

HORN 深圳市豪恩实业有限公司

SHENZHEN HORN INDUSTRIAL CO., LTD.

SPEC. SHEET NO: 00011237

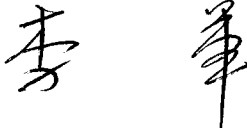
Address:
BLOCK 1, DEHUINA INDUSTRIAL DISTRICT,
MINGZHI RD LONGHUA, SHENZHEN,
GUANGDONG, CHINA 518131

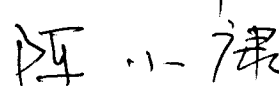
TEL: (86) 755-8192552 8190943
FAX: (86) 755-8192557
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HOME PAGE: www.globalsources.com/hornmic.co


CUSTOMER: Digi-Key Corporation

APPROVE SHEET

PRODUCT NAME	TYPE	DIMENSION	
Electret Condenser Microphone	EM4530-44	Ø4.5×3.0(mm)	

APPROVED :  DATE: 2000.11.25

CHECKED BY:  DATE: 2000.11.25

ISSUED BY: 陳為波 DATE: 

APPROVED BY:

DATE:

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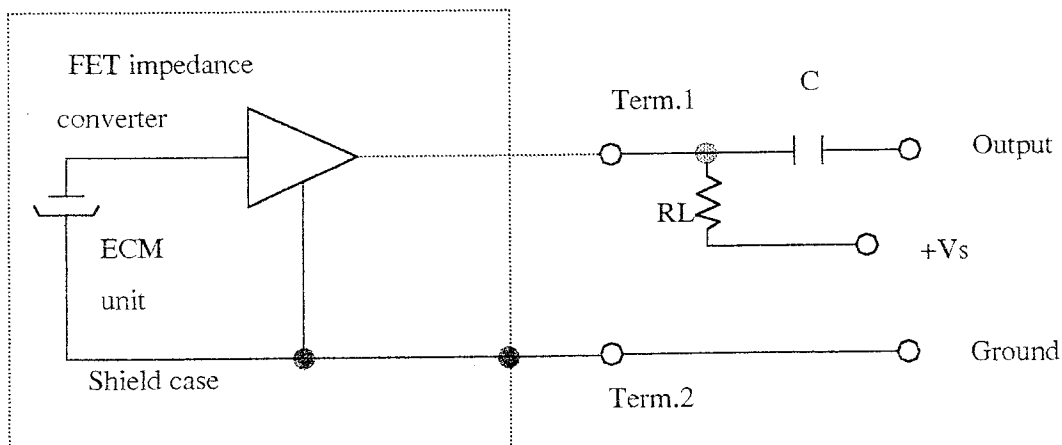
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SPECIFICATION

Item	Symbol	Test conditions	Min	Standard	Max	Unit
Sensitivity	S	f=1KHz. Pin=1ubar	-47	-44	-41	dB <small>GdB=1V/Pa</small>
Directivity	Omnidirectional					
Impedance	Zout				2.2	K Ω
Current consumption	I	f=1KHz. Pin=1ubar			500	uA
Sensitivity reduction	ΔS	f=1KHz. Pin=1ubar. ar. Vs=4.5→1.5V			-3	dB
S/N ratio	S/N(A)	f=1KHz. Pin=1ubar. A=curve	40			dB

Measurement Circuit (Test Condition Vs=4.5V RL=2.2KΩ)

Ta=20°C R.H=65%)

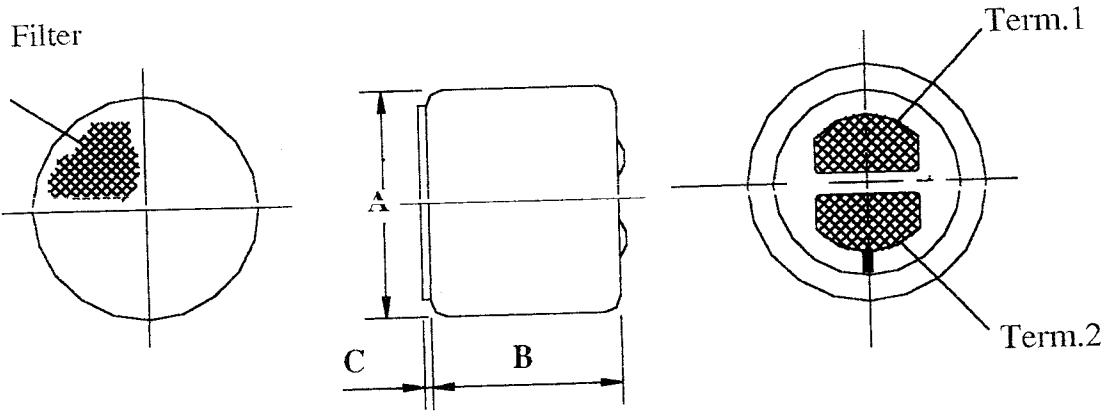


Dimensional Drawing

unit: m

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PART	MIN	TYPE	MAX	REMARK
A	Ø4.3	Ø4.5	Ø4.7	
B	2.8	3.0	3.2	
C	-	-	0.2	

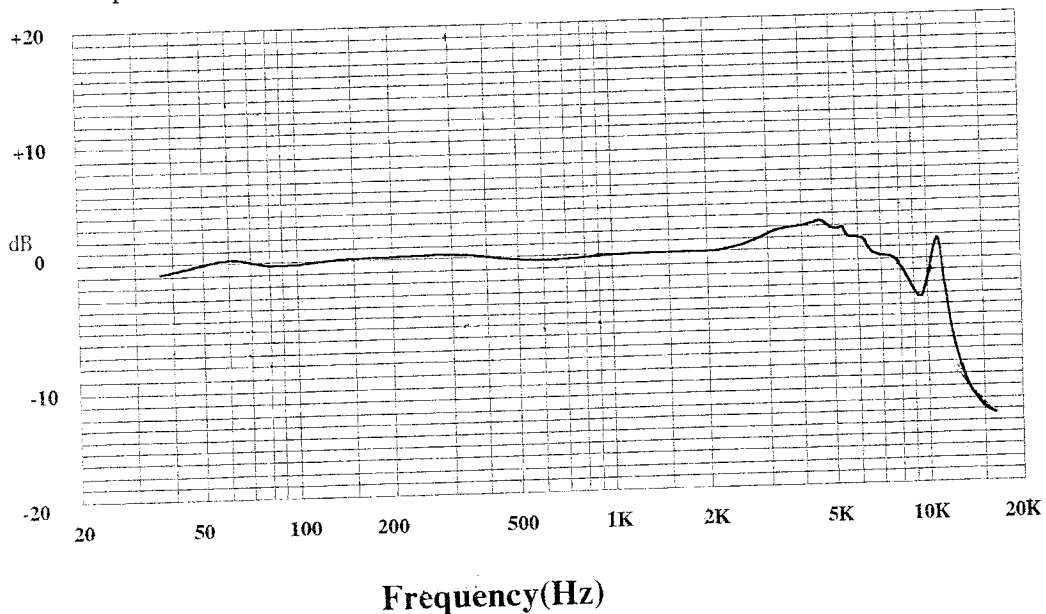
Typical Frequency Response Curve

Ambient condition

(1) Operating condition

Relative humidity: $\leq 85\%$

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



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(2) Storage condition

Relative humidity: 45%

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

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 Storage:

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

4) Isotherm & Iso-humidity Storage

To be no interference in operation after storage test at temperature $40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ 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°C after operation for 2 hours.

5) Low Temperature Storage

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

6) Temperature Cycle Test

After exposure at $55^{\circ}\text{C} \pm 2^{\circ}\text{C}$ for 1 hour, at $20^{\circ}\text{C} \pm 2^{\circ}\text{C}$ for 1 hour, at $-10^{\circ}\text{C} \pm 2^{\circ}\text{C}$ for 1 hour, at $20^{\circ}\text{C} \pm 2^{\circ}\text{C}$ 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 $20^{\circ}\text{C} \pm 2^{\circ}\text{C}$.

7) Collision Test

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