

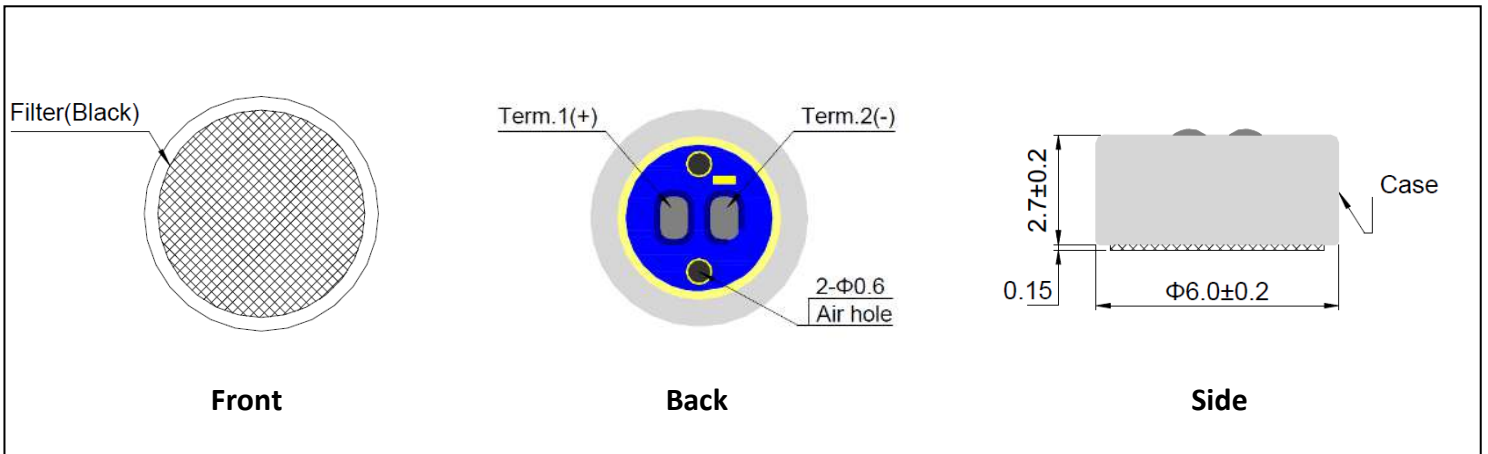
Specification

Part Number: TM141050

Description: RF Immune Supercardioid Electret Condenser Microphone (Size: 6.0mm x 2.7mm)

Ideal for situations where the user is farther from the microphone than one half meter and where a narrower angle of acceptance – the angle over which the sensitivity is not more than 3dB less than maximum – and good SNR are needed. Situations such as conference phones or robotic devices or multiple microphones arrays are some of the candidates for use of this microphone.

RoHS Compliant



Revision	Date	Comments
A	11/7/2021	Initial Release

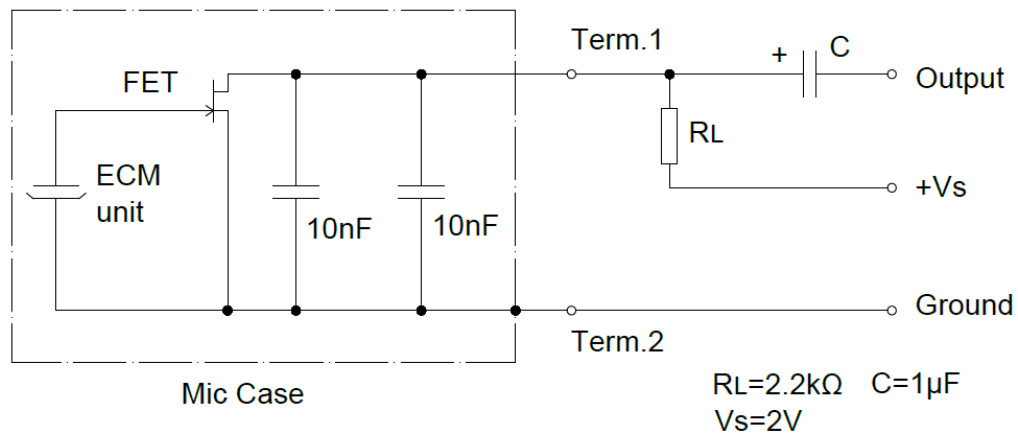
1. ELECTRICAL SPECIFICATIONS

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

Parameter	SPEC	Unit
Directional	Supercardioid	dB
Sensitivity	-42±2	dB
Impedance	2.2(Max)	kΩ
S/N Ratio (A weighted network)	58(Min)	dB
Maximum Input Sound Pressure Level	100	dB
Standard Operating Voltage	2.0	Vdc
Operating Voltage Range	1.0~10	Vdc
Decrease Voltage Characteristics(Vs=3 to 2V 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 (@f=1kHz, Pin=1Pa, 0dB=1V/pa, L=50cm)

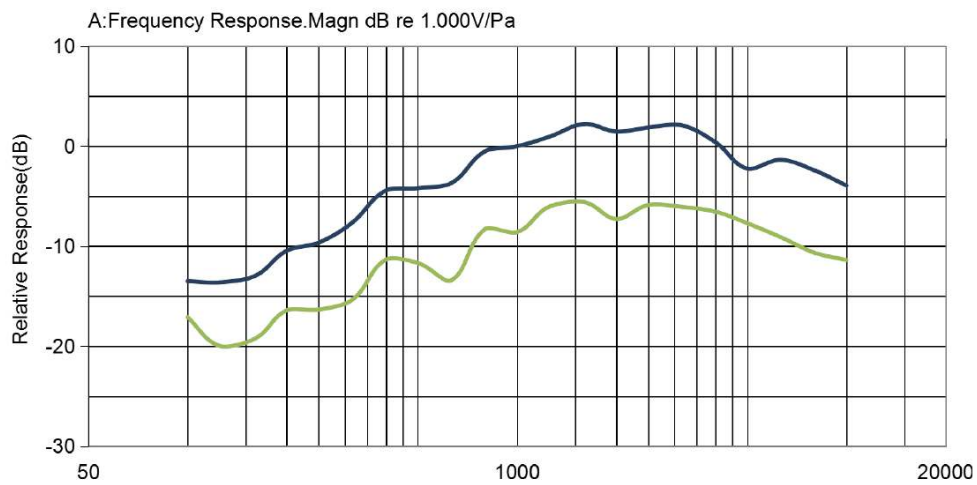
2. STANDARD TEST CIRCUIT

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 $\pm 3\text{dB}$ 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, 90% RH-for 100 Hours and exposed to room temp for 3 Hours.	
4	Thermal Shocking Test	The microphone unit must be subjected to following condition [+80°C 0.5H \rightarrow room temp 1H \rightarrow -40°C 0.5H \rightarrow 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 two directions(x y) 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 15 times from a 1.0-meter-height without package.	
7	Storage Temperature	-30°C~+60°C	
8	Operating Temperature	-30°C~+60°C	
9	ESD Protection	The test microphone must be discharged between each ESD exposure without ground(contact : $\pm 6\text{KV}$,air: $\pm 8\text{KV}$)	

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 $360^{\circ}\text{C}\pm 20^{\circ}\text{C}$ 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.