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**CUSTOMER : Digi-Key Corporation**

## APPROVAL SHEET

PRODUCT NAME	PART NUMBER	DIMENSION	REMARK
Electret Condenser Microphone	EM9765P-42	$\phi 9.7 \times 6.5$ (mm)	Pin Type

APPROVED BY	CHECKED BY	ISSUED BY

APPROVED BY

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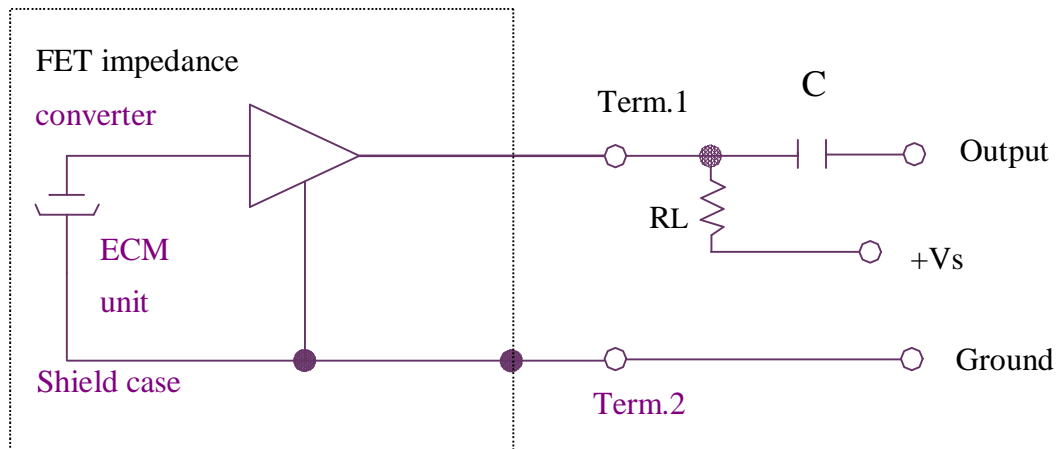
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## SPECIFICATION

Item	Symbol	Test conditions	Min	Standard	Max	Unit
Sensitivity	S	f=1KHz. P <sub>in</sub> =1Pa	-44	-42	-40	dB 0dB=1V/Pa
Directivity	Omnidirectional					
Impedance	Z <sub>out</sub>				2.2	K Ω
Input sound Pressure level	S.P.L				100	dB
Operation voltage	V <sub>s</sub>	-	1.0	4.5	10	V
Current consumption	I	f=1KHz. P <sub>in</sub> =1Pa			500	uA
Sensitivity reduction	△S	f=1KHz. P <sub>in</sub> =1Pa V <sub>s</sub> =4.5→1.5V			-3	dB
S/N ratio	S/N(A)	f=1KHz. P <sub>in</sub> =1Pa A=curve	60			dB

### Measurement Circuit ( Test Condition V<sub>s</sub>=4.5V R<sub>L</sub>=2.2K Ω

T<sub>a</sub>=20°C R.H=65% )

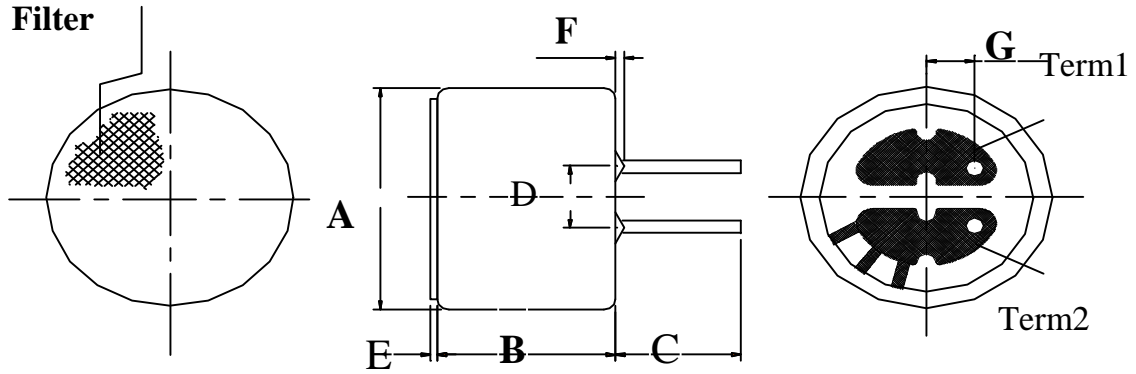


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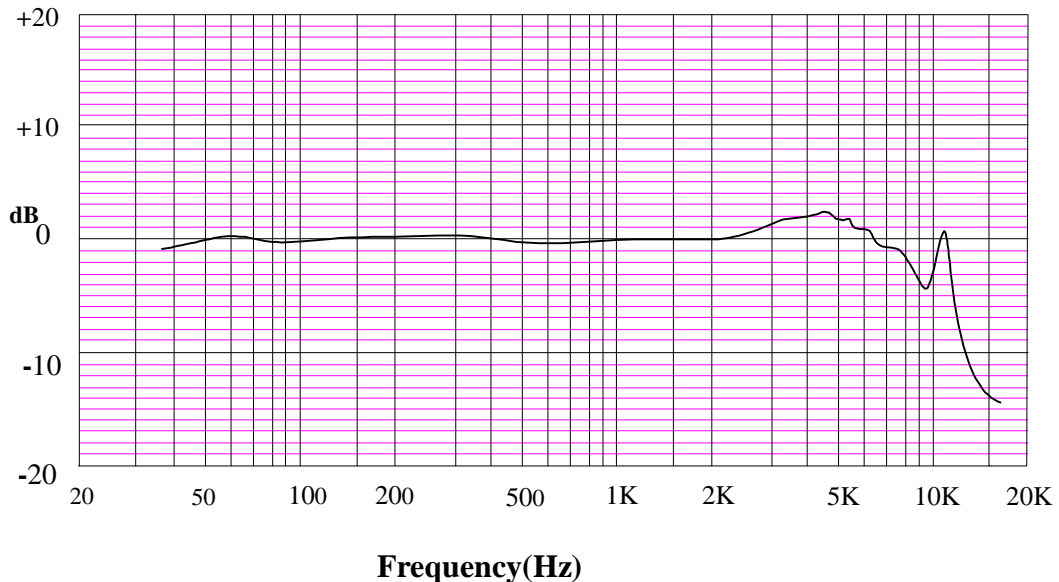
## Dimensional Drawing

unit: mm



PART	MIN	STANDARD	MAX	REMARK
A	φ 9.5	φ 9.7	φ 9.9	
B	6.3	6.5	6.7	
C	9.5	11	12.5	
D	-	2.54	-	
E	-	-	0.2	
F	-	-	0.8	
G	1.8	2.0	2.2	

## Typical Frequency Response Curve



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## Ambient condition

### (1) Operating condition

Ambient temperature:  $-10^{\circ}\text{C} \sim +45^{\circ}\text{C}$

Relative humidity:  $\leq 85\%$

### (2) Storage condition

Ambient temperature:  $-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$

Relative humidity: 45%

## Reliability Test

### 1) Vibration Test

To be no interference in operation after vibration of full amplitude 2mm for 30 minutes at three axis, the sensitivity to be within  $\pm 3\text{dB}$  from initial sensitivity.

### 2) Drop Test

To be no interference in operation after dropped to concrete floor each time from 1 meter height of three directions in state of packing, the sensitivity to be within  $\pm 3\text{dB}$  from initial sensitivity.

### 3) High Temperature Test

To be no interference in operation after high temperature test  $70 \pm 3^{\circ}\text{C}$  for 48 hours. the sensitivity to be within  $\pm 3\text{dB}$  from initial sensitivity.

### 4) Isotherm & Iso-humidity Test

To be no interference in operation after storage test at temperature  $40 \pm 2^{\circ}\text{C}$  and relative humidity ( $93\% \pm 2 \sim 3\%$ ) for 48 hours. the sensitivity to be within  $\pm 3\text{dB}$  from initial sensitivity. the test is performed at temperature  $20^{\circ}\text{C}$  after operation for 2 hours.

### 5) Low Temperature Test

To be no interference in operation after high temperature test  $-20 \pm 3^{\circ}\text{C}$  for 48 hours, the sensitivity to be within  $\pm 3\text{dB}$  from initial sensitivity.

### 6) Temperature Cycle Test

After exposure at  $+55 \pm 2^{\circ}\text{C}$  for 1 hour, at  $20 \pm 2^{\circ}\text{C}$  for 1 hour, at  $-10 \pm 2^{\circ}\text{C}$  for 1 hour, at  $20 \pm 2^{\circ}\text{C}$  for 1 hour, with 5 cycles. Change of sensitivity within  $\pm 3\text{dB}$  from initial measuring should be done after 2 hours exposed to  $20 \pm 2^{\circ}\text{C}$ .

### 7) Collision Test

After collided with the acceleration  $100 \pm 10\text{m/s}$ , at the vertical & horizontal directions for  $1000 \pm 10$  times, at the state of packing. Change of sensitivity within  $\pm 3\text{dB}$  from initial.