

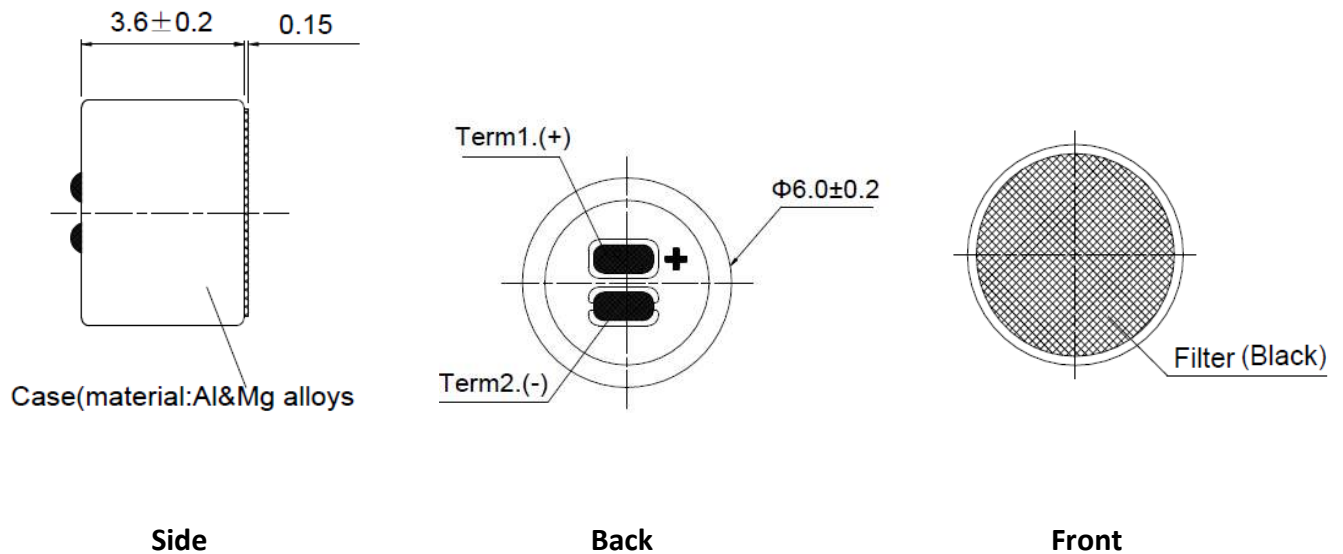
# Specification

## Part Number: TM141037

**Description: Omni-Directional Electret Condenser Microphone**

**(Size: 6.0mm x 3.6mm)**

**RoHS Compliant**



| Revision | Date          | Comments        |
|----------|---------------|-----------------|
| A        | June 21, 2017 | Initial Release |

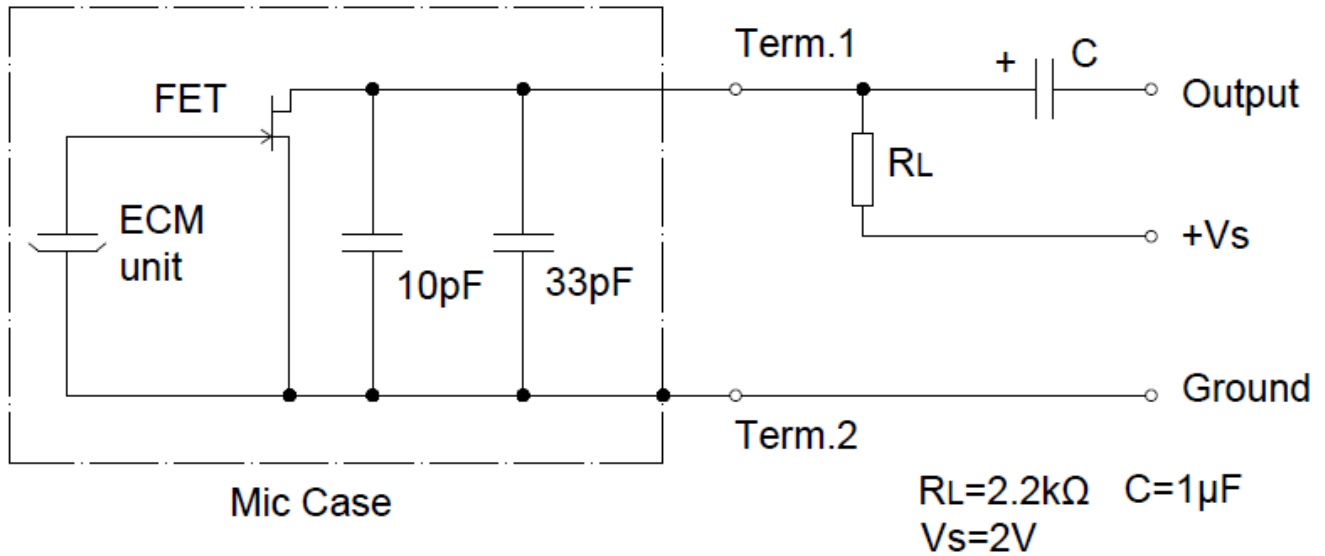
## 1. ELECTRICAL SPECIFICATIONS

| Standard Conditions |              | Basic Test Conditions |              |
|---------------------|--------------|-----------------------|--------------|
| Temperature         | 5 to 35°C    | Temperature           | 20 ± 2°C     |
| Humidity            | 45 to 85%    | Humidity              | 63 to 67%    |
| Air Pressure        | 86 to 106kPa | Air Pressure          | 86 to 106kPa |

| Parameter   | SPEC                    | Unit   |
|---|-------------------------|--|
| Directional Characteristic                          | Omnii-Directional       | dB   |
| Sensitivity   | -38±3                   | dB   |
| Impedance   | 2.2(Max)                | kΩ   |
| S/N Ratio (A weighted network)                      | 60(Min)                 | dB   |
| Maximum Input Sound Pressure Level                  | 120                     | dB   |
| Standard Operating Voltage                          | 2.0                     | Vdc  |
| Operating Voltage Range                             | 1.0~10                  | Vdc  |
| Decrease Voltage Characteristics(Vs=2.0 to 1.5V dc) | -3(Max)                 | dB   |
| Current Consumption                                 | 500(Max)                | μA   |
| Standard Test Circuit                               | See Fig. 1              | —  |
| Frequency Response Characteristic                   | See Fig. 2              | —  |
| Memo  | Standard test condition | RL=2.2kΩ, Vs=2.0V dc<br>(@f=1kHz, Pin=1Pa, 0dB=1V/pa,<br>L=50cm) |

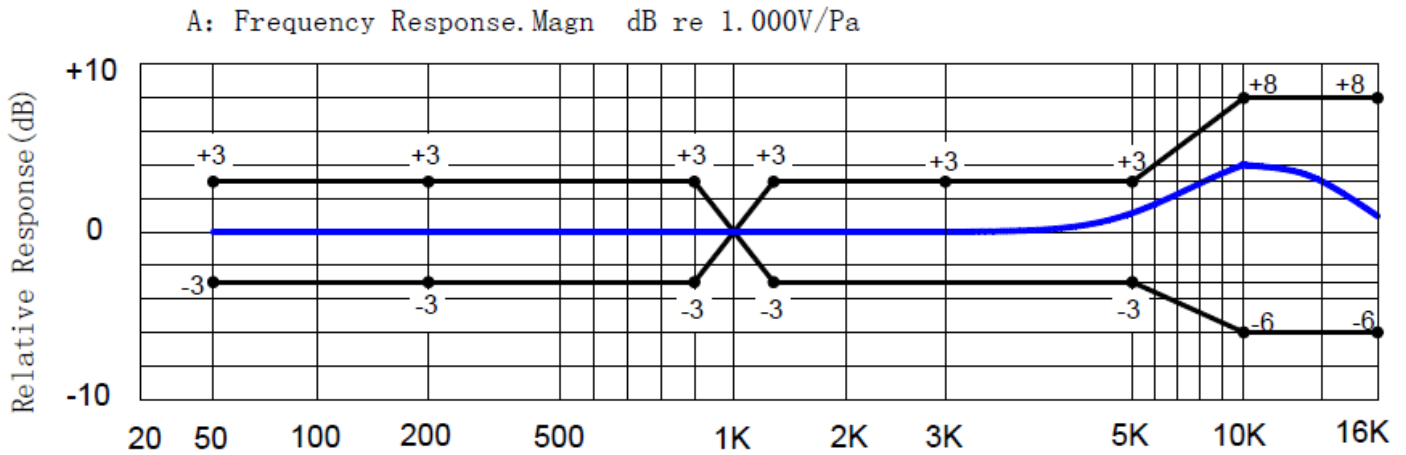
## 2. STANDARD TEST CIRCUIT

Fig.1



## 3. TYPICAL FREQUENCY RESPONSE IN ANECHOIC CHAMBER

Fig.2



#### 4. RELIABILITY

| Item |                       | Test conditions   | Evaluation standard  |
|------|-----------------------|---|--|
| 1    | Hi-Temp.Test          | The microphone unit must be subjected to +80°C for 100 hours and exposed to room temperature for 3 hours.   | After any of the tests, the sensitivity of the microphone unit shall not change more than $\pm 3$ dB from initial value and shall keep its initial operation and appearance. |
| 2    | Low-Temp.Test         | The microphone unit must be subjected to -40°C for 100 hours and exposed to room temperature for 3 hours.   |  |
| 3    | Humidity &Heat Test   | The microphone unit must be subjected to +50°C, 90% RH-for 200 hours and exposed to room temp for 3 hours.  |  |
| 4    | Thermal Shock Test    | The microphone unit must be subjected to following condition [+80°C 0.5H → room temp 1H→ -40°C 0.5H →room temp 1H]at 10cycle.   |  |
| 5    | Vibration Test        | The microphone unit must be subjected to a procedure that it is vibrating for two hours from each of the three directions(x y z) with a frequency of 10-55Hz and a 1.52mm-high amplitude. |  |
| 6    | Drop Test             | The microphone unit must be subjected to a procedure that it is dropped on a slippery marble floor for 5 times from a 1.0-meter-height without package.                                   |  |
| 7    | Storage Temperature   | -35°C~+70°C R.H .less than 90%  |  |
| 8    | Operating Temperature | -35°C~+70°C R.H. less than 90%  |  |
| 9    | ESD Protection        | The test microphone must be discharged between each ESD exposure without ground(contact:±6KV,air:±8KV)  |  |

#### NOTES:

All the soldering procedures upon microphones must be completed in a heat sink device. The temperature of the soldering iron must be limited to 340°C±20°C and the soldering time should not exceed 3 seconds.

Operators, the soldering fixture and the soldering iron must be statically grounded under each soldering process.