

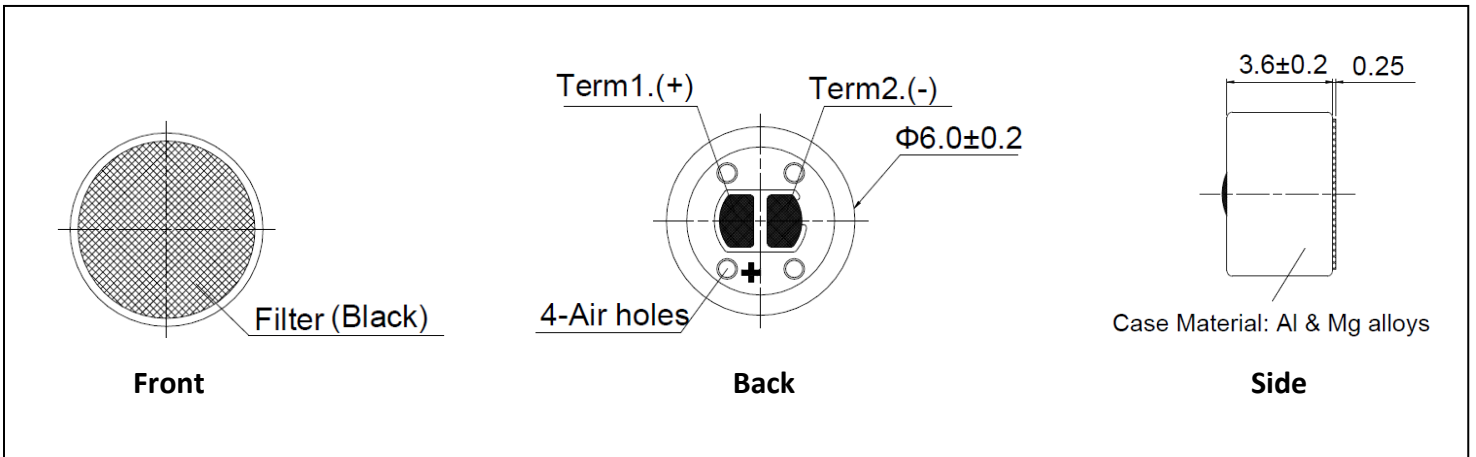
# Specification

## Part Number: TM141066

**Description: Uni-Directional (cardioid) Electret Condenser Microphone**

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

**RoHS Compliant**



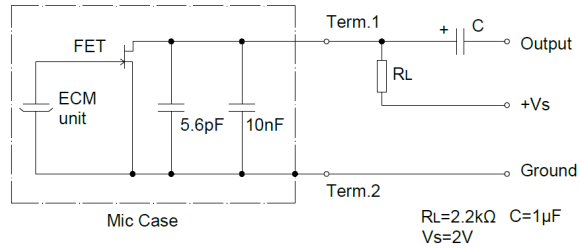
| Revision | Date          | Comments        |
|----------|---------------|-----------------|
| A        | March 9, 2023 | Initial Release |

## 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 |

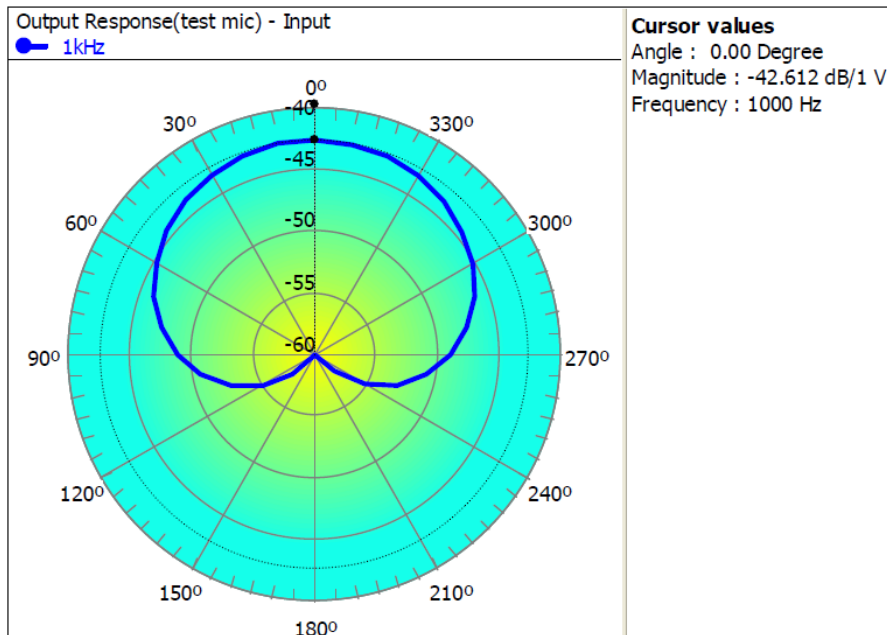
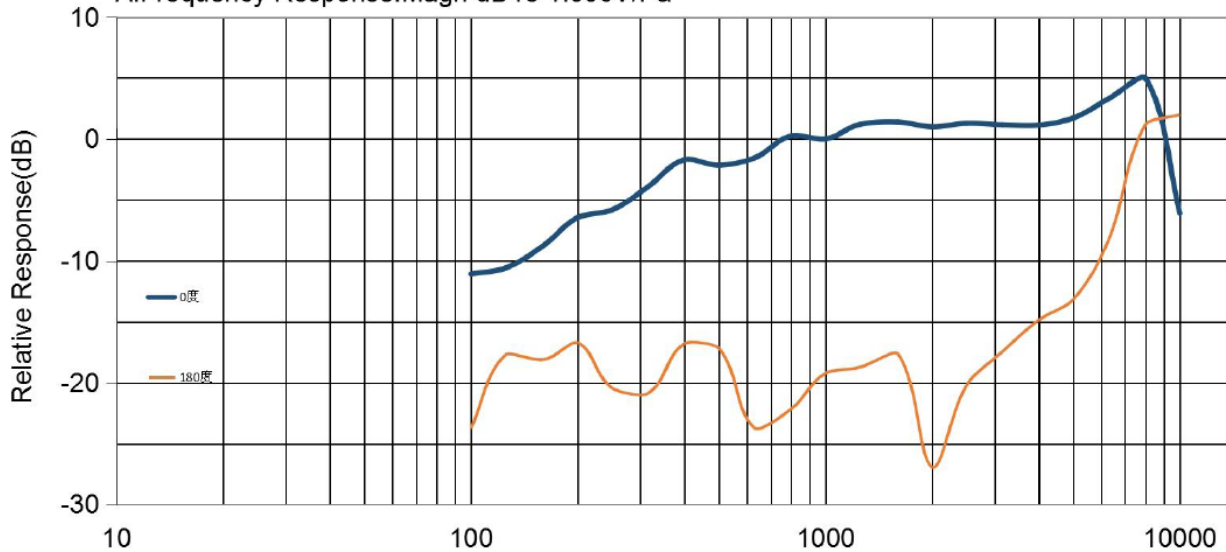
| Parameter  | SPEC                    | Unit  |
|--|-------------------------|---|
| Directional Characteristic                           | Uni-Directional         | dB  |
| Sensitivity  | -42±2                   | dB  |
| Impedance  | 2.2 (Max)               | kΩ  |
| S/N Ratio (A weighted network)                       | 58 (Typ)                | dB  |
| Maximum Input Sound Pressure Level                   | 110<br>THD≤3%           | dB  |
| Standard Operating Voltage                           | 2.0                     | Vdc   |
| Operating Voltage Range                              | 1.0~10.0                | 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=2V dc<br>(@f=1kHz, Pin=1Pa, 0dB=1V/pa,<br>L=50cm) |

## 2. STANDARD TEST CIRCUIT



## 3. TYPICAL FREQUENCY RESPONSE IN ANECHOIC CHAMBER

A: Frequency Response Magn dB re 1.000V/Pa



#### 4. RELIABILITY

| Item |                       | Test conditions   | Evaluation standard  |
|------|-----------------------|---|--|
| 1    | Hi-Temp.Test          | The microphone unit must be subjected to +85°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 +55°C, 85% RH-for 100 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 10 cycles.   |  |
| 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 each axis for a total of 5 times from a 1.0-meter-height without packaging. |  |
| 7    | Storage Temperature   | -35°C~+60°C R.H .less than 90%  |  |
| 8    | Operating Temperature | -35°C~+60°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 360°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.