

# EMH1050-36/L

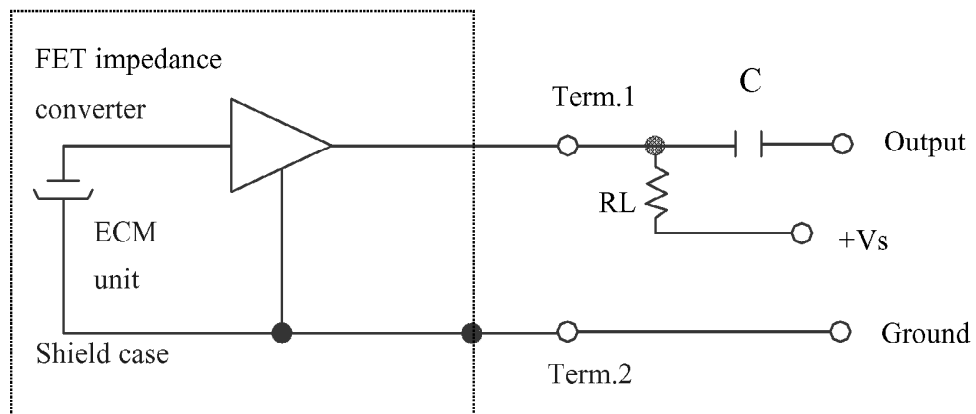
Microphone

## SPECIFICATION

Item	Symbol	Test conditions	Min	Standard	Max	Unit
Sensitivity	S	f=1KHz. Pin=1Pa	-39	-36	-33	dB <small>0dB=1V/Pa</small>
Directivity	Omnidirectional					
Impedance	Zout				2.2	K Ω
Input sound Pressure level	S.P.L				100	dB
Operation voltage	Vs	-	1.0	4.5	10	V
Current consumption	I	f=1KHz. Pin=1Pa			300	uA
Sensitivity reduction	ΔS	f=1KHz. Pin=1Pa Vs=4.5 → 1.5V			-3	dB
S/N ratio	S/N(A)	f=1KHz. Pin=1Pa A=curve	60			dB

**Measurement Circuit** ( Test Condition Vs=4.5V RL=2.2K Ω

Ta=20°C R.H=65% )



**RoHS Compliant  
Leadfree**

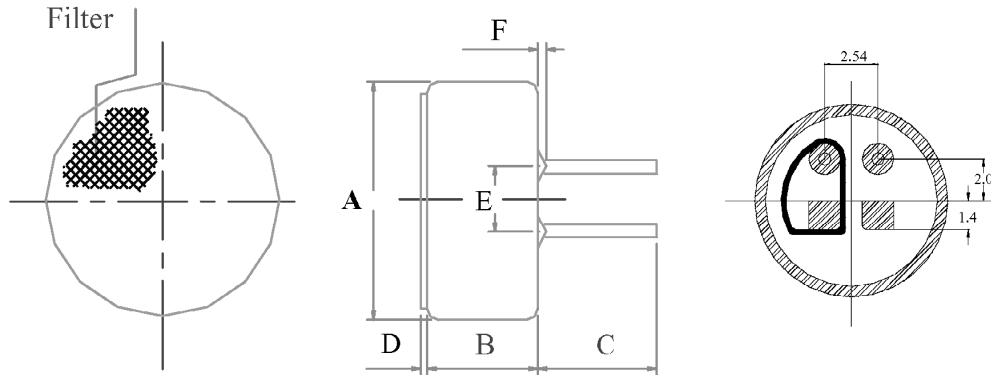
<b>ESS GmbH</b> Heidbergstr. 100 22846 Norderstedt T 040/943688-80 /F-81		Material		Tolerance		Drawing-No. 060710.1M	
Specification		Changes		Scale		Page 1 of 3	
	Date	Name	No.	Remark	Date	Name	<b>Model-No.</b> <b>EMH1050-36/L</b>
designed	10.07.06	Gohr	a.	Current cons.	13.03	Boehl	
checked	10.07.06	Boehlen	a.	Sensitivity	13.03	Boehl	
approved	10.07.06	Wieland					

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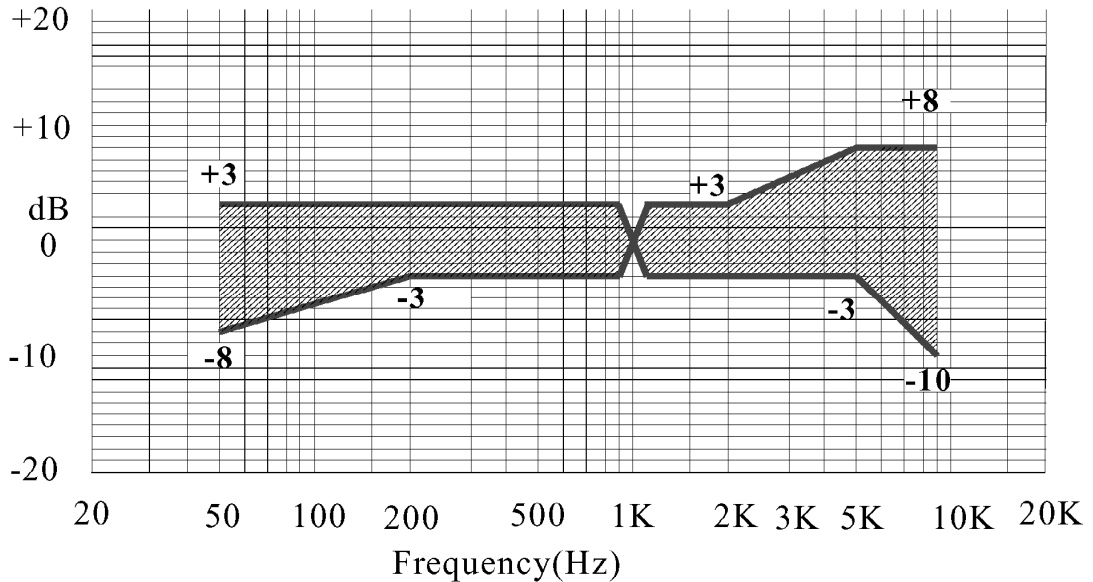
## Dimensional Drawing

unit: mm



PART	MIN	STANDARD	MAX	REMARK
A	φ 9.8	φ 10.0	φ 10.2	
B	4.8	5.0	5.2	
C	4.5	5.0	5.5	
D	0.1	0.2	0.3	
E	2.3	2.54	2.7	
F	-	-	0.8	

## 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 five 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  $60 \pm 2^{\circ}\text{C}$  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 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  $20 \pm 2^{\circ}\text{C}$ .

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