b>Packing</b>		200	APET	\
<b>Middle Box</b>		5×200	Paper	\
<b>Outer Box</b>		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 :  $-25^{\circ}\text{C} \sim +70^{\circ}\text{C}$
- 10.4 Operating Temperature Range :  $-20^{\circ}\text{C} \sim +70^{\circ}\text{C}$

## 11 Output Inspection standard

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

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Microphones](#) category:*

*Click to view products by [Goertek](#) manufacturer:*

Other Similar products are found below :

[BCM4013OLFC-42-JST-ZHR-2](#) [FG-23329-P142](#) [SPM04C-38/1186-T/R](#) [BCM4013OSBC-42 LF](#) [B6027AP383-056](#) [BCM9745-44](#)  
[BCM9767P](#) [LD-MC-0905P](#) [LD-MC-6035](#) [LD-MC-9765](#) [EM-4015-BC](#) [EM-4530-C](#) [EM-6022S](#) [EM-6027](#) [EM-6050](#) [EM-9745](#) [CMC-4015-40P](#) [PMO-6022SN-42UQ](#) [PMOF-6027WN-44KDQ](#) [PMO-4015PN-42KDQ](#) [CMC-6027-42L100](#) [PMO-6027P-40KDQ](#) [PMOF-6050S-44UQ](#)  
[PMO-4530PN-47UQ](#) [PMO-4015MN-42HXQ](#) [CMC-6036-40T](#) [CMC-9745-44P](#) [PMOF-9767NP-46DQ](#) [PMOF-9745W-42UQ](#) [PMOF-9745P-39UQ](#) [CMC-6015-42P](#) [PMO-6022PN-48KDQ](#) [PMOF-9745S-42UQ](#) [PMOF-9767NS-40DQ](#) [PMOF-6027NSN-36KDQ](#) [AOM-5024L-HD-R](#)  
[ROM-2235P-HD-R](#) [CMC-9745-130T](#) [BJ-28471-000](#) [POM-2730L-HD-R](#) [TOM-1537L-HD-R](#) [ROM-2235L-HD-R](#) [DUM-4546L-C3310-R](#)  
[CMC-4015-130T](#) [CMC-6050-40T](#) [CMC-6015-47P](#) [EM-4530](#) [EM-6022](#) [EM-6022P](#) [EM-6050P](#)