Challenge Electronics
95 East Jefryn Boulevard
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Tel: 1-800-722-8197
1-631-595-2217
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PRODUCT INFORMATION

Part Numbers **CEM-OB60352-354G-S02C01-00-0** **Revision** **0-2014**

Type Omni directional Back Electret Condenser Microphone

Compliance

- **RoHS, Lead Free**
- **ISO 9001:2000**

Date	ECN #	Rev #	Description	Page	Prepared By	Approved By
2014-02-24		A	Initial release		**w.sargent**	

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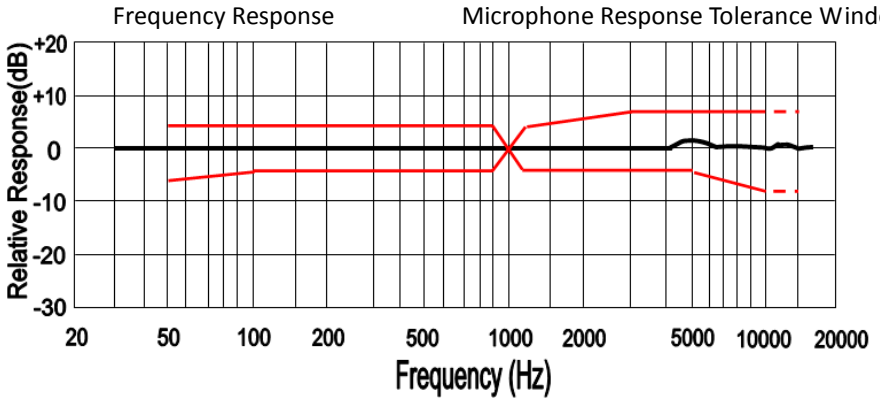
1. Electrical Characteristics （Temperature =20±2℃ Humidity=65±5%）

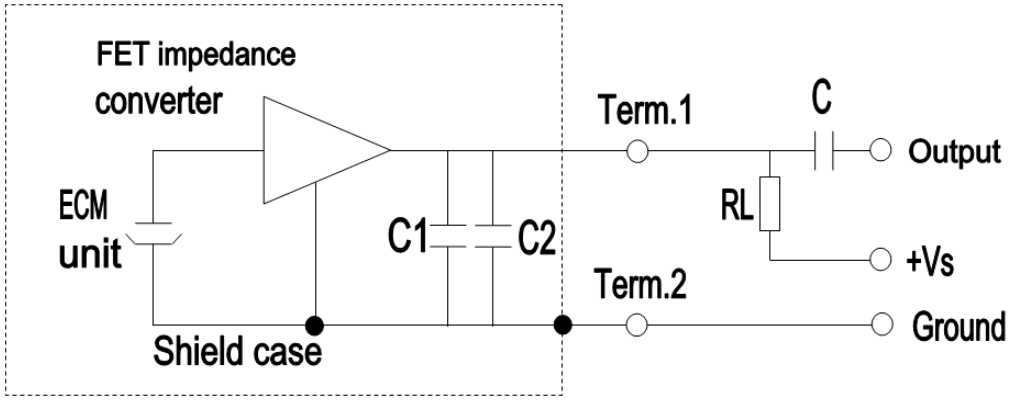
No	Parameter	Symbol	Condition	Limits			Unit
				Min.	Center	Max.	
1.1	Sensitivity	S	0dB=1V/Pa， at 1kHz	-39	-35	-31	dB
1.2	Output impedance	Z out	f=1kHz			2.2	KΩ
1.3	Current Consumption	I_{DSS}	V_{CC} =2.0V,R_L=2.2KΩ			500	μA
1.4	Signal to Noise Ratio	S/N	at 1kHz S.P.L=1Pa (A-Weighted Curve)	58			dB
1.5	Decreasing Voltage	ΔS	V_{CC}=3.0V to2.0V			-3	dB
5	Operating Voltage			1.0		10	V
1.7	Maximum input S.P.L					110	dB

2. Typical Frequency Response Curve



Frequency(Hz)	Lower Limit(dB)	Upper Limit(dB)
50	-6	+3
100	-3	+3
800	-3	+3
1000	0	0
1200	-3	+3
3000	-3	+8
5000	-3	+8
10000	-8	+8

3. Measurement Circuit



R_L=2.2KΩ
V_S =2.0V
C1=10μF
C2=33μF
C=1μF

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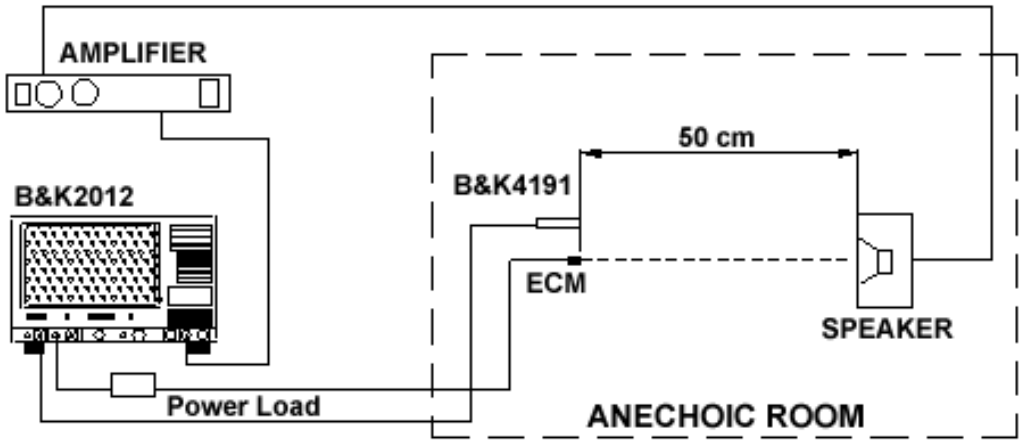
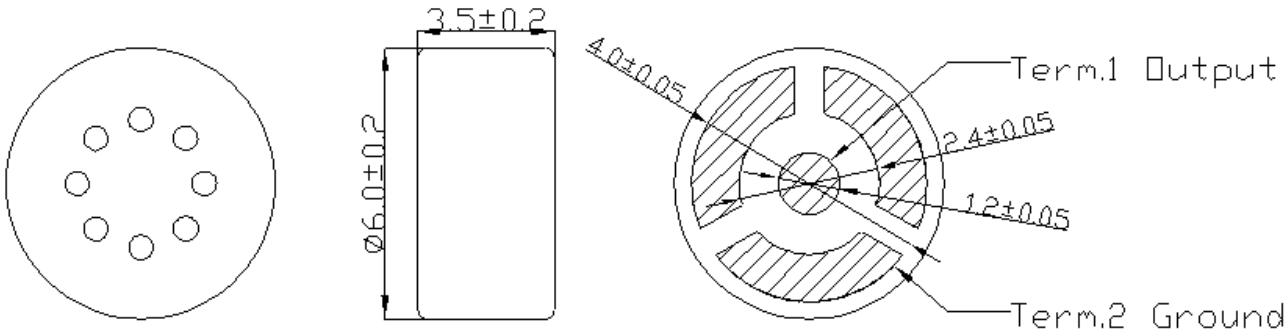
4. Measurement Setup Drawing

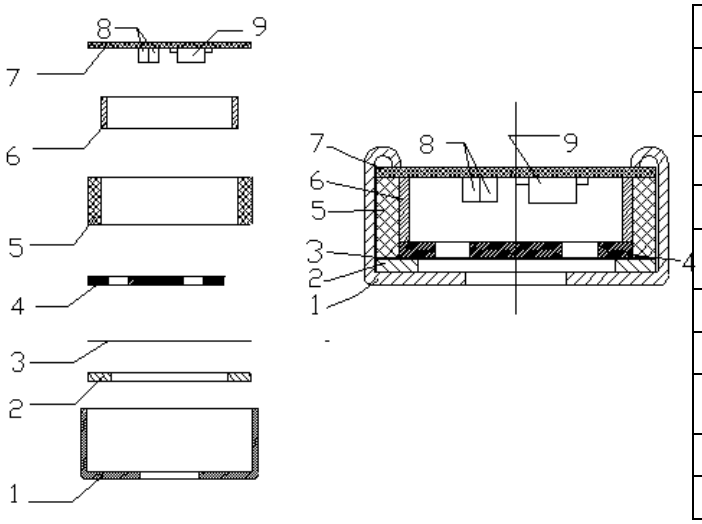


5. Appearance And Dimension

Unit：mm



6. Material And Structure



No.	Name	Material	QTY	Remark
9	FET		1	
8	CHIP CAPACITOR	10pF + 33pF	2	0402
7	P.C.B		1	FR-4
6	COPPER RING		1	
5	HOUSING CHAMBER		1	
4	ELECTRET BACK		1	
3	SPACER		1	
2	POLARIZED DIAPHRAGM		1	
1	CASE	COPPER	1	
No.	Name	Material	QTY	Remark

8. Temperature Conditions

Storage Temperature Range	Operation Temperature Range
-40℃ ~ +85℃	-40℃ ~ +85℃

Note: Store in electronic warehouse.

9. Terminal Mechanical Strength

Terminal should be no interference in operation after pulled the terminal with 1kg for 1 minute.

10. Reliability Test

After each of following test, the sensitivity of the microphone should be within ±3dB of initial sensitivity after 3hours of conditioning at 20℃.

10.1. Vibration Test

Frequency : 10Hz~55Hz
Amplitude : 1.52mm
Change of Frequency : 1 octave/min
2 hours in each of axes

10.2. High Temperature Test

+85℃ for 240 hours.

10.3. Low Temperature Test

-40℃ for 240 hours.

10.4. Humidity Test

90%～95%RH,+60℃ for 240 hours.

10.6.Temperature Cycles – Repeat for Ten (10) Cycles

Temp (℃)	-40	▲	+20	▲	+85	▼	+20	▼	(-20℃)
Time (hours)	2.0	0.5	2.0	0.1	2.0	0.5	2.0	0.5	(2.0)

10.7. Packing Drop Test

Height：1.0m
Procedure: 5 times from each of (3) axes

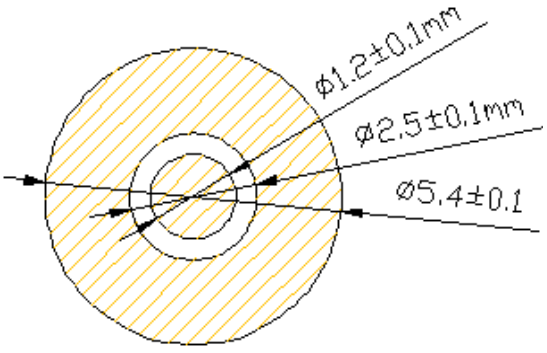
10.8 Electrostatic discharge

Tested to IEC61000-4-2 level 3：

a) Contact discharge: The microphone shall operate normally after 10 discharges to is 6KV DC and the discharge network is 150pF and 330Ω.

b) Air discharge: The microphone shall operate normally after 10 discharges to is 8KV DC and the discharge network is 150pF and 330Ω

11. Assembly Weld Plate (recommended)



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12. Reflow Process Condition

The soldering profile depends on various parameters necessitating a set up for each application. The data here is given only for guidance on solder re-flow. There are four zones:

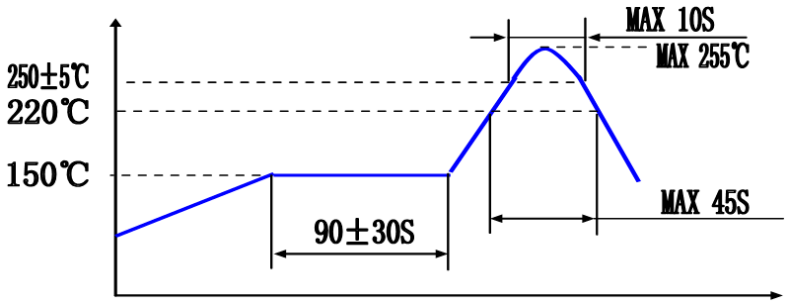
1. Preheat Zone: This zone brings the temperature at a controlled rate, typically 1~2.5℃/s.

2. Equilibrium Zone: This zone brings the board to be a uniform temperature and also activates the flux. The duration in this zone (typically 2~3 minutes) will need to be adjusted to optimize the out gassing of the flux.

3. Re-flow Zone: The peak temperature should be high enough to achieve good wetting but not so high as to cause component discoloration or damage (255℃ for maximum 10 seconds). Excessive soldering time can lead to inter-metallic growth which can result in a brittle joint.

4. Cooling Zone: The cooling rate should be fast, to keep the solder grains small which will give a longer lasting joint. Typically will be 2~5℃/s.

5. Sensitivity change should within ±3dB after re-flow process and at room temperature for 30 minutes at least.



12. Code Explanation

NAME	EXPLANATION
CE	Challenge Electronics
M	Microphone
-	Dash
O	Omni-directional
B	Back Electret
60	D= 6.0mm
35	T=3.5mm
2	PCB version No.2
-	Dash
354	Sensitivity –35±4dB
G	Test Condition 2.2KΩ／2.0V
-	Dash
S02	Solderless
C01	Capacitance: 10pF + 33pF
-	Dash
00	No Rubber
-	Dash
0	No Special Requirements

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13. Packing

1. MODEL NUMBER :

CEM- OB60342-354G-S02C01-00-0

2 EQUIPMENT

a) ADHENSIVE TAPE MACHINE
b) AUTO PACKER

3 PACKING INTRODUCTION

a) 600PCS/ DELIVERY PLATE
b) 1800PCS/ MID PACKET
c) 14400PCS/ PAPER CASE

4 QUANTITY INTRODUCTION

1. 1PC=0.25g
2. NET WEIGHT : 6.6 kg
3. GROSS WEIGHT : 7.5 kg

5 LABEL STIPULATION

a) LABELEDEVERY BOXES (SEE THE CHART)
b) DIMENSIONS SHOULD BE SEEN EASILY.

Packing