



<b>OBO Pro.2</b>	<b>SPECIFICATIONS</b>	<b>MODEL NO.</b> OBO-04FP-0B-0N2
	<b>PART NAME</b> ELECTRET CONDENSER MICROPHONE	<b>SHEET</b> 2 OF 6

**MODEL NO : OBO-04FP-0B-0N2**

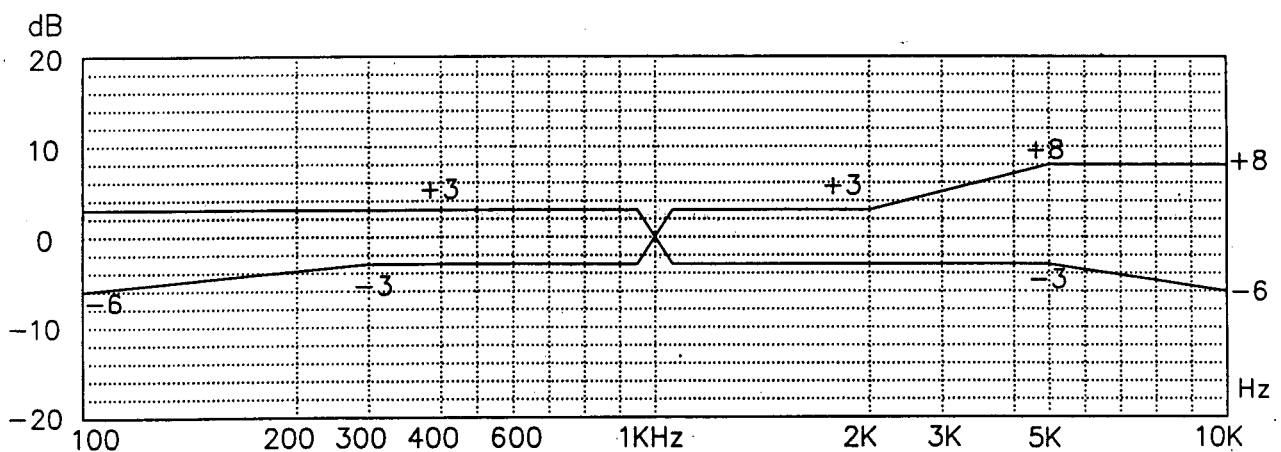
**Features : Conformity RoHS Directive ( 2002/95/EC ) Requests. ※1**

**1. ELECTRICAL CHARACTERISTICS**

Test Condition : (Vs=4.5V,RL=2.2KΩ ,Ta=20±2°C,R.H.=65±5%)

Directivity : Omnidirectional							
No	Parameter	Symbol	Condition	Limit			Unit
				Min	Center	Max	
1.1	Sensitivity	S	F=1KHz,S.P.L.=1Pa 0dB=1V/Pa	-45	-42	-39	dB
1.2	Output Impedance	Zout	F=1KHz			2.2	KΩ
1.3	Current Consumption	I <sub>oss</sub>	VS=4.5V, RL=2.2KΩ			500	μA
1.4	Signal to Noise Ratio	S/N	S: (F=1KHz, S.P.L.=1Pa) N: (A-Weighted Curve)	58			dB
1.5	Decreasing Voltage	Δ S-VS	VS=3.0V to 1.5V			-3	dB

**1.6 Typical Frequency Response Curve Limit**

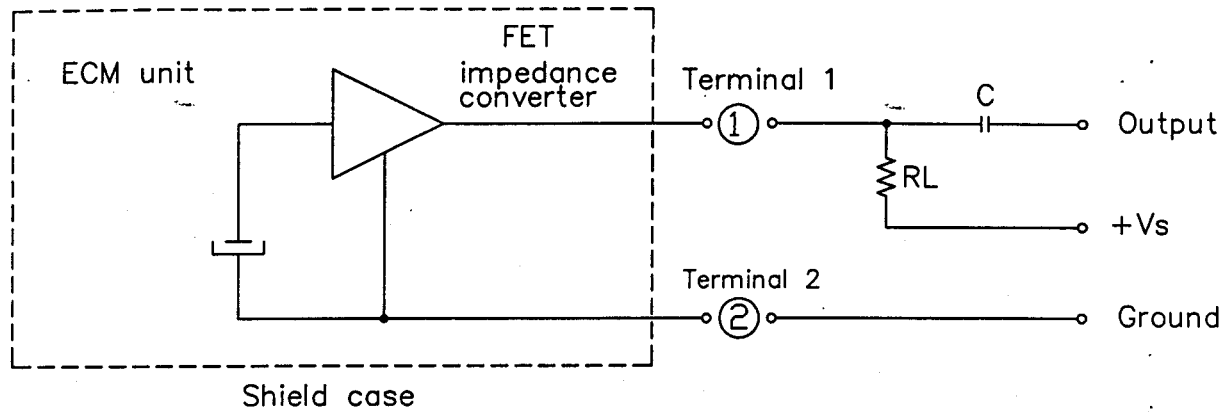


◎ Frequency : 50~16,000Hz

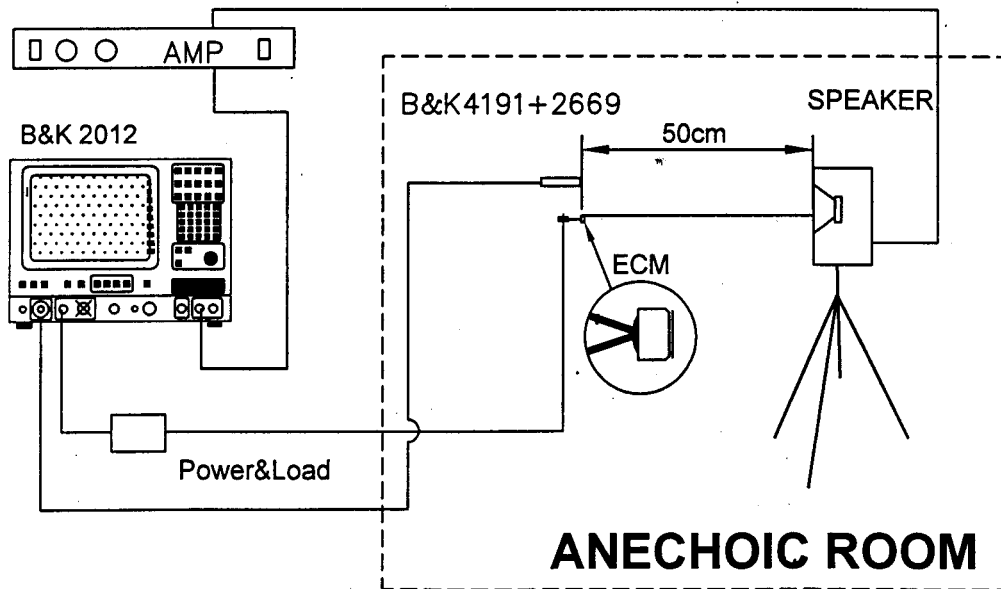
◎ Operating Voltage : 1.0V to 10V

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## 2. MEASUREMENT CIRCUIT



## 3. MEASUREMENT METHOD

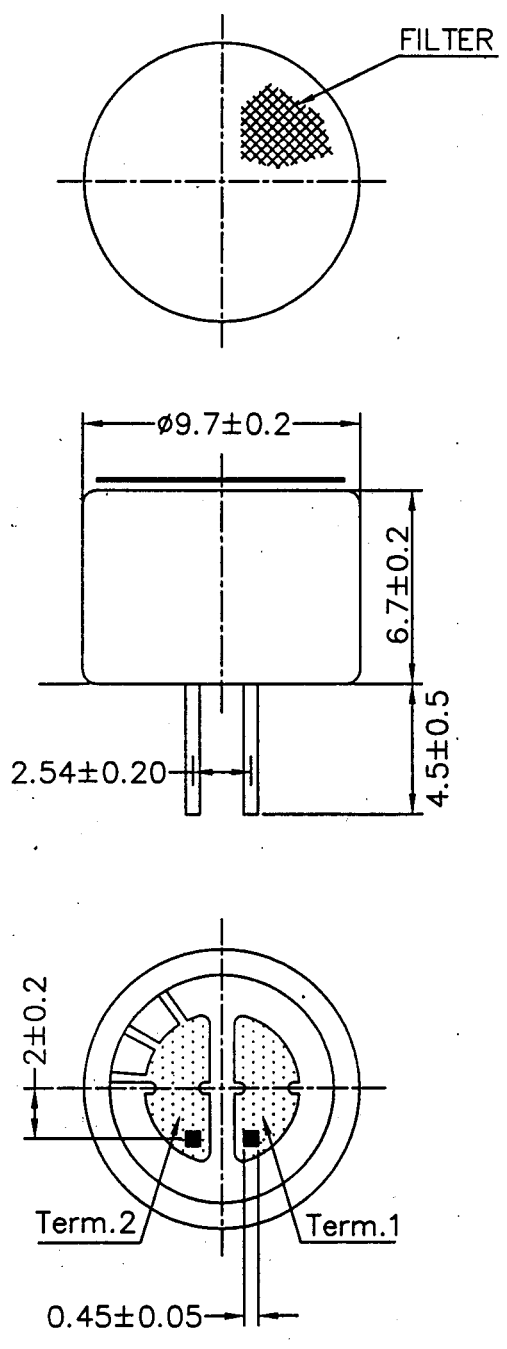


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### 4.MECHANICAL CHARACTERISTICS

- 4.1 Soldering Standard :  $300\pm 5^{\circ}\text{C}$  / Max. 2 seconds ※1
- 4.2 Weight : Appr.1.0g
- 4.3 Mechanical Layout and Dimensions :

Unit : mm



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## 5. TEMPERATURE CONDITIONS

5.1 Operating Temperature Range :  $-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$

5.2 Storage Temperature Range :  $-25^{\circ}\text{C} \sim +70^{\circ}\text{C}$

## 6. RELIABILITY TEST

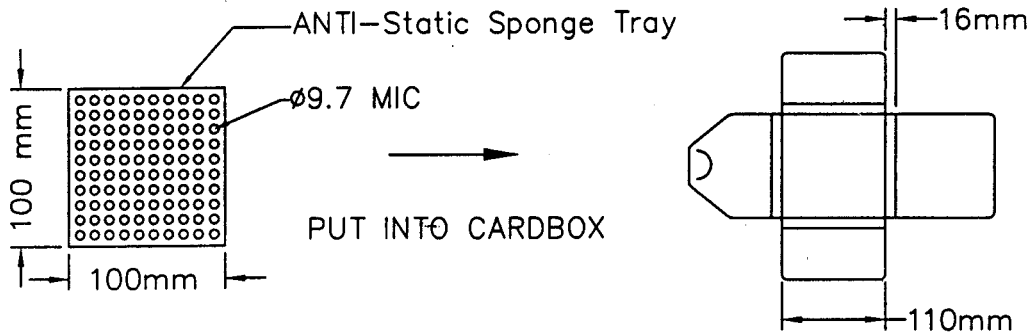
Vibration Test	To be no interference in operation after vibrations, 10Hz to 55Hz for 1 minute full amplitude 1.5mm, for 2 hours at 3 axes.
Drop Test	The microphone unit without packaged must be subjected to each 3 drops at 3 axes, the height of 1 meter to 20 mm thick wooden board.
Temperature Test	(a) After exposure at $70^{\circ}\text{C}$ for 72 hours, sensitivity to be within $\pm 3\text{dB}$ from initial sensitivity. (b) After exposure at $-25^{\circ}\text{C}$ for 72 hours, sensitivity to be within $\pm 3\text{dB}$ from initial sensitivity. (The measurement to be done after 6 hours of conditioning at $25^{\circ}\text{C}$ .)
Humidity Test	After exposure at $60^{\circ}\text{C}$ and $90\pm 5\%$ relative humidity for 240 hours. sensitivity to be within $\pm 3\text{dB}$ from initial sensitivity. (The measurement to be done after 6 hours of conditioning at $25^{\circ}\text{C}$ .)
Temperature Cycle Test	After exposure at $+70^{\circ}\text{C}$ for 1 hr, from $+70^{\circ}\text{C}$ to $+25^{\circ}\text{C}$ for 0.5hr, at $+25^{\circ}\text{C}$ for 1hr, from $+25^{\circ}\text{C}$ to $-20^{\circ}\text{C}$ for 0.5hr, at $-20^{\circ}\text{C}$ for 1hr, from $-20^{\circ}\text{C}$ to $+25^{\circ}\text{C}$ for 0.5hr, at $+25^{\circ}\text{C}$ for 1hr, after 10 cycles, the sensitivity to be within $\pm 3\text{dB}$ from initial sensitivity. (The measurement to be done after 6 hours of conditioning at $25^{\circ}\text{C}$ .)

## 7. CONCEPT OF UNIT

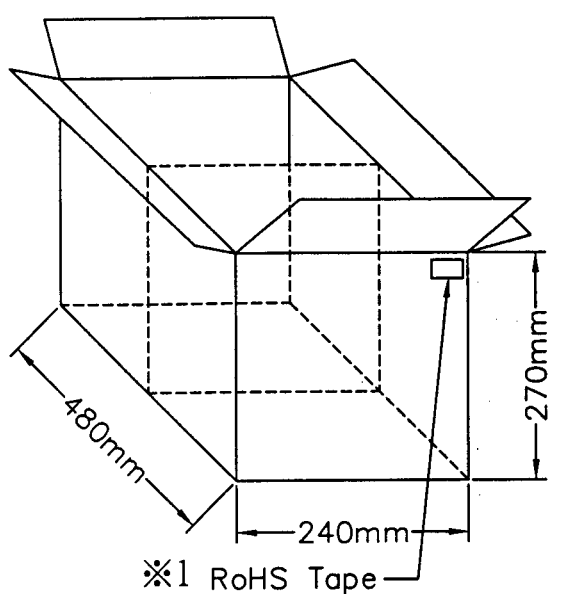
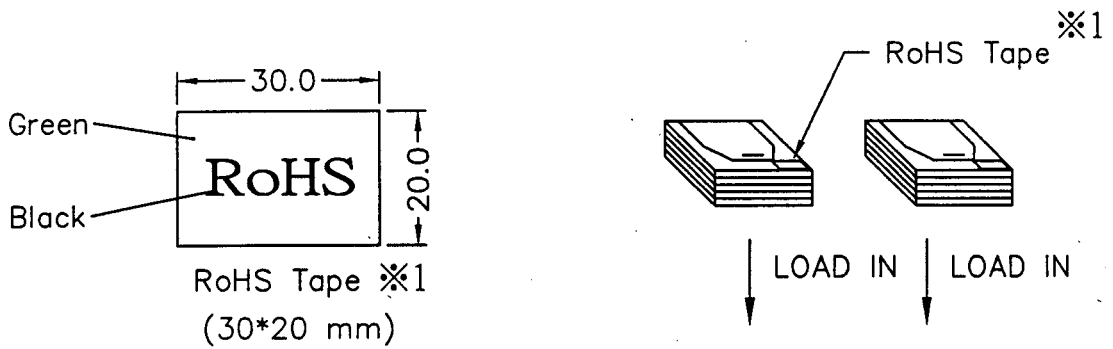
The difference between concept of unit "Pascal" and the one of unit " $\mu\text{bar}$ " can be explained as follows. in calibrating the sensitivity of ECMS. the sensitivity is manifested differently according as the unit is "Pascal" or " $\mu\text{bar}$ ". That is the sensitivity will be increased by 20dB in the usage of unit "Pascal". Example :  $-62\text{dB}(\text{OdB}=1\text{V}/\mu\text{bar})=-42\text{dB}(\text{OdB}=1\text{V}/\text{Pa})$ .

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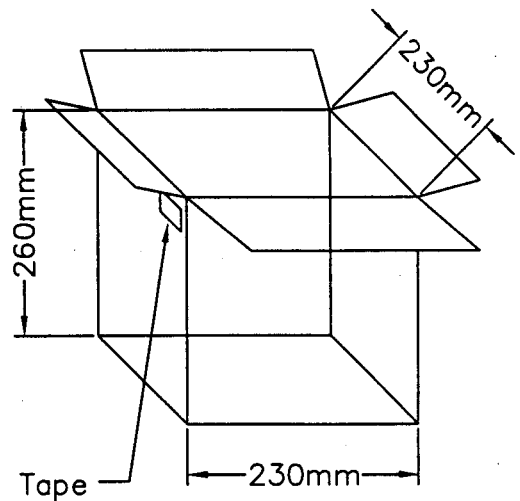
**8. PACKAGING**



100 pcs / 1 Sponge Tray



2 MIDDLE BOXES / PER  
CARTON (12000 pcs) ※1  
(IMPORTED CARTON MATERIAL)



60 CARDBOXES / PER  
MIDDLE BOX (6000 pcs) ※1  
(IMPORTED CARTON MATERIAL)