
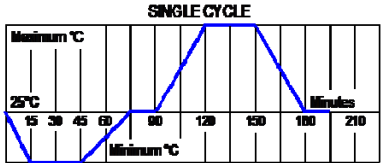


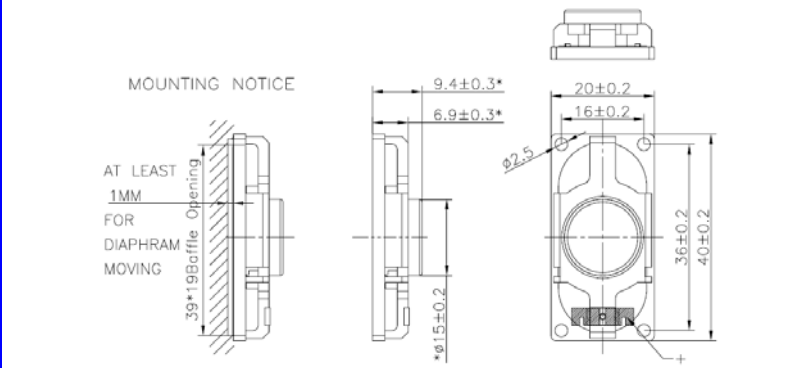


# PRODUCT INFORMATION

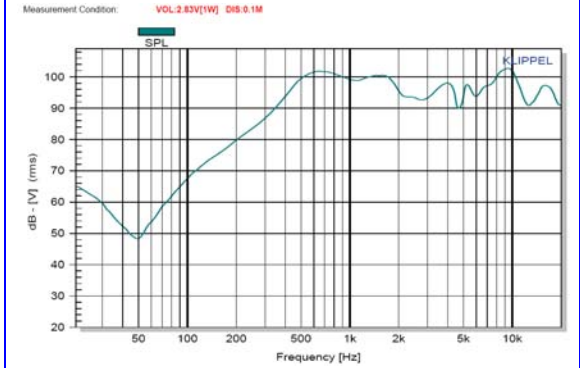
<b>PART #</b>	<b>CES400V094EA8PMN480UR</b>							<b>Revision: 1-2013</b>							
	<b>MINI OVAL SPEAKER</b>														
<b>DESCRIPTION:</b> Challenge Electronics Speaker, 40 mm Long, OVAL shape, 20 mm Wide, 9.4 mm High, EA = 4.0 W maximum power, 8 Ohm, Plastic Frame, Mylar PEI Cone Water & Dust Proof per IP65, NdFeB Ferrite magnet, 480 Hz. (Fo) Resonant Frequency, U PCB solder Points Termination, RoHS Lead Free Compliant															
<b>SPECIFICATIONS</b>															
Shape	Oval			Impedance	8 Ω ± 15%, at 900 Hz, 1.0 V			DC Resistance							
Rated Power	Sine Wave	3.0 W		Square Wave	Maximum Power		Sine Wave	4.0 W		Square Wave					
Resonant Frequency (Fo)	480 Hz. ±020%, at 1.0 V			Effective Frequency Band	200 Hz. to 20,000 Hz. Within 10 dB Average SPL										
Sound Pressure Level	95 ± 3.0 dB (A), at 1.0 W, 0.1 m, Average 1,000, 2,000, 3,000, 4,000 (Hz), at 25°C, Baffle board (IEC)														
Operating Temperature	-25°C to + 60°C			Storage Temperature	-30°C to +70°C										
Physical Dimensions	Length or Diameter (L /D)		40.0 mm	Width (W)	20.0 mm	Height (H)	9.4 mm								
Baffle Opening	Length or Diameter (L /D)		39.0 mm	Width (W)	19.0 mm	Minimum Opening Recessed		2.0 mm							
Mounting	Length or Diameter (L /D)		36.0	Width (W)	16.0	Holes size	2.5 Ø		Holes	4					
Distortion	Less than 5% at 1,000 Hz. at 1.0 W.														
Buzz & Rattle	Not be audible at 4.9 V sine wave between 20 Hz and 20,000 Hz.														
Polarity	When a positive DC Current is applied to the voice coil terminal marked +or red, the diaphragm shall move forward.														
Material	Magnet	Ferrite, NdFeB, 11.5 mm Ø, 2.5 mm high						Flux Density	Gauss						
	Frame	Plastic, ABS, Black				Cone Material	Mylar, PEI, Rated IP65 (See options below)								
	Termination	PCB Solder Points connection. (Caution, overheating the terminal may damage connections of voice coil leads)													
	Gasket														
Speaker Parameters	Qms		Qes		Qts		Vas		Cms		M		M/N		BL
Approximate Weight	8 grams			Shielding	No		Compliance	Lead Free, RoHS							
Options	Rated IP 65; Eater Proof IPX5 (jet-water proof in all directions), and Dust Proof IP6X (dust tight)														
<b>RELIABILITY</b>															
Max. Power Test	With program White-Noise source at Maximum Power, 1 minute on, 2 minutes off, 10 cycles, per (EIA) *														
Thermal Operating Temperature Test	96 hours continuous operation at Rated Power, at Maximum Rated Operating Temperature *														
	96 hours continuous operation at Rated Power, at Minimum Rated Operating Temperature *														
Thermal Storage Temperature Test	96 hours No Operation at Maximum Rated Storage Temperatures *														
	96 hours No Operation at Minimum Rated Storage Temperatures *														
Thermal Shock Test	5 cycles of Minimum and Maximum Operating Temperature Each cycle shall be set per diagram below and is three (3) hours long *														
Humidity Test	96 Hours at +40°C±2°C. 90-95% RH *														
Operation Life Test	Must perform normal with program White-Noise source at Rated Power for 96 Hours per (EIA) *														
Insulation Test	A minimum of 1 MΩ, measured with 100 Vdc Insulation Resistance Meter, between the Electrical Terminals and the Transducer Case														
Vibration Test	After parts are subjected to 15minutes of at 1.5 mm with 10 to 55 Hz. vibration frequency to each of 3 perpendicular directions *														
Termination Strength	Maximum of 9.8 N (1.0 Kg) load pull test, applied to each terminal in axial direction for 10 seconds														
Drop Test	After parts are subjected to dropped naturally from 1 meter height onto the surface of 40 mm wooden board, 3 axes (X,Y,Z) directions, 3 times (9 times total) *														
* Reliability Test Performance	Parts should conform to original performance within ±5 dB tested with Rated Power, after 3 hours of recovery period.														
Warranty	For a period of one (1) year from date of shipping under normal operations conditions This warranty does not apply to products damaged through misuse, abuse, improper installation, alteration, rework, or attempt to repair														



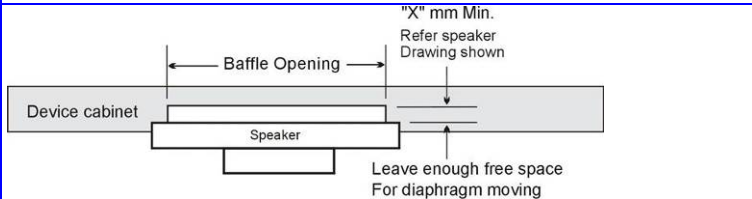
**DIMENSIONS** Units in: mm, Tolerance: ± 0.5 mm unless specified otherwise



**SPL vs. FREQUENCY RESPONSE**

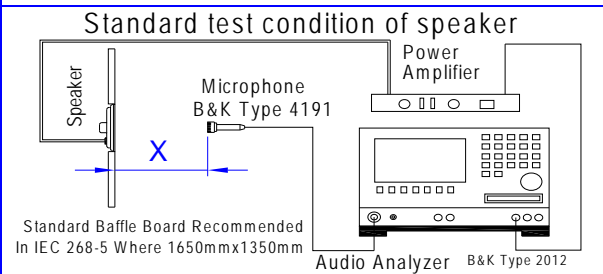


**MOUNTING PRECAUTION**



In order to keep speaker work normally, there shall leave enough free space for diaphragm moving, minimum distance required is marked in speaker mechanical drawing.

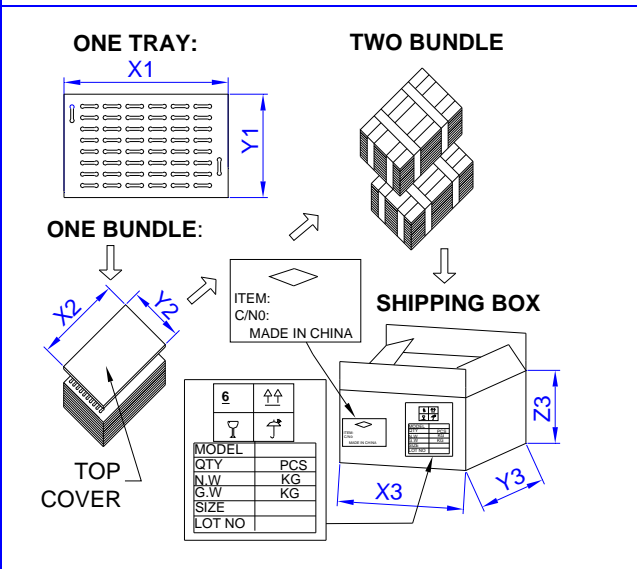
**TEST PROCESS**



Test Condition	
<b>STANDARD</b>	
Temperature:	15 ~ 35°C
Relative humidity:	45% ~ 85%
Atmospheric pressure:	860 mbar to 1060mbar
<b>JUDGEMENT</b>	
Temperature :	20±3°C
Relative humidity:	60% ~ 70%
Atmospheric pressure:	860mbar to 1060mbar

Standard Test Fixture	
Zero Level:	-dB
Mode:	TSR
potentiometer Range:	50dB
Sweep Time:	0.5sec
<b>Input Power:</b>	<b>1.0 W</b>
<b>Microphone Distance:</b>	<b>X = 10 cm</b>

**PACKAGING**



MARKING		TRAY	
<b>Bundle</b>		X1	cm
Part Number	Dimensions	Y1	cm
Other PN if required		Z1	cm
Quantity	Quantity		
Lot and/or Date Code		<b>BUNDLE</b>	
Bundle Number		X2	cm
<b>Shipping Box</b>	Dimensions	Y2	cm
Part Number		Z2	cm
Other PN (if required)	Quantity		
Quantity		<b>SHIPPING BOX</b>	
Lot and/or Date Code		X3	cm
PO Number	Dimensions	Y3	cm
Net Weight		Z3	cm
Gross Weight	Number of Bundles		
Box Number of Boxes	Quantity		
<b>Made in China</b>	Approximate Weight		kg

Revision	Description	By	Date
1-2013	Updated Specifications Format	Ely Zofan	8/8/20113