

Specification

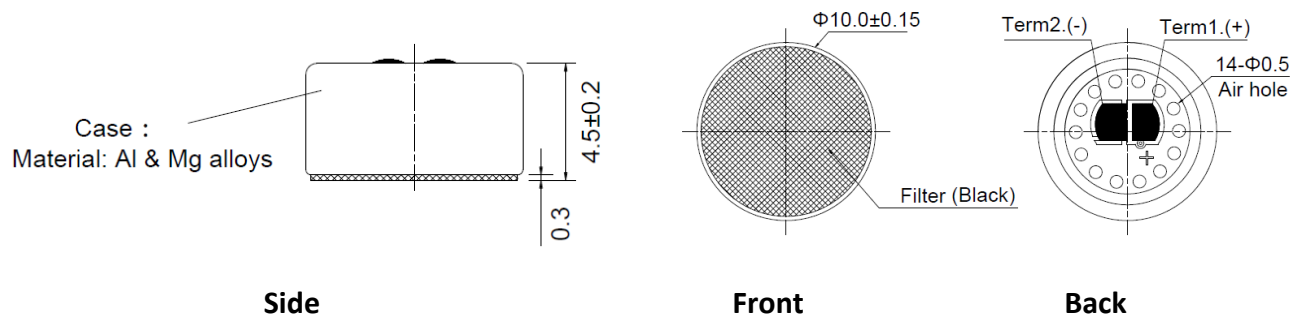
Part Number: TM141029

Description: Uni-Directional (Cardioid) RF Immune Electret Condenser Microphone

(Size: 10.0mm x 4.5mm)

A wideband EMI noise suppression circuit is built into the microphone element
and stops spurious RF energy from 100MHz to 4GHz.

RoHS Compliant



Revision	Date	Comments
A	March 1, 2017	Initial Release

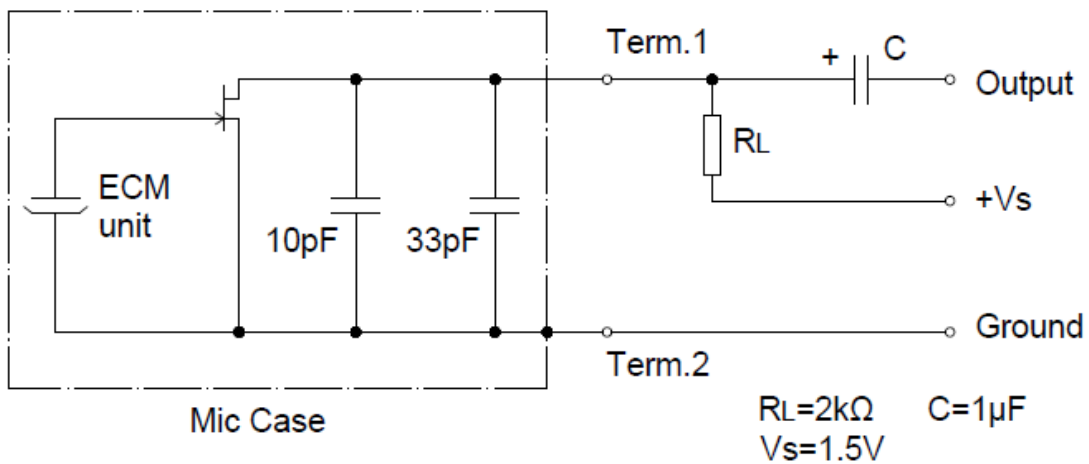
1. ELECTRICAL SPECIFICATIONS

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

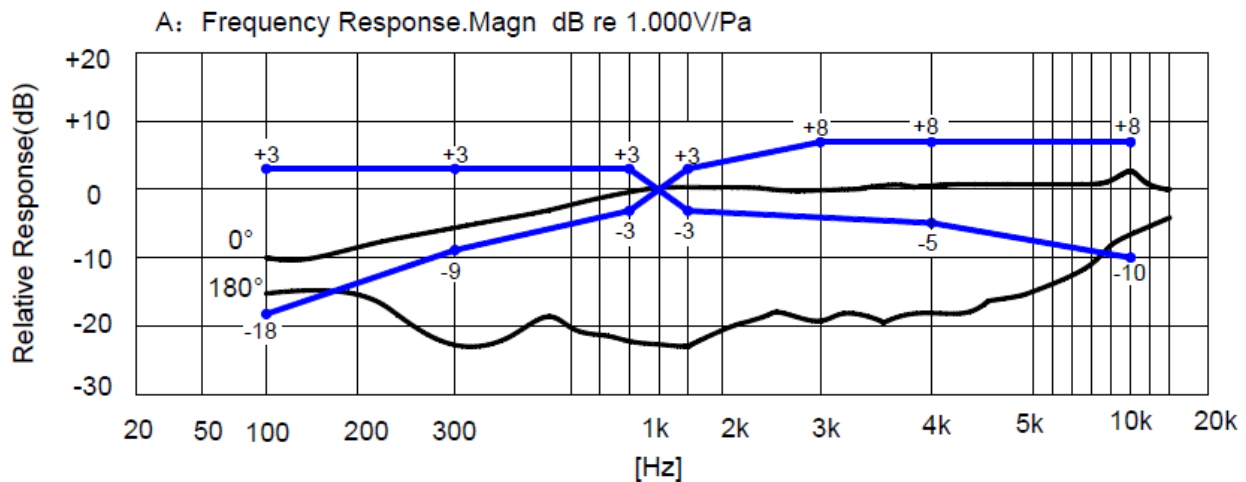
Parameter	SPEC	Unit
Directional Characteristic	Uni-directional	dB
Sensitivity Difference between 0°-180°±45°	500Hz to 4000Hz > 12dB	dB
Sensitivity	-35±3	dB
Impedance	2(Max)	kΩ
S/N Ratio (A weighted network)	67(Min) Typical 70	dB
Maximum Input Sound Pressure Level	115 THD≤4%	dB
Standard Operating Voltage	1.5	Vdc
Operating Voltage Range	1.0~10	Vdc
Decrease Voltage Characteristics(Vs=1.5 to 1.0V dc)	-3(Max)	dB
Current Consumption	400	μA
Standard Test Circuit	See Fig. 1	—
Frequency Response Characteristic	See Fig. 2	—

Memo	Standard test condition	$R_L=2.2k\Omega$, $V_s=1.5V$ dc (@ $f=1kHz$, $P_{in}=1Pa$, $0dB=1V/pa$, $L=50cm$)
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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 240 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 $\pm 3\text{dB}$ 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 240 hours and exposed to room temperature for 3 hours.	
3	Humidity &Heat Test	The microphone unit must be subjected to +70°C, 93% RH-for 240 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 32cycle.	
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 fora total of 15 times from a 1.0-meter-height without package.	
7	Storage Temperature	-40°C~+70°C R.H .less than 90%	
8	Operating Temperature	-40°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 $360^{\circ}\text{C}\pm 20^{\circ}\text{C}$ 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.