

深圳市耀泽电子有限公司

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Specification For Approval (RoHS, 2002/95/EC)

Customer name : _____
Item name : Electret Condenser Microphone
Model : YZ6022OPFC10&33-54
Doc . Number : M9F03KB001
Submit Date : 2010-11-11

XIN LIN	CUSTOMER APPROVAL
DESIGN: <u>Arden 2010-11-11</u>	
CHKD : <u>Merry 2010-11-11</u>	
APVD : <u>Brant2010-11-11</u>	

(PLEASE SIGN BACK WHEN YOU CONFIRMED ABOVE , THANK YOU !)

PRODUCT SPECIFICATIONS

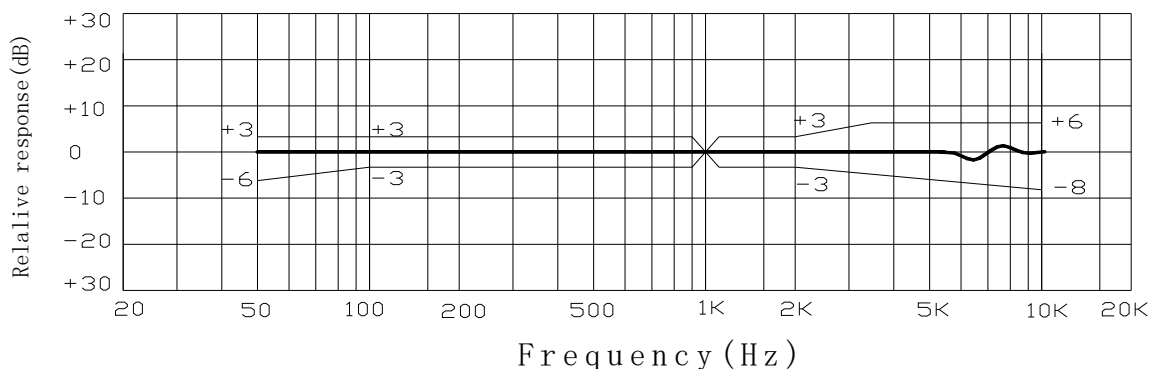
1 Test Condition ($R_L=2.2k\Omega$, $V_s=2.0V$, B&K 50cm)

Standard Conditions (As IEC 60268-4)	Temperature	Humidity	Air pressure
Environment Conditions	+15~+35°C	45%RH~75%RH	86KPa~106KPa
Basic Test Conditions	+20±2°C	60%RH~70%RH	86KPa~106KPa

2 Electrical Characteristics

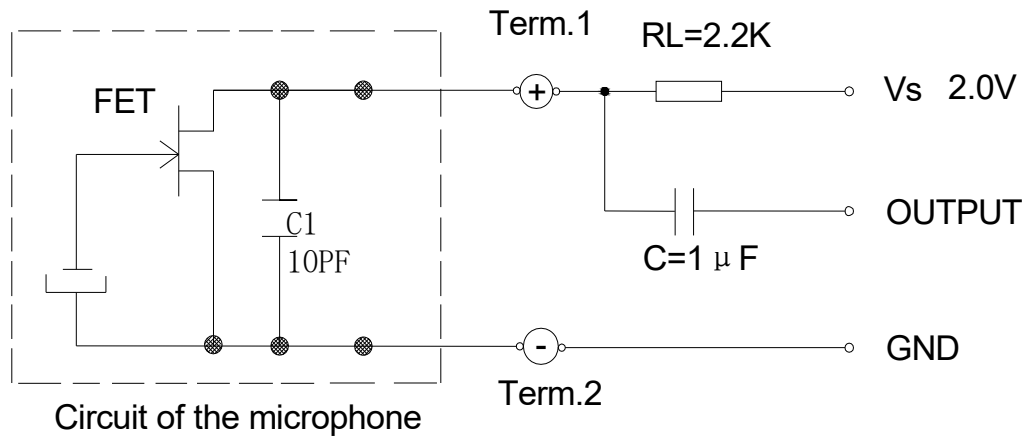
Item	Symbol	Test conditions	Min	Standard	Max	Unit
Sensitivity	S	f=1KHz, Pin=1Pa	-38	-537	-36	dB 0dB=1V/Pa
Output Impedance	Zout	f=1KHz, Pin=1Pa		2.2		KΩ
Directivity	Omni-directional					
Current Consumption	I				500	μA
S/N Ratio	S/N(A)	f=1KHz, Pin=1Pa A-Weighted Curve	58			dB
Decreasing Voltage Characteristic	Δ_s	f=1KHz, Pin=1Pa $V_s=2.0-1.5V$			-3	dB
Operating Voltage Range	V_s		1.1		6	V
Distortion	THD	f=1KHz, Pin=104dB			2	%

3 Frequency in Cycles Per Second & Microphone Response Tolerance Window

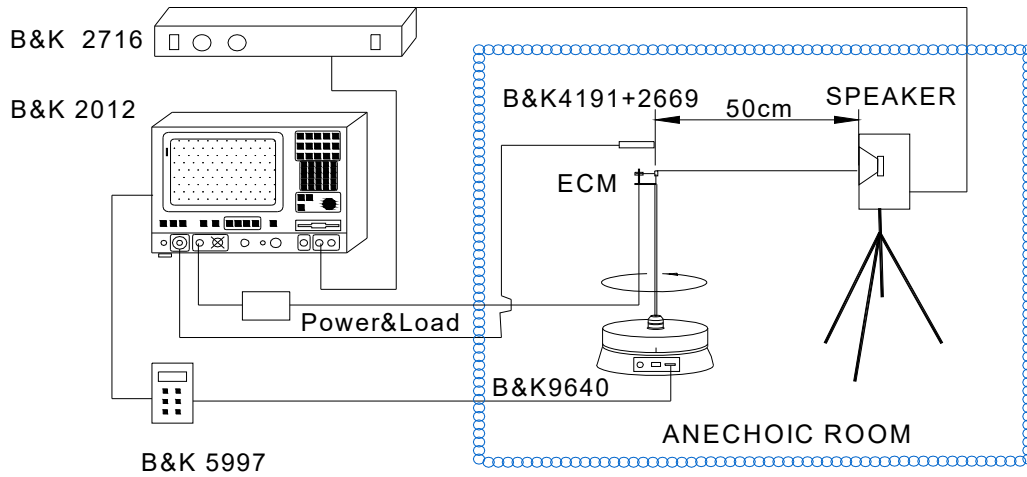


Frequency(Hz)	50	100	900	1000	1100	2000	10000
Max	+3	+3	+3	0	+3	+3	+6
Min	-6	-3	-3	0	-3	-3	-8

4 Measurement Circuit

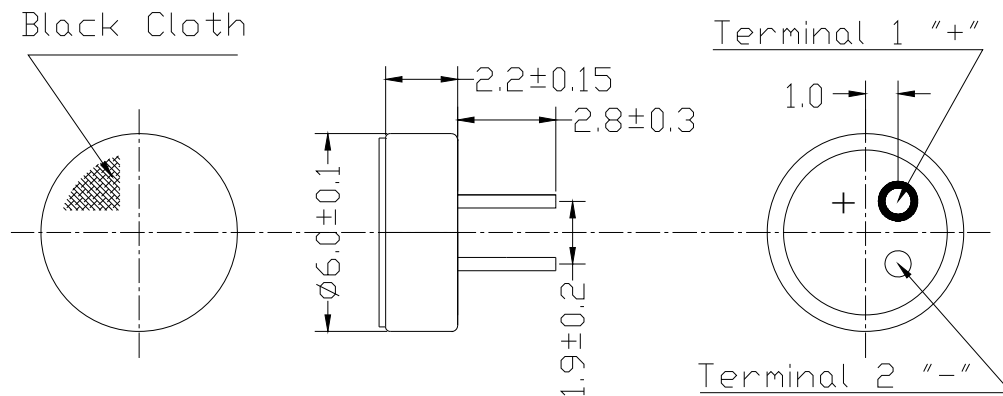


5 Test setup Drawing

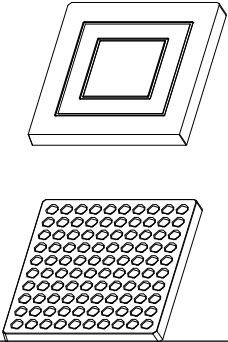
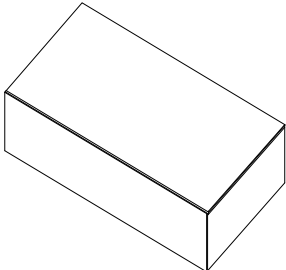


6 Mechanical Characteristics

(Unit: mm Weight: Less than 0.2g)



7 Packing

Item	Drawing	Qty(pcs.)	Material	Specification (mm)
Packing		100 (10×10)	PE	100×100×12
Middle Box		2000 (20×100)	Paper	215×105×62
Outer Box		20000 (10×2000)	Paper	240×240×330

8 Reliability Test

<p style="text-align: center;">8.1 Vibration Test</p>	<p>To be no interference in operation after vibrations, 10Hz to 55 Hz for 1 minute full amplitude 1.52 mm, for 2 hours at three axite in state of standard packing, sensitivity to be within ± 3dB from initial sensitivity. (The measurement to be done after 2 hours of conditioning at $+15^{\circ}\text{C}\sim+35^{\circ}\text{C}$, R. H 45%~75%)</p>
<p style="text-align: center;">8.2 Drop Test</p>	<p>To be no interference in operation after dropped to concrete floor each one time from 1 meter height at three directions in state of Outer packing, sensitivity to be within ± 3dB from initial sensitivity. (The measurement to be done after 2 hours of conditioning at $+15^{\circ}\text{C}\sim+35^{\circ}\text{C}$, R. H 45%~75%)</p>
<p style="text-align: center;">8.3 Temperature Test</p>	<p>A. After exposure at $+70^{\circ}\text{C}$ for 48 hours, sensitivity to be within ± 3dB from initial sensitivity. (The measurement to be done after 2 hours of conditioning at $+15^{\circ}\text{C}\sim+35^{\circ}\text{C}$, R. H 45%~75%) exposure at -40°C for 48 hours, sensitivity to be within ± 3dB from initial sensitivity. (The measurement to be done after 2 hours of conditioning at $+15^{\circ}\text{C}\sim+35^{\circ}\text{C}$, R. H 45%~75%)</p>
<p style="text-align: center;">8.4 Humidity Test</p>	<p>After exposure at $+60^{\circ}\text{C}$ and 90%~95% relative humidity for 48 hours, sensitivity to be within ± 3dB from initial sensitivity. (The measurement to be done after 2 hours of conditioning at $+15^{\circ}\text{C}\sim+35^{\circ}\text{C}$, R. H 45%~75%)</p>
<p style="text-align: center;">8.5 Temperature Cycle Test</p>	<p>After exposure at -40°C for 30 minutes, at 20°C for 10 minutes, at $+70^{\circ}\text{C}$ for 30 minutes, at 20°C for 10 minutes, 5 cycles, sensitivity to be within ± 3dB from initial sensitivity. (The measurement to be done after 2 hours of conditioning at $+15^{\circ}\text{C}\sim+35^{\circ}\text{C}$, R. H 45%~75%)</p>
<p style="text-align: center;">8.6 Soldering Heat Shock</p>	<p>To be no interference in operation after soldering heat shock, temperature $280 \pm 10^{\circ}\text{C}$ for 3seconds. If customer confirm to use lead-free soldering, the soldering temperature is $320 \pm 5^{\circ}\text{C}$ for 3seconds, sensitivity to be within ± 3dB from initial sensitivity. (The measurement to be done after 2 hours of conditioning at $+15^{\circ}\text{C}\sim+35^{\circ}\text{C}$, R. H 45%~75%)</p>

8.7 Temperature Shock Test	After exposure at -40°C for 30 minutes, at+85°C for 30 minutes(change time 20 seconds),20cycles, sensitivity to be within ± 3 dB from initial sensitivity. (The measurement to be done after 2 hours of conditioning at +15°C~+35°C, R.H 45%~75%)
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9 Stock and Transportation

- 9.1 Keep ECM in warehouse with less than 75% humidity and without sudden temperature change, acid air, any other harmful air or strong magnetic field.
- 9.2 The ECM with normal pack can be transported by ordinary conveyances. Please protect products against moist, shock, sunburn and pressure during transportation.
- 9.3 Storage Temperature Range: -25°C~+70°C
- 9.4 Operating Temperature Range: -20°C~+60°C

10 Output Inspection Standard

Output inspection standard is excuted according to 《JIS-Z9015》.

11 Cautions

- 11.1 When soldering, we use antistatic welding machine which can control soldering temperature automatically.
- 11.2 The temperature of the working surface of the soldering copper shall below 290°C. If customer confirm to use lead-free soldering, the soldering temperature is 320 ± 10 °C for 2 ± 0.5 seconds.
- 11.3 ECM shall be soldered fixed on the metal block (heat sink)which has the higher radiation effects Said heat sink shall contact with each of ECM.
- 11.4 Soldering flux cover holes on PCB .
- 11.5 ECM may easily destroyed by the static electricity, and the countermeasure for elimination the static electricity (the ground or soldering copper, for human body)shall be executed.
- 11.6 If wire length is shorter than 20 mm, the adhesion ability between insulative rubber and core wire will be decreased. The insulative rubber is easily slipped off mic if the case occurs. Please consciously pull the insulative rubber to mic end in order to eliminate the potential problem of short-circuit.

12 Publication History

Version	Description	Date	Author	Approved
1.0	Arden	2010-11-11	Merry	Brant

13 Sample Test

K&B Model	AX60220PFC10&33-40		
Test condition	1000Hz 0dB=1V/Pa 2.0V 2.2KΩ		
Sensitivity	-40±3 dB		
Reference No.	1KHz (dB)	Current (mA)	
1			
2			
3			
4			
5			
6			
7			
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Remark : B40		
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