# Specification For Approval

# 承 認 書

| | | | |
|---|---|---|---|
| 客　　戶 （Customer） | | | |
| 品　　名 （Product Name） | | | |
| 機　　種 （Model No.） | | | |
| 客戶料號 （Customer Parts No.） | | | |
| 供應商料號（Supplier Model No.） | PVMW4015B-RRAC383G-7FA | | |
| 客戶承認簽章<br>Customer Approval Signature | In Charge | Checked | Approval |
| | | | |

## Revision History

| Version | Date | Description | Author |
|---|---|---|---|
| V 00 | 2018.12.07 | creation | VIVIAN |
| | | | |
| | | | |
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**Design：*VIVIAN*** **Checked：*VIVIAN*** **Approval：*VIVIAN***

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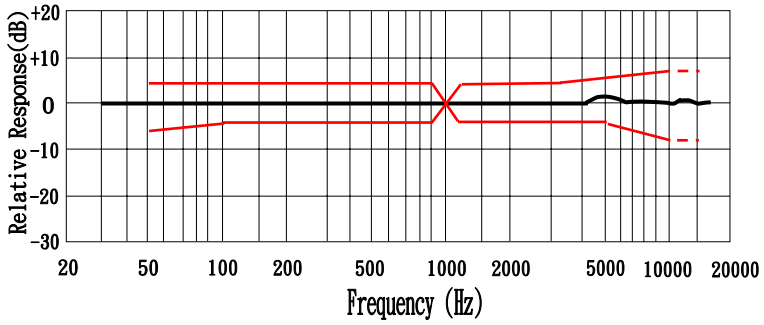
| | | | | | |
|---|---|---|---|---|---|
| 1. | Name： | Omni directional Back Electret Condenser Microphone | | | |
| 2. | Model No. | PVMW4015B-RRAC383G-7FA | C1=10NF | R1=330Ω | IP67 |

**3. Electrical characteristics** （Temp=20±2℃Room Humidity=65±5%）

| | Parameter | Symbol | Condition | Limits | | | Unit |
|---|---|---|---|---|---|---|---|
| | | | | Min. | Center | Max. | |
| 3.1 | Sensitivity | S | 0dB=1V/Pa，at 1kHz | -41 | -38 | -35 | dB |
| 3.2 | Output impedance | Z out | f=1kHz | | | 2.2 | KΩ |
| 3.3 | Current Consumption | $I_{DSS}$ | $V_{CC}$ =2.0V,$R_L$=2.2KΩ | | | 500 | μA |
| 3.4 | Signal to Noise Ratio | S/N | at 1kHz S.P.L=1Pa (A-Weighted Curve) | 58 | | | dB |
| 3.5 | Decreasing Voltage | △S | $V_{CC}$=3.0V to2.0V | | | -3 | dB |
| 3.6 | Operating Voltage | | | 1.0 | | 10 | V |
| 3.7 | Maximum input S.P.L | | | | | 110 | dB |
| 3.8 | Typical Frequency Response Curve | | | | | | |

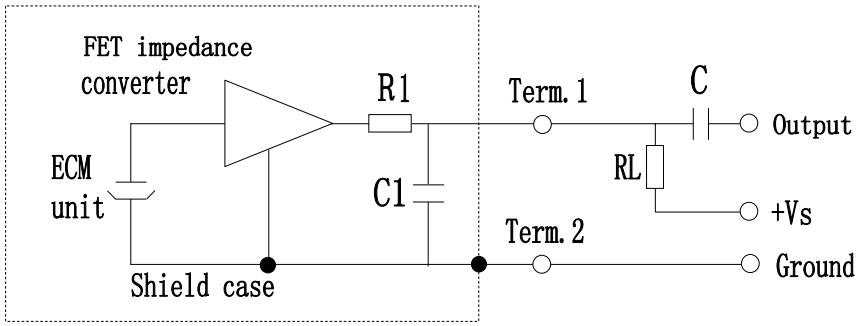
**Typical Frequency Response Curve**




Microphone Response Tolerance Window

| Frequency(Hz) | Lower Limit(dB) | Upper Limit(dB) |
|---|---|---|
| 50 | -6 | +3 |
| 100 | -3 | +3 |
| 200 | -3 | +3 |
| 1000 | 0 | 0 |
| 1200 | -3 | +3 |
| 3400 | -3 | +3 |
| 5000 | -3 | +8 |
| 10000 | -8 | +8 |

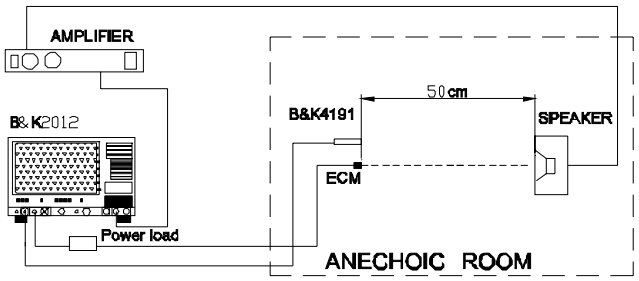
| | |
|---|---|
| 3.9 | Measurement Circuit |



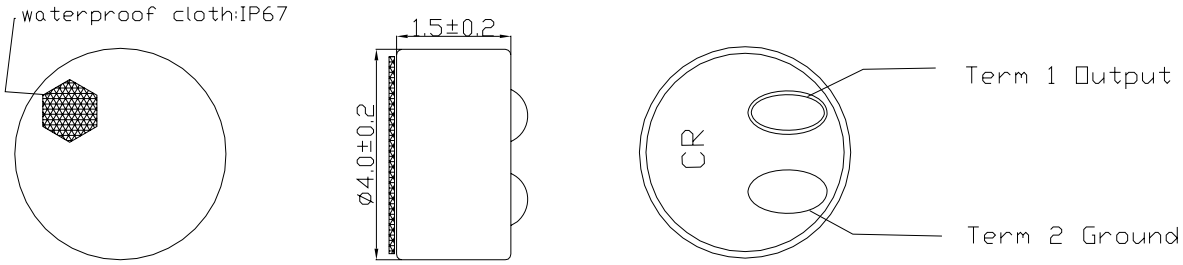

| |
|---|
| $R_L$=2.2KΩ |
| Vs =2.0V |
| C1=10NF |
| R1=330Ω |
| C=1μF |

**4. Test Setup Drawing**

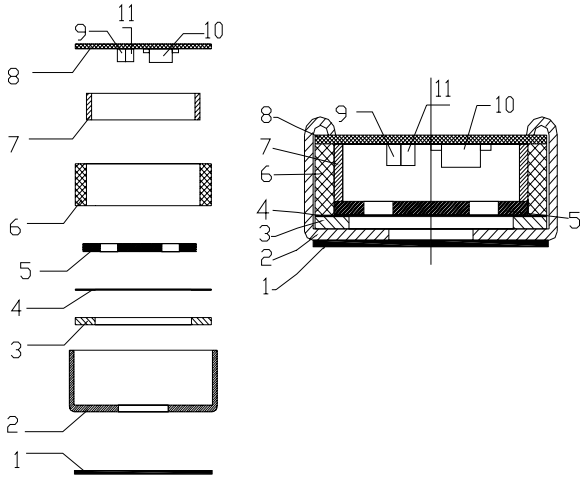
**L=50CM**




**5. Appearance And Dimension** **Unit：mm**




**6. Drawing**




| No. | Name | material | QTY | Remark |
|---|---|---|---|---|
| 11 | Resistance | | 1 | 330Ω |
| 10 | FET | | 1 | |
| 9 | CHIP CAPACITOR | | 2 | 10 NF |
| 8 | PCB | FR4 | 1 | FR-4 |
| 7 | Copper ring | | 1 | |
| 6 | Chamber | | 1 | |
| 5 | Electret Plate | | 1 | |
| 4 | Spacer | | 1 | |
| 3 | Diaphragm | | 1 | |
| 2 | Case | Al-Mg alloy | 1 | |
| 1 | Dustproof gauze | Waterproof cloth | 1 | IP67 |

**7. Temperature Conditions**

| Storage Temperature Range | Operation Temperature Range |
|---|---|
| -40℃ ~ +85℃ | -40℃ ~ +85℃ |

Note: Store in electronic warehouse.

**8. Terminal Mechanical Strength**

Terminal mechanical strength to be no interference in operation after pulled the terminal with 1kg strength for 1 minute.

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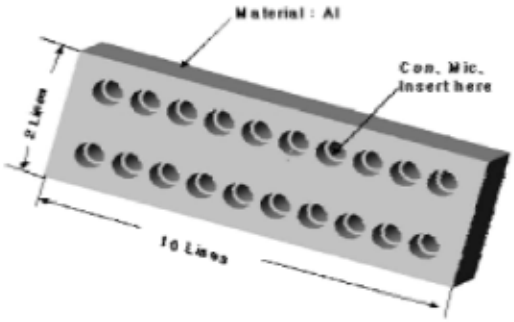
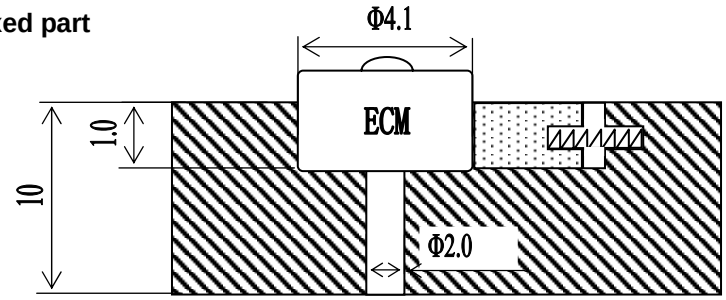
|---|---|
| **9.** | **Reliability Test**<br>After each of following test, the sensitivity of the microphone should be within ±3dB of initial sensitivity after 3hours of conditioning at 20℃.<br>1. Vibration Test<br>Frequency : 10Hz~55Hz<br>Amplitude : 1.52mm<br>Change of Frequency : 1 octave/min<br>2 hours in each of axes<br>2. High Temperature Test<br>+85℃ for 240 hours.<br>3. Low Temperature Test<br>–40℃ for 240 hours.<br>4. Humidity Test<br>90%～95%RH,+60℃ for 240 hours.<br>5. Thermal shocking test<br>–40°C, 30 minutes ↔ +80°C, 30 minutes, repeated 32 cycles → room temperature, 3 hours.<br>6.Temperature Cycles<br>-40℃ ⟷ +20℃ ⟷ +85℃ ⟷ +20℃ ⟷ -40℃<br>(2h) (0.5h) (2h) (0.1h) (2h) (0.5h) (2h) (0.5h) (2h) for 5 cycles.<br>7. Packing Drop Test<br>Height：1.5m Procedure: 5 times from each of axes<br>8. Electrostatic discharge<br>Tested to IEC61000-4-2 level 3：<br>a) Contact discharge<br>The microphone shall operate normally after 10 discharges to is 6KV DC and the discharge network is 150pF and 330Ω.<br>b) Air discharge<br>The microphone shall operate normally after 10 discharges to is 8KV DC and the discharge network is 150pF and 330Ω |
| **10.** | **Soldering Condition**<br>**1.** We suggest using anti-static welding machine which can control soldering temperature automatically.<br>**2.** Soldering temperature should be controlled under 320℃ and soldering time for each terminal should be 1~2 sec..<br>**3.** Microphone should be fixed on the metal block (heat sink), which has high radiation effects, and heat sink shall contact with MIC tightly.<br>**4.** Microphone may easily be destroyed by the static electricity and the countermeasure for eliminating the static electricity shall be executed (worktable and human body shall be ground connection). |

**10.** **5.** Heat Sink — Shape of heat sink




**Shape of hole at fixed part**




**11.**

**Packing Introduction**

**DIMENSION:(LENGTH*WIDTH *HEIGHT)**

2.1 Anti-Static Bag:

100mm*100mm*2mm

a) SMALL PACKET

100mm*100 mm*10mm

2.3 MIDDLE BOX:

205mm*105mm*50mm

2.4 CARTON SIZE:

550mm*230mm*235mm

**QUANTITY AND WEIGHT**

3.1 100PCS/SMALL BOX

3.2 1000PCS/MID BOX

3.3 20000PCS/CARTON

3.4 1PC=0.18g

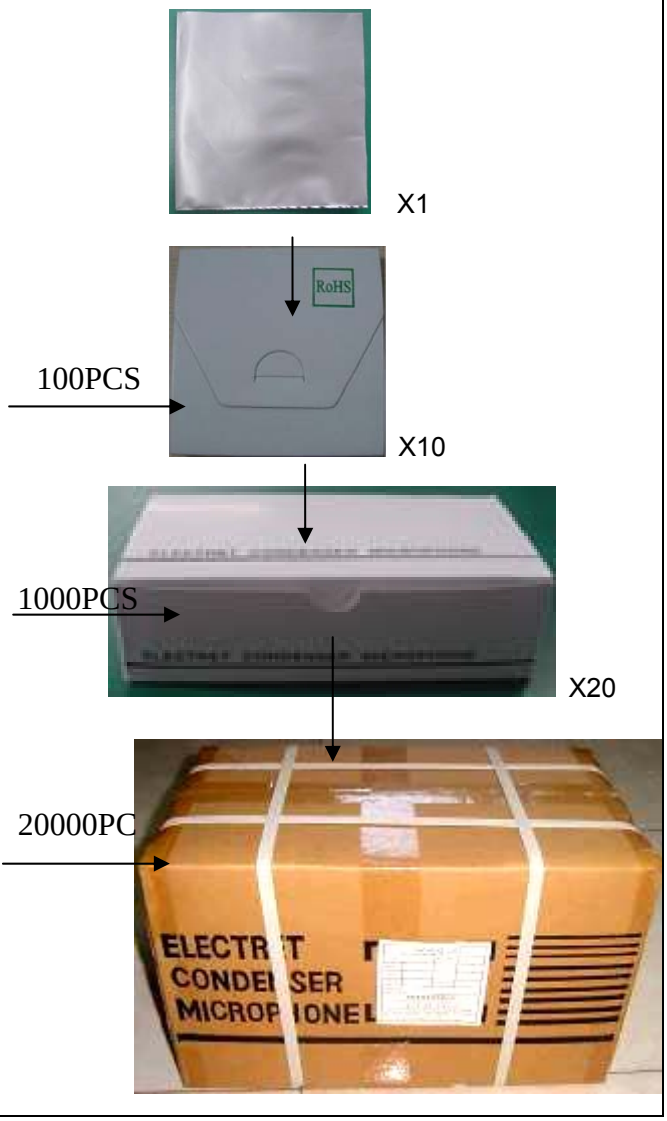
3.5 NET WEIGHT：3.6kg

3.6 GROSS WEIGHT：6.6kg

**LABEL STIPULATION**

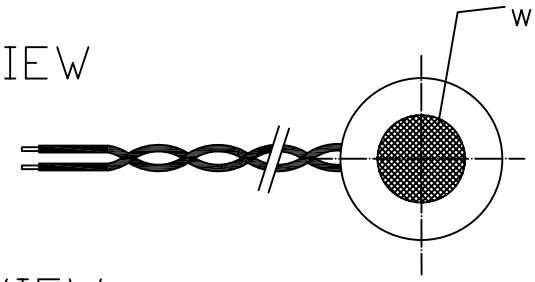
4.1 CONTENTS SHOULD BE SEEN CLEAR.

**Packing chart**

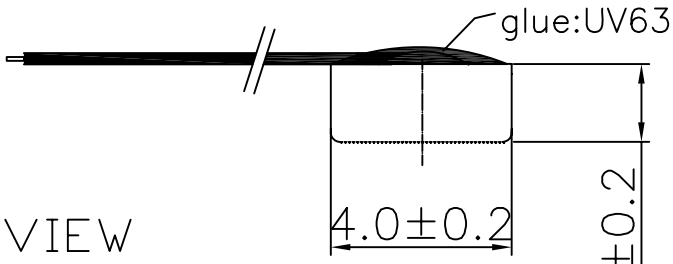


不准使用鉍利
電子禁止使用的
環境管理物質

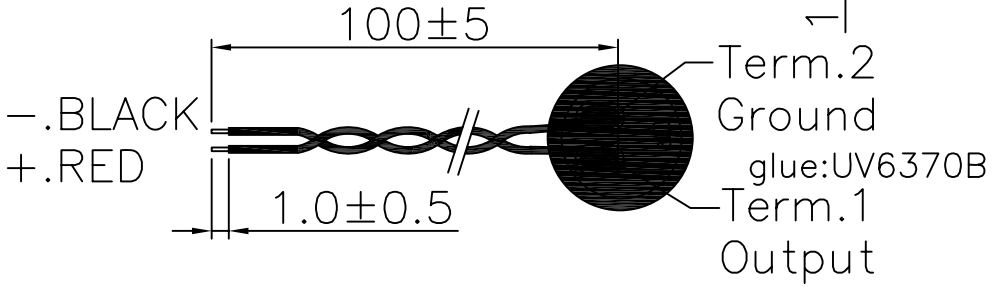
TOP VIEW




SIDE VIEW




BOTTOM VIEW




Wire:UL3302 AWG 32#

| RANGE \ TOL | | | V | |
|---|---|---|---|---|
| 0–8 | ±0.05 | ±0.10 | ±0.20 | ±0.30 |
| 8–16 | ±0.10 | ±0.15 | ±0.25 | ±0.40 |
| 16–24 | ±0.15 | ±0.20 | ±0.30 | ±0.50 |
| 24–50 | ±0.20 | ±0.25 | ±0.40 | ±1.0 |
| 50–100 | ±0.25 | ±0.30 | ±0.50 | ±2 |
| >100 | ±0.40 | ±0.40 | ±0.80 | ±3 |

▲ : critical to function dimension

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| | | |
| V 00 | 18.12.07 | |
| VERSION | DATE | DESCRIPTION |

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|---|---|---|---|
| Unit: mm | Scale: | Appr.: VIVIAN | |
| Tol.: | | CHK.: VIVIAN | Dwg.: VIVIAN |