

<b>OBO Pro.2®</b>	<b>SPECIFICATIONS</b>	<b>MODEL NO.</b> OBO-04FP-0A-1F0
	<b>PART NAME</b> ELECTRET CONDENSER MICROPHONE	<b>SHEET</b> 2 OF 6

**MODEL NO : OBO-04FP-0A-1F0**

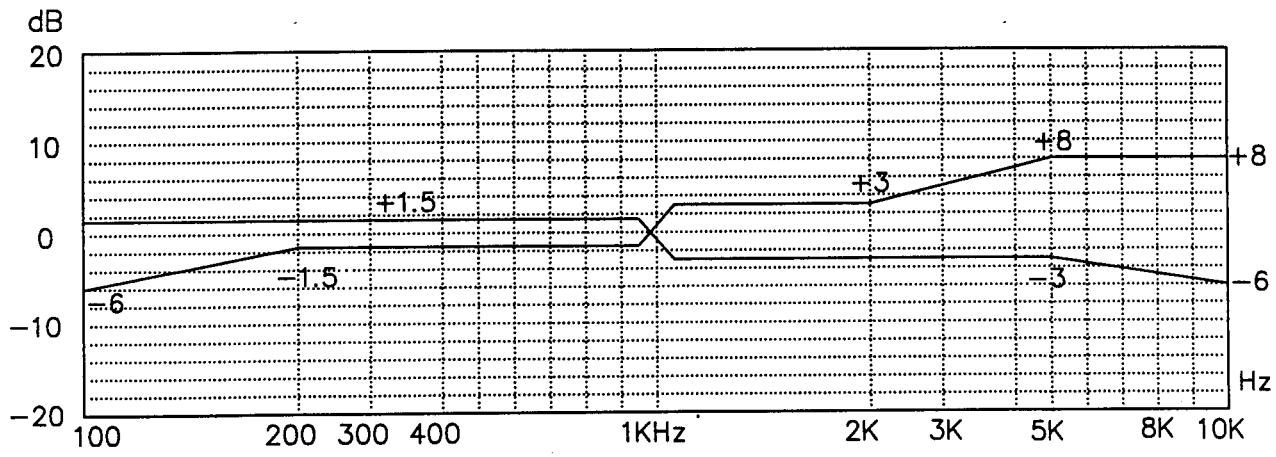
**Features : Conformity RoHS Directive ( 2002/95/EC ) Requests. ※1**

**1. ELECTRICAL CHARACTERISTICS**

Test Condition : (Vs=1.5V,RL=1.5 KΩ,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	-42	-40	-38	dB
1.2	Output Impedance	Zout	F=1KHz			1.5	KΩ
1.3	Current Consumption	I <sub>oss</sub>	VS=1.5V, RL=1.5KΩ			500	μA
1.4	Signal to Noise Ratio ※3	S/N	S:(F=1KHz, S.P.L=1Pa) N:(A-Weighted Curve)	58			dB
1.5	Decreasing Voltage ※3	Δ S-VS	VS=3.0V to 1.5V			-3	dB

1.6 Typical Frequency Response Curve Limit

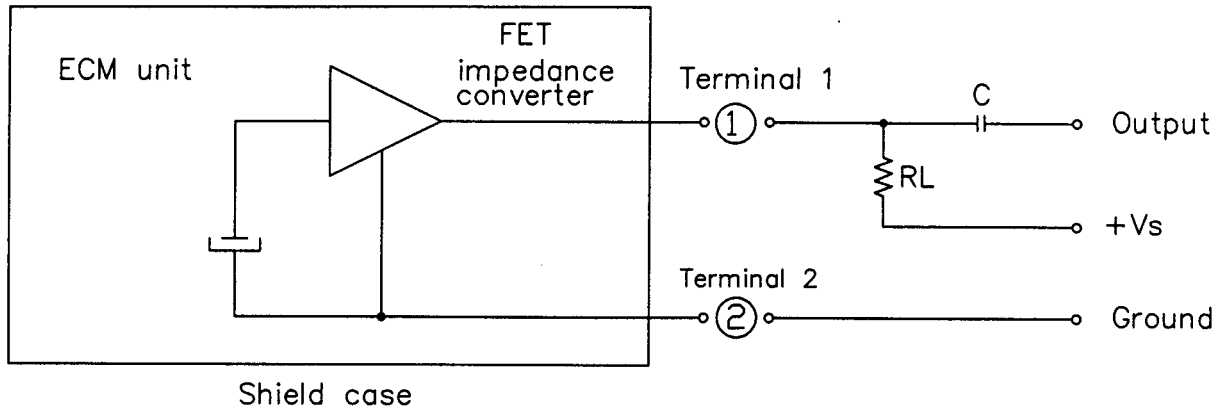


◎ Frequency : 50~16,000Hz

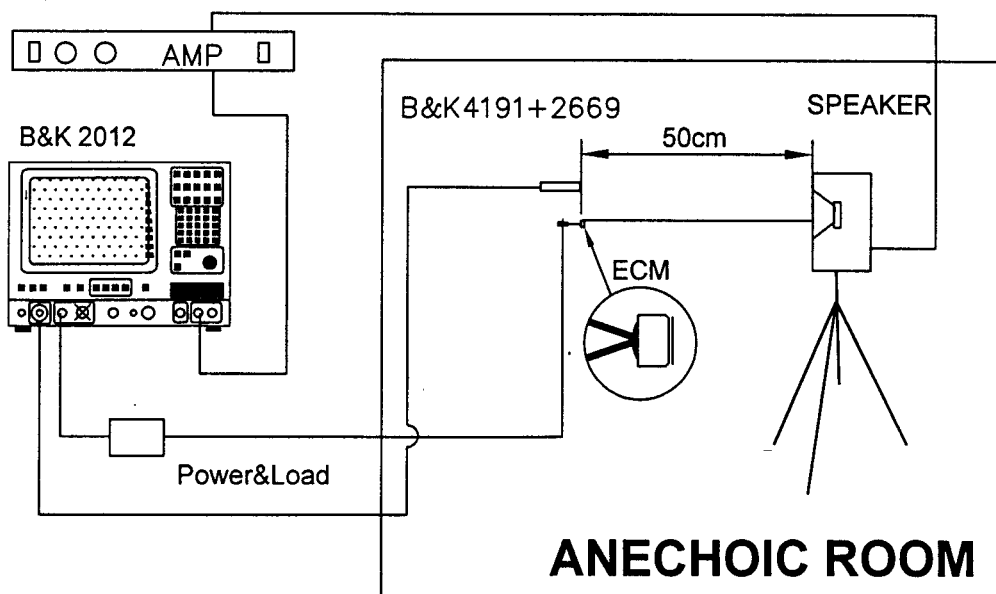
◎ Operating Voltage : 1.1V to 10V

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## 2. MEASUREMENT CIRCUIT



## 3. MEASUREMENT METHOD

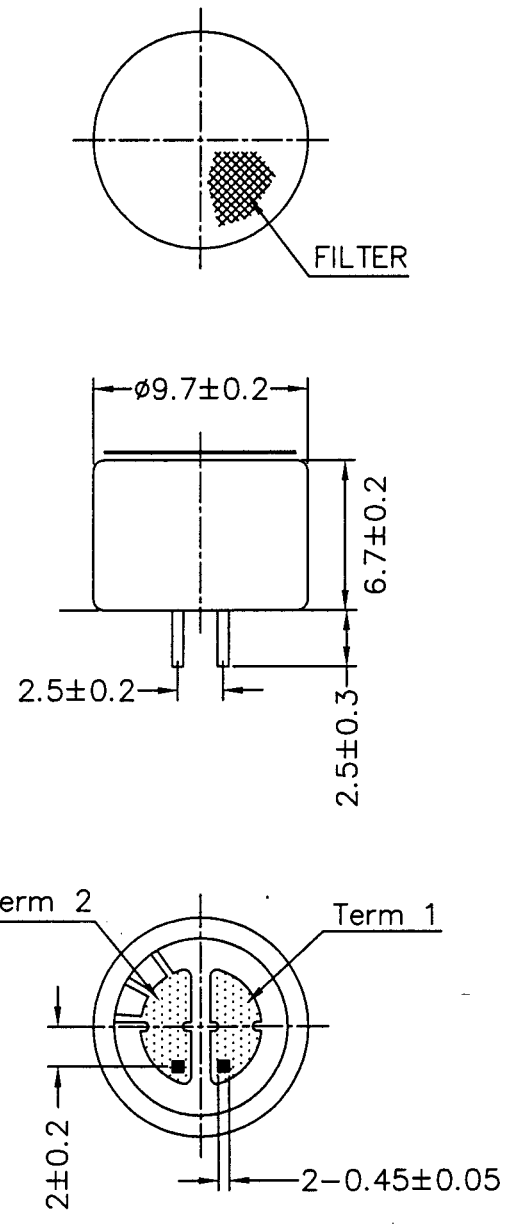


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### 4.MECHANICAL CHARACTERISTICS

- 4.1 Soldering Standard :  $300\pm 10^{\circ}\text{C}$  / 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°C ~ +60°C

5.2 Storage Temperature Range : -25°C ~ +70°C

### 6. RELIABILITY TEST ※2 ※3

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°C for 72 hours, sensitivity to be within ±3dB from initial sensitivity. (b) After exposure at -25°C for 72 hours, sensitivity to be within ±3dB from initial sensitivity. (The measurement to be done after 6 hours of conditioning at 25°C.)
Humidity Test	After exposure at 60°C and 90±5% relative humidity for 240 hours. sensitivity to be within ±3dB from initial sensitivity. (The measurement to be done after 6 hours of conditioning at 25°C.)
Temperature Cycle Test	After exposure at +70°C for 1 hr, from +70°C to +25°C for 0.5hr , at +25°C for 1hr, from +25°C to -20°C for 0.5hr , at -20°C for 1hr , from -20°C to +25°C for 0.5hr , at +25°C for 1hr , after 10 cycles , the sensitivity to be within ±3dB from initial sensitivity. (The measurement to be done after 6 hours of conditioning at 25°C.)

### 7. CONCEPT OF UNIT

The difference between concept of unit "Pascal" and the one of unit "μbar" can be explained as follows. in calibrating the sensitivity of ECMS. the sensitivity is manifested differently according as the unit is "Pascal" or "μbar". That is the sensitivity will be increased by 20dB in the usage of unit "Pascal". Example :  $-62\text{dB}(0\text{dB}=1\text{V}/\mu\text{bar})=-42\text{dB}(0\text{dB}=1\text{V}/\text{Pa})$

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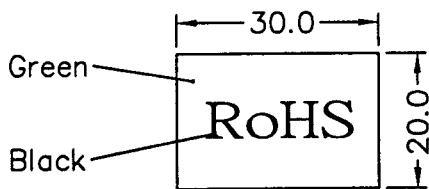
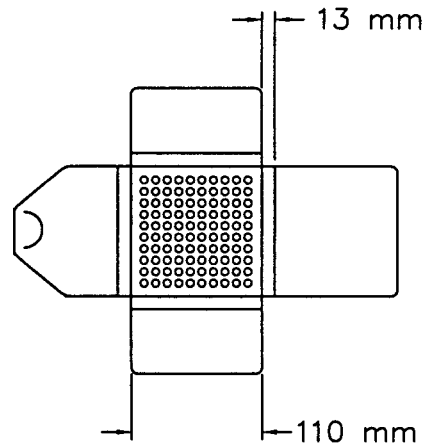
**8. PACKAGING** ※1※2※3



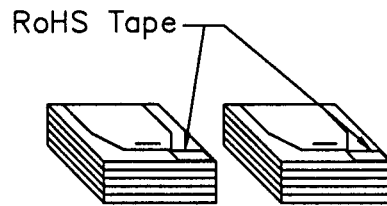
ECM

PUT INTO CARDBOX

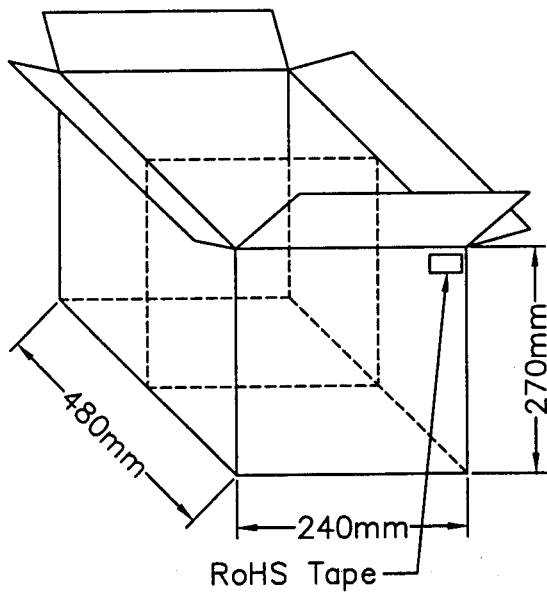
100 pcs / 1 Sponge Tray



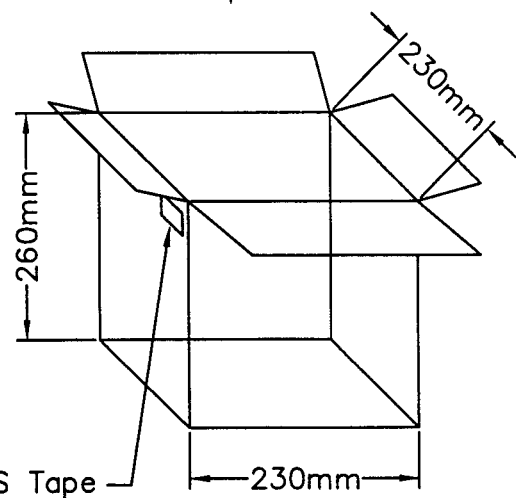
RoHS Tape  
(30\*20 mm)



LOAD IN



2 MIDDLE BOXES / PER  
CARTON (16000 pcs)  
(IMPORTED CARTON MATERIAL)



LOAD IN

80 CARDBOXES / PER  
MIDDLE BOX (8000 pcs)  
(IMPORTED CARTON MATERIAL)