

Microphone

Omnidirectional



General Characteristics

Out-Diameter	: 9.7mm
Height	: 4.5mm
Weight	: ≤1g
Operating Temperature Range	: -20°C to +70°C (without loss of function)
Store Temperature Range	: -20°C to +70°C (without loss of function)

**RoHS
Compliant**

Electrical and Acoustic Characteristics

Test condition : 15°C ~ 35°C, 45 ~ 85%RH, 860 ~ 1060mbar

Items	Symbol	Specification	Condition
Directivity	-	Omni-directional	-
Sensitivity	S	-40dB ±3dB	0dB=1V/Pa, 1kHz
Standard Operation Voltage	Vs	4.5V DC	-
Output Impedance	Zout	2.2kΩ	f=1kHz, 1Pa
Max. Operating Voltage		10V DC	-
Sensitivity Reduction	ΔS-Vs	-3dB	f=1kHz, 1Pa Vs = 4.5 - 3V.D.C
Frequency	f	100-16,000 Hz	-
Max. Current Consumption	IDss	0.5mA	Vs = 4.5V, RL = 2.2kΩ
Signal to Noise Ration	S/N	60dBA	f=1kHz, 1Pa A weighted
Material	-	AL	-

Mechanical Characteristics

Item	Test Condition	Evaluation Standard
Vibration	To be no interference in operation after vibrations. 10Hz to 50Hz for 1 minrte full amplitude 1.52mm, for 2 hours at three axes	After any tests,the sensitivity to be within ±3dB
Drop Test	To be no interference in operation after dropped to concrete floor each one time from 1 meter height at three directions in state of packing	

Environmental test

Item	Test Condition	Evaluation Standard
High temperature Test	After being placed in a chamber at +70±2°C for 96 hours.	After any tests,the sensitivity to be within ±3dB of initial sensitivity after 3H of conditioning at +25°C
Low temperature Test	After being placed in a chamber at -20±2°C for 96 hours.	
Humidity Test	After being placed in a chamber at +40°C and 90-95 relative humidity for 96 hours.	

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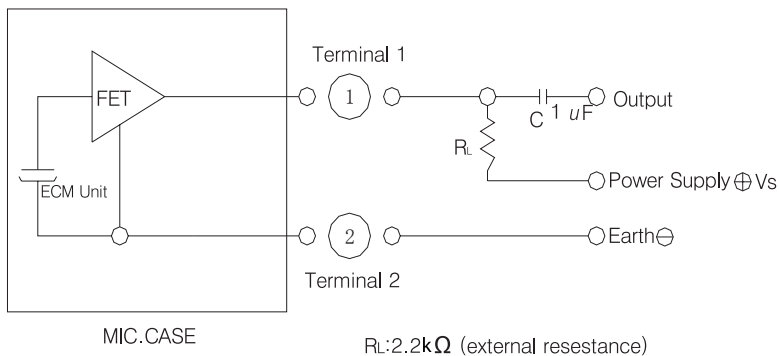
Item	Test Condition	Evaluation Standard
Temperature Impact Test	After being placed in a chamber at $-20\pm 3^{\circ}\text{C}$ for 30 minutes, and then $70\pm 3^{\circ}\text{C}$ for 30 minutes, each 10 times.	After any tests, the sensitivity to be within $\pm 3\text{dB}$ of initial sensitivity after 3H of conditioning at $+25^{\circ}\text{C}$
Temperature Cycles Test	After being placed in a chamber at $-20\pm 2^{\circ}\text{C}$ for 2H, temperature rises from $-20\pm 2^{\circ}\text{C}$ to 25°C gradually, it takes 1 hour. Then being placed in a chamber at 25°C for 2H, temperature rises from 25°C to $70\pm 2^{\circ}\text{C}$ gradually, it takes 1 hour, then being placed in a chamber at $70\pm 2^{\circ}\text{C}$ for 2H, the temperature rises from $70\pm 2^{\circ}\text{C}$ to 25°C gradually, it takes 1 hour. Then being placed in a chamber at 25°C for 2H, the temperature rises from $25\pm 2^{\circ}\text{C}$ to -20°C gradually. Above cycles times.	

Standard Test Condition : a) Temperature: $+15 \sim +35^{\circ}\text{C}$ b) Humidity: 45 ~ 75% c) Pressure: 86 ~ 106kPa

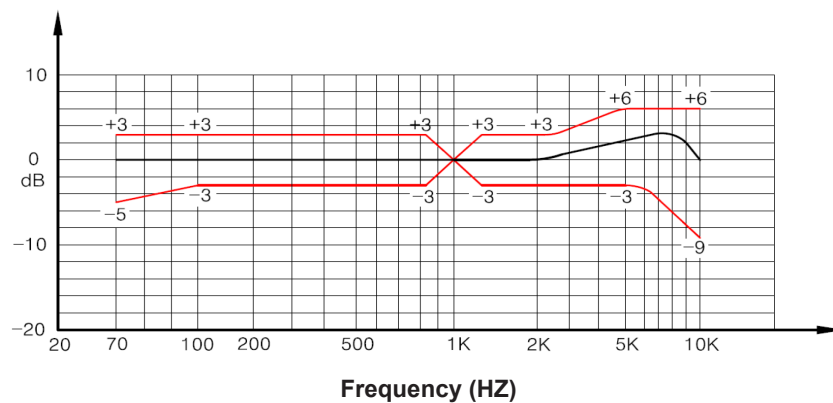
Judgement Test Condition : a) Temperature: $(20\pm 2)^{\circ}\text{C}$ b) Humidity: 60 ~ 70% c) Pressure: 86 ~ 106kPa

Measurement Block Diagram

Schematic Diagram $V_s = 4.5\text{V}$; $R_1 = 2.2\text{k}\Omega$



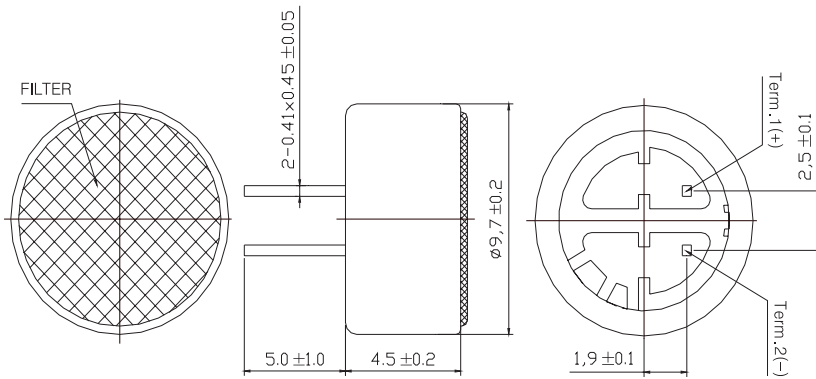
Response curve



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Dimensions



Dimensions : Millimetres

Tolerance : ± 0.2 mm

Part Number Table

Description	Part Number
Microphone, Omnidirectional, 100Hz to 16kHz, 2V to 10V, -40 dB	MCKPCM-97H45P-40DB-4808

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