



Electret Condenser Microphone Units

深圳市豪恩电声科技有限公司

Shenzhen Horn Electroacoustic Technology Co.,Ltd

SPEC.SHEET NO: W031206004



Address:  
Block 9, Shuiwei Ind Zone, Shuiwei New  
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E-mail: rd@horn.com.cn  
Website: www.horn.com.cn

**CUSTOMER: Digi-Key Corporation**

### APPROVAL SHEET

PRODUCT NAME	PART NUMBER	DIMENSION	REMARK
Electret Condenser Microphone	<b>EM6018-44BC10&amp;33</b>	Ø6.0×1.8(mm)	D.S.PCB

APPROVED BY	CHECKED BY	ISSUED BY
		

APPROVED BY:

DATE:

PART NMUBER :EM6018-44BC10&33

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Village, Dalang, Longhua, Shenzhen,  
Guangdong, China 518109

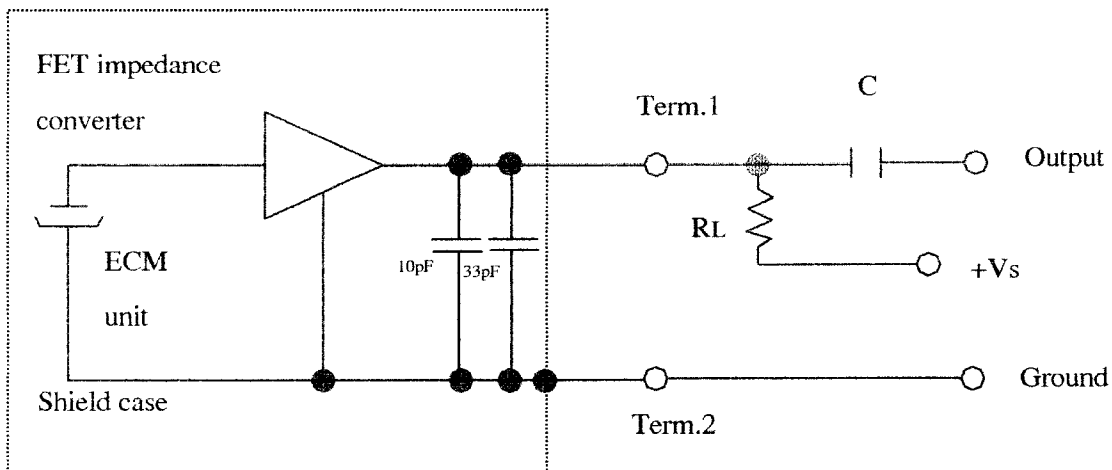
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## SPECIFICATION

Item	Symbol	Test conditions	Min	Standard	Max	Unit
Sensitivity	S	f=1KHz. Pin=1Pa	-46	-44	-42	dB OdB=1V/Pa
Directivity	Omnidirectional					
Impedance	Zout				2.2	K Ω
Input sound pressure level	S.P.L				100	dB
Operation voltage	Vs	-	1.0	2	10	V
Current consumption	I	f=1KHz. Pin=1Pa			500	uA
Sensitivity reduction	ΔS	f=1KHz. Pin=1Pa . Vs=2→1.5V			-3	dB
S/N ratio	S/N(A)	f=1KHz. Pin=1ubar. A=curve	60			dB

### Measurement Circuit (Test Condition Vs=2V RL=2.2KΩ

Ta=20°C R.H=65%)



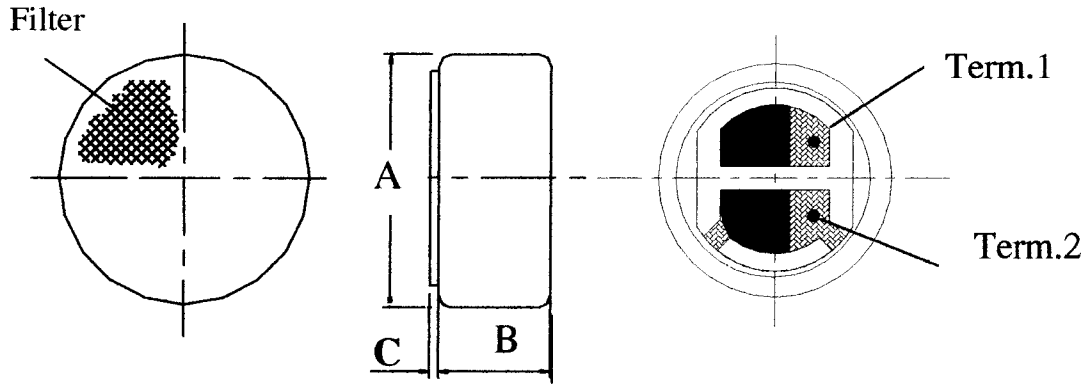
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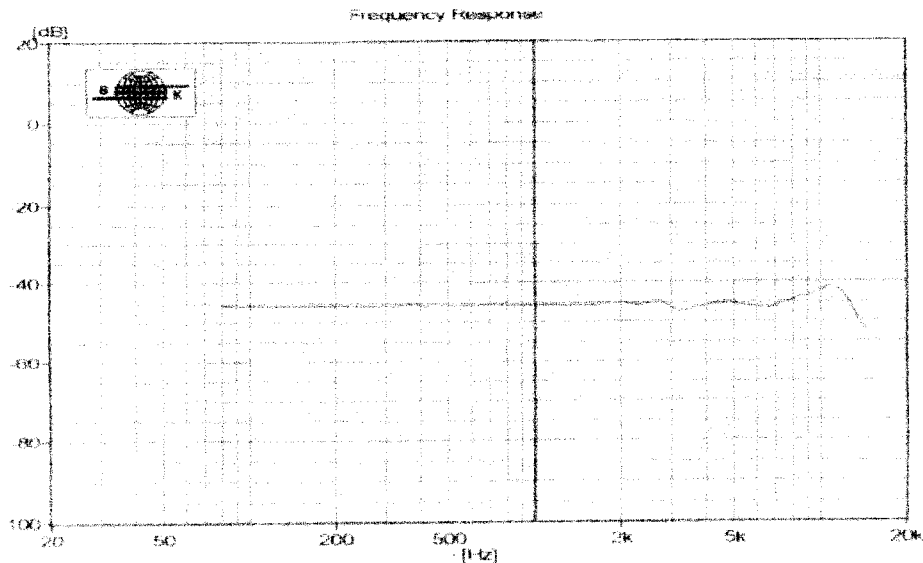
## Dimensional Drawing

unit: mm



PART	MIN	STANDARD	MAX	REMARK
A	Ø5.9	Ø6.0	Ø6.1	
B	1.6	1.8	2.0	
C	0.1	0.2	0.3	

## 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:  $45\% \sim 75\%$

## 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  $60^{\circ}\text{C} \pm 2^{\circ}\text{C}$  and relative humidity ( $93\% \pm 3\%$ ) 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 6 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  $55 \pm 2^{\circ}\text{C}$  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  $20^{\circ}\text{C} \pm 2^{\circ}\text{C}$ .

### 7) Collision Test

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



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### TEST RESULT OF SAMPLES

NO.	1KHz (dB)	CURRENT (mA)	NOTES
1	-43.5	0.12	(1KHz、0dB=1V/Pa)
2	-43.7	0.14	
3	-44.2	0.14	
4	-44.5	0.11	
5	-44	0.1	
6	-44.3	0.11	
7	-44.4	0.16	
8	-44.4	0.12	
9	-44.2	0.11	
10	-44.1	0.11	
11	-43.9	0.12	
12	-44.5	0.12	
13	-43.5	0.11	
14	-44.5	0.1	
15	-44.6	0.1	



Customer: Digi-Key Corporation

Date: 2003.12.09

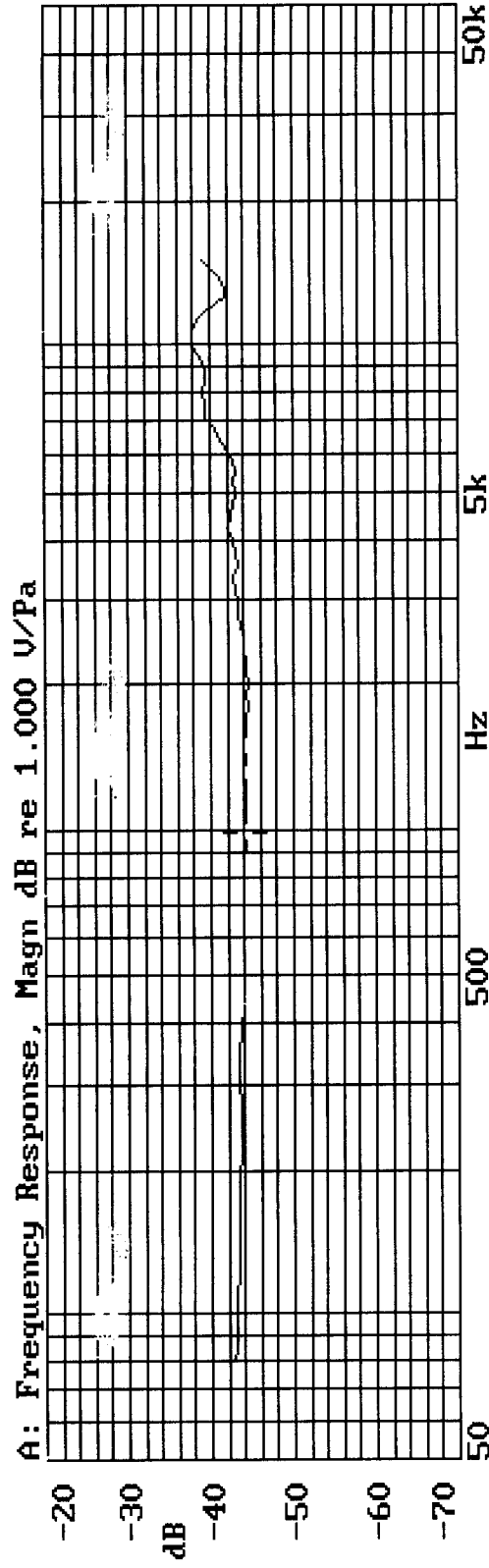
Part number: EM6018-44BC10&33

Sensitivity: -44±2dB

Test condition: 2.2K Ω 2V

Tester: G1

SHENZHEN HORN ELECTROACOUSTIC TECHNOLOGY CO.,LTD.  
X:1.000kHz \*Y:-44.07dB\* ZA:Live Curve SSR Fund.



MODEL: EM6018-44BC10&33  
CODE: 10#  
SENSITIVITY: -44.07dB (1kHz)  
TEST CONDITION: 2.2kΩ 2V

08-DEC-2003 16:21:29

Mode: SSR



## Certificate of Confirmed Products

Date: Dec. 07. 2003

NO: W031206004

SUPPLIER	HORN	BUYER	<b>Digi-Key Corporation</b>	
TITLE	ECM	MODEL	<b>EM6018-44BC10&amp;33</b>	
SIZE	$\phi 6.0 \times 1.8\text{mm}$	TEST CONDITION	2.2K $\Omega$ 2V	
QUANTITY		SAMPLE: 15PCS		
<b>SPECIFICATIONS</b>				
Sensitivity		-44 $\pm$ 2dB (0dB=1V/Pa. 1KHz )		
Directivity		Omnidirectional		
Impedance		Low impedance		
Standard operation voltage		2V		
Operation voltage		1.0-10V		
Current consumption		Max 500uA		
Maximum input S.P.L		100dB		
S/N ratio		More than 60 dB		
Sensitive reduction		within-3dB at 1.5V		
The test result from customers		Signature: _____ . _____ . 2003		
Final confirmed	Pass	Refuse	Accepted basis on	
Remarks				

\*\*\*\*\* The form must be confirmed by return fax after your test as your best regards! \*\*\*\*\*