



PRODUCT INFORMATION

Part Number **CEM60229OB313J-L01CY2-AH-0** **Revision** **0-2012**

Type **Omni directional Back Electret Condenser Microphone**

Compliance

- **RoHS, Lead Free**
- **ISO 9001:2000**
- **ISO 14001:2004**
- **ISO/TS 16949:2002**



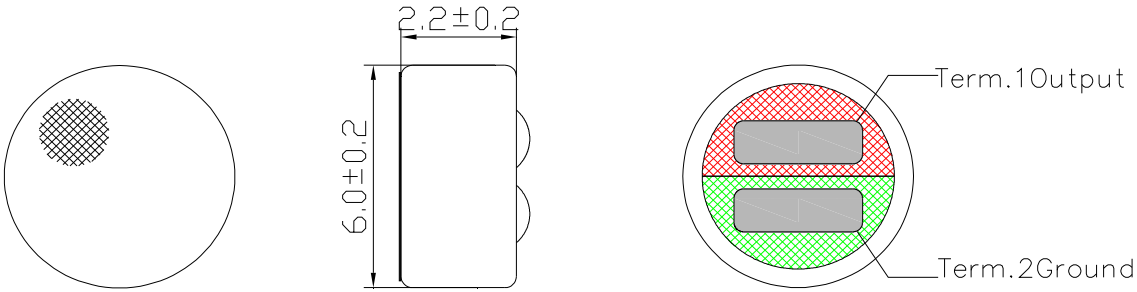
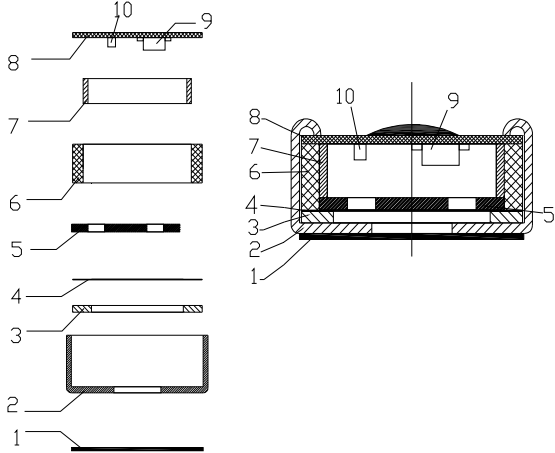
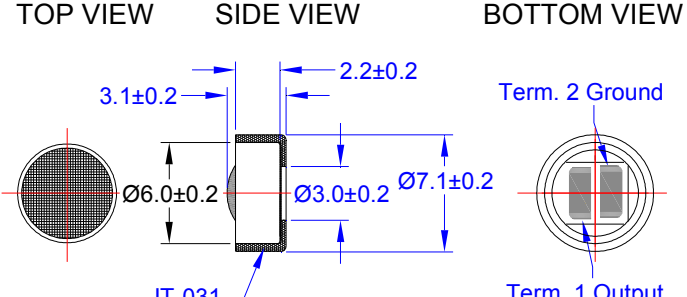
Description Challenge Electronics Condenser Microphone **6.0** mm diameter and **2.2** mm high, PCB version # **9**, **Omni** Direction **Back** Electret, **-31±3** dB sensitivity, **G** Test Condition 2.0 K Ω / 3.0 V, **L01** Welding Point Style Microphone, **CY2** Built in Chip Capacitors 10 + 33 pFD, **AH** Rubber Booth: JT-031, **0** No special requirements, RoHS Lead Free Compliant



1. Electrical Characteristics (Temperature = 20 ± 2°C Humidity = 65 ± 5%)							
No	Parameter	Symbol	Condition	Limits			
				Min.	Center	Max.	
1.1	Sensitivity	S	0dB = 1V/Pa, at 1k Hz	-34	-31	-28	dB
1.2	Output impedance	Z out	F = 1k Hz			2.2	K Ω
1.3	Current Consumption	I _{DSS}	V _{CC} = 3.0 V, R _L = 2.0KΩ			500	μA
1.4	Signal to Noise Ratio	S/N	at 1k Hz S.P.L = 1Pa (A-Weighted Curve)	55			dB
1.5	Decreasing Voltage	ΔS	V _{CC} = 3.0 V to 2.0 V			-3	dB
1.6	Operating Voltage			1.4		5	V
1.7	Maximum input S.P.L					110	dB
2. Typical Frequency Response Curve							
Frequency Response				Microphone Response Tolerance Window			
				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 = 2.0 K Ω			
				V _S = 3.0 V			
				C ₁ = 10 pFD			
				C ₂ = 33 pFD			
				C = 1 μFD			
4. Measurement Setup Drawing							

The information contained herein is believed to be correct, but no guarantee or warranty, express or implied, with respect to accuracy, completeness or results is extended and no liability is assumed. Challenge Electronics reserves the right to make changes in any specification, data or material contained herein.


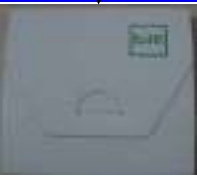





<p>5. Appearance And Dimension</p>	<p>Unit: mm</p> 																																																																																
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<p>7. Accessory Drawing</p>	<p>(Units: in mm)</p> <p>TOP VIEW SIDE VIEW BOTTOM VIEW</p> 																																																																																
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<p>9. Terminal Mechanical Strength</p>	<p>Terminal should be no interference in operation after pulled the terminal with 1kg for 1 minute.</p>																																																																																



Reliability Test			
10.	After each of following test, the sensitivity of the microphone should be within ± 3dB of initial sensitivity after 3 hours of conditioning at 20°C		
10.1	Vibration Test	Frequency	10 Hz. ~ 55 Hz.
		Amplitude	1.52 mm
		Change of Frequency	1 octave/min
10.2	High Temperature Test		+85°C For 240 hours
10.3	Low Temperature Test		-40°C For 240 hours
10.4	Humidity Test		90% ~ 95% RH, +60°C For 240 hours
10.5	Thermal shocking test	-40°C for 30 minutes; move to +80°C for 30 minutes; back to -40°C for 30 minutes Repeated 32 cycles	
10.6	Temperature Cycles	Minimum and Maximum Operating Temperature	<p>SINGLE CYCLE</p> <p>Maximum °C</p> <p>Minimum °C</p> <p>Minutes</p> <p>25°C 15 30 45 60 90 120 150 180 210</p>
			5 cycles, each cycle shall be set per diagram below and is three (3) hours long, (per IEC 68-2-14)
10.7	Packing Drop Test	Height	1.5 m 5 times from each axes
10.8	Electrostatic discharge per IEC 61000-4-2 level 3	a) Contact discharge	The microphone shall operate normally after 10 discharges to is 6 K Vdc and the discharge network is 150 pFD and 330 Ω.
		b) Air discharge	The microphone shall operate normally after 10 discharges to is 8 K Vdc and the discharge network is 150 pFD and 330 Ω
11. Soldering Condition			
11.1	We suggest using anti-static welding machine which can control soldering temperature automatically		
11.2	Soldering temperature should be controlled under 320° and soldering time for each terminal should be 1~2 seconds		
11.3	Microphone should be fixed on the metal block (heat sink), which has high radiation effects, and heat sink shall contact with MIC tightly		
11.4	Microphone may easily be destroyed by the static electricity and the countermeasure for eliminating the static electricity shall be executed (worktable and human body shall be ground connection)		
11.5	Heat Sink	Shape of heat sink	
		Shape of hole at fixed part	



12. Part Number Description						
Character		Meaning				
CEM		Challenge Electronics Microphone				
60		6.0 mm Diameter				
22		2.2 mm High				
9		PCB version No. 9				
O		Omni-Directional Microphone				
B		Back Electret				
313		Sensitivity -31 ± 3 dB				
G		Test Condition 2.0 K Ω / 3.0 V				
-		Dash				
L01		Welding Point Style Microphone				
CY2		Capacitance: 10 + 33 pFD				
-		Dash				
AH		Rubber Booth: JT-031				
-		Dash				
0		No special requirements				
13. Packaging						
13.1		Dimensions	Length	Width	Height	 ↓  ↓  ↓ 
a.	Anti-Static Bag	80 mm	80 mm	2 mm	100 Parts	
b.	Small Box	85 mm	85 mm	10 mm		
c.	Middle Box	205 mm	105 mm	50 mm		
d.	Carton Size	550 mm	230 mm	235 mm		
13.2		QUANTITY				100 Parts
a.	Anti-Static Bag			100	X 10	
b.	Small Box			100		
c.	Middle Box			1,000		
d.	Shipping Carton Size			30,000		
13.3		Approximate Weight				1,000 Parts
a.	Single Part			0.1 g	X 30	
b.	Shipping Carton Net			3.0 kg		
c.	Shipping Carton Gross			5.0 kg		
13.4		Shipping Carton Label Information and Documentation				30,000 Parts
a.	Certificate Of Compliance					
b.	Other Standard Documentation					
c.	Part Number					
d.	Quantity					
e.	Purchase Order Number					
f.	Lot Number & Production Date					
g.	Box Number					
h.	RoHS, Lead Free Compliance					
i.	Country of Origin					