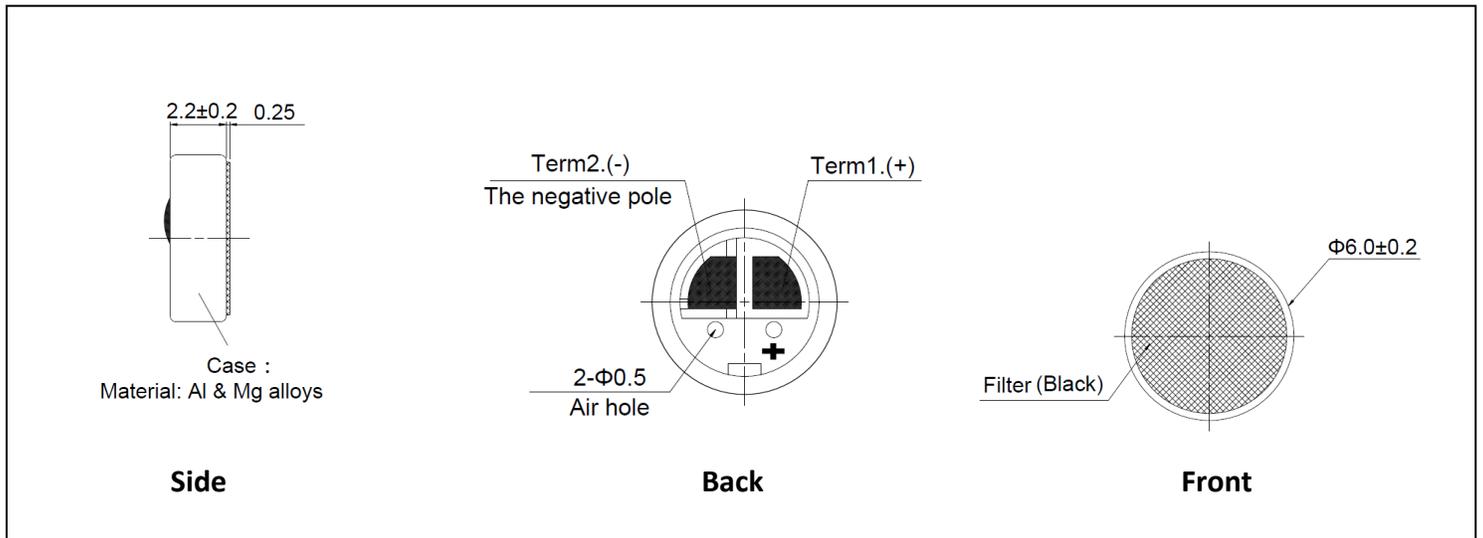


# Specification

## Part Number: TM141042

**Description: Bi-Directional (Noise Cancelling) Electret Condenser Microphone**  
**(Size 6.0mm x 2.2mm)**  
**RoHS Compliant**



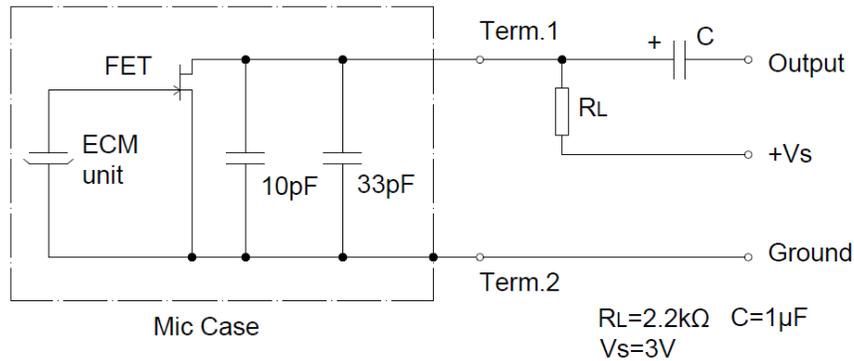
Revision	Date	Comments
A	April, 24, 2018	Initial Release

## 1. ELECTRICAL SPECIFICATIONS

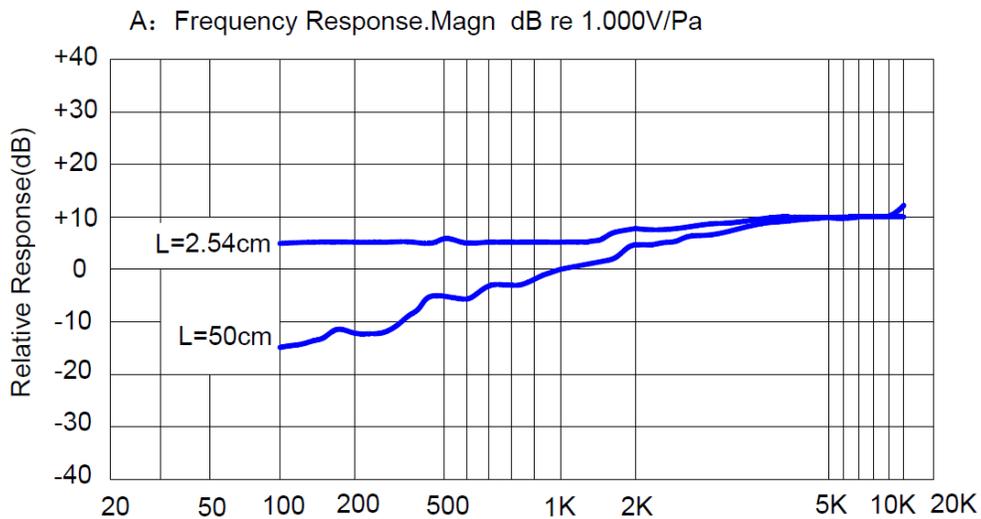
Standard Conditions		Basic Test Conditions	
Temperature	5 to 35°C	Temperature	20 ± 2°C
Humidity	45 to 85%	Humidity	63 to 67%
Air Pressure	86 to 106kPa	Air Pressure	86 to 106kPa

Parameter	SPEC	Unit
Directional Characteristic	Noise Cancelling	—
Sensitivity	-45±2	dB
Impedance	12.21(Max)	kΩ
S/N Ratio (A weighted network)	55(Min)	dB
Maximum Input Sound Pressure Level	110 THD≤3%	dB
Standard Operating Voltage	3.0	Vdc
Operating Voltage Range	1.0~10	Vdc
Decrease Voltage Characteristics (Vs=2.0 to 1.5V dc)	-3(Max)	dB
Current Consumption	210-350	μA
Standard Test Circuit	See Fig. 1	—
Frequency Response Characteristic	See Fig. 2	—
Memo	Standard test condition	RL=2.2kΩ, Vs=3 .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 +80°C for 100 hours and exposed to room temperature for 3 hours.	<p>After any of the tests, the sensitivity of the microphone unit shall not change more than <math>\pm 3</math>dB from initial value and shall keep its initial operation and appearance.</p>
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 and exposed to room temp for 3 hours	
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	-30°C~+60°C	
8	Operating Temperature	30°C~+60°C	

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±10°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.