

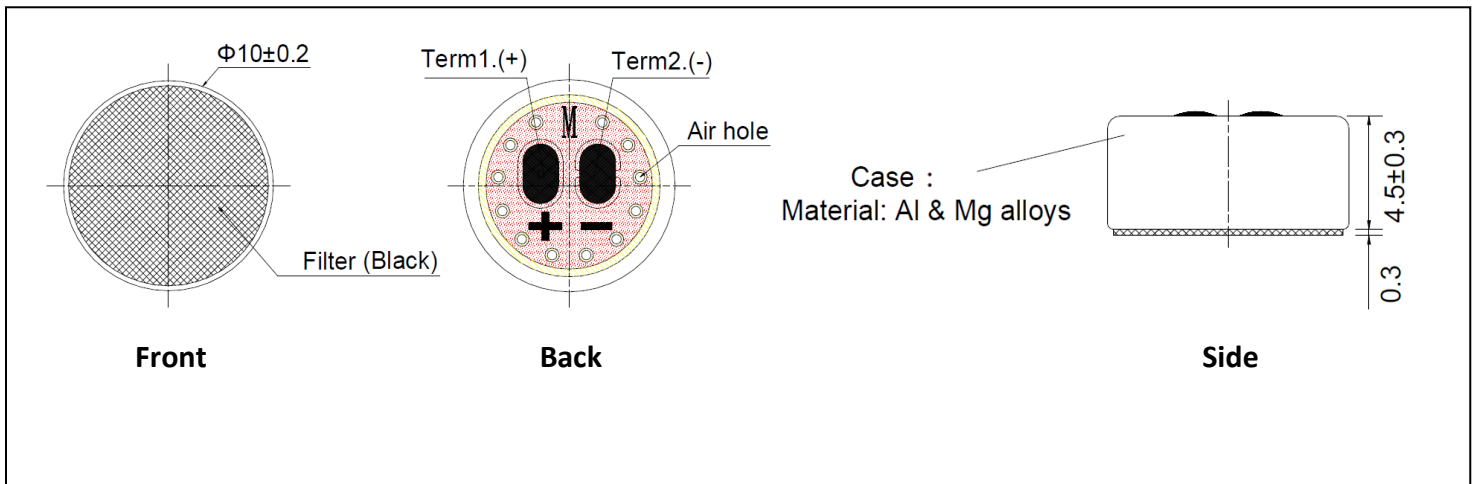
Specification

Part Number: TM141058

Description: Uni-Directional (Supercardioid) Electret Condenser Microphone

(Size: 10mm x 4.5mm)

RoHS Compliant



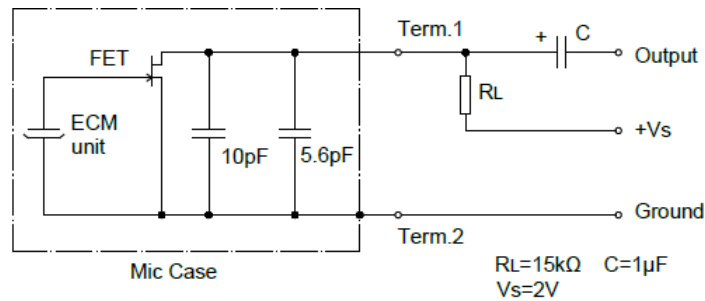
| Revision | Date | Comments |
|----------|-------------------|-----------------|
| A | February 28, 2023 | Initial Release |

1. ELECTRICAL SPECIFICATIONS

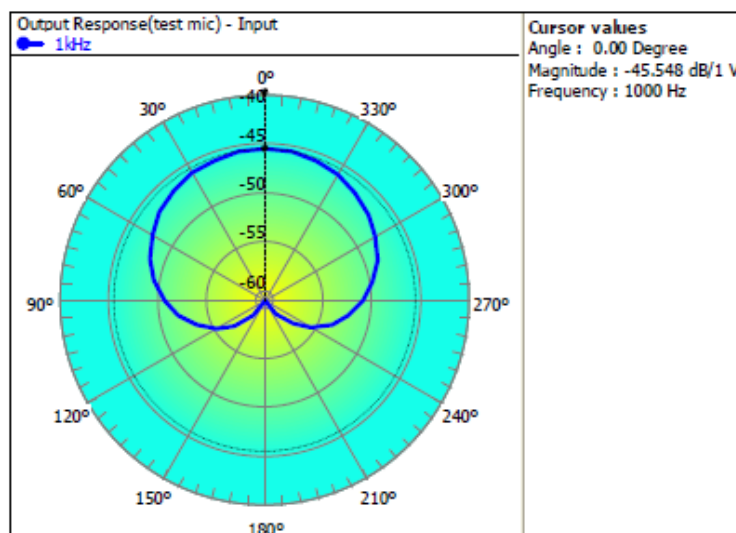
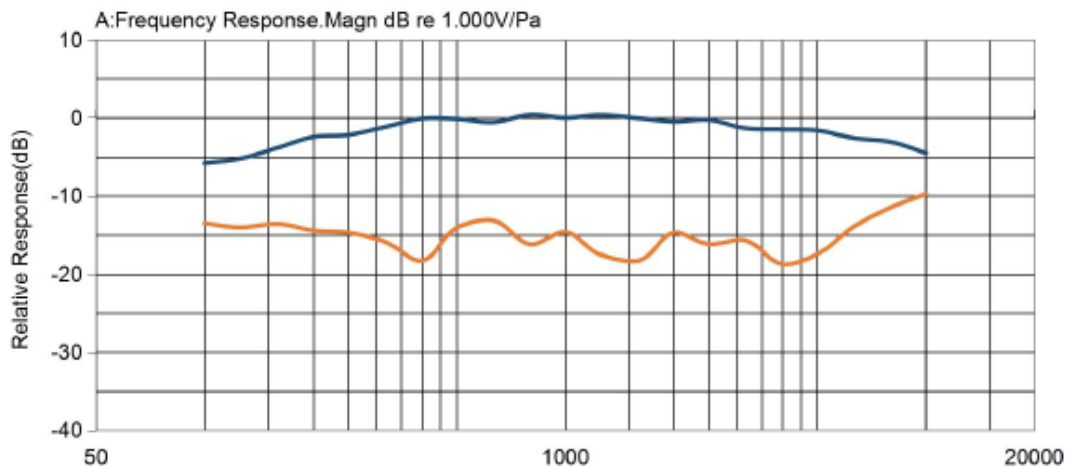
| Standard Conditions | | Basic Test Conditions | |
|---------------------|--------------|-----------------------|--------------|
| Temperature | 5 to 35°C | Temperature | 20 ± 2°C |
| Humidity | 45 to 85% | Humidity | 63 to 67% |
| Air Pressure | 86 to 106kPa | Air Pressure | 86 to 106kPa |

| Parameter | SPEC | Unit |
|---|-------------------------|--|
| Directional Characteristic | Uni-directional | dB |
| Sensitivity | -44±3 | dB |
| Impedance | 2 (Max) | kΩ |
| S/N Ratio (A weighted network) | 68 (Typ) | dB |
| Maximum Input Sound Pressure Level | 120 THD≤1% | 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 | 200 (Max) | μA |
| Standard Test Circuit | See Fig. 1 | — |
| Frequency Response Characteristic | See Fig. 2 | — |
| Memo | Standard test condition | RL= 15kΩ, Vs=2.0V dc (@f=1kHz, Pin=1Pa, 0dB=1V/pa, L=50cm) |

2. STANDARD TEST CIRCUIT



3. TYPICAL FREQUENCY RESPONSE IN ANECHOIC CHAMBER



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 ± 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.