



PRODUCT INFORMATION

PART #	CES250V075CF8PMN650UR	Revision: 0-2011
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	MINI OVAL SPEAKER
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DESCRIPTION: Challenge Electronics Speaker, 25 mm Long, OVAL shape, 14 mm Wide, 7.5 mm High, CF = 2.5 W maximum power, 8 Ohm, Plastic Frame, Mylar PEI Cone Water & Dust Proof per IP65, NdFeB Ferrite magnet, 650 Hz. (Fo) Resonant Frequency, U PCB solder Points Termination, RoHS Lead Free Compliant

SPECIFICATIONS

Shape	Oval		Impedance	8 Ω ± 15%, at 900 Hz, 1.0 V		DC Resistance			
Rated Power	Sine Wave	2.0 W	Square Wave	1.6 W	Maximum Power	Sine Wave	2.5 W	Square Wave	2.1 W
Resonant Frequency (Fo)	650 Hz. ±20%, at 1.0 V		Effective Frequency Band	400 Hz. to 20,000 Hz. Within 10 dB Average SPL					
Sound Pressure Level	81 ± 3.0 dB (A), at 1.0 W, 0.5 m, Average 800, 1,000, 1,200, 1,500 (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)	25.0 mm	Width (W)	14.0 mm	Height (H)	7.5 mm			
Baffle Opening	Length or Diameter (L /D)	23.0 mm	Width (W)	12.0 mm	Minimum Opening Recessed	2.0 mm			
Mounting	Length or Diameter (L /D)		Width (W)		Holes size		Holes		
Distortion	Less than 5% at 1,000 Hz. at 1.0 W.								
Buzz & Rattle	Not be audible at 2.83 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, 7.7 mm Ø, 2.0 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	3.9 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)								

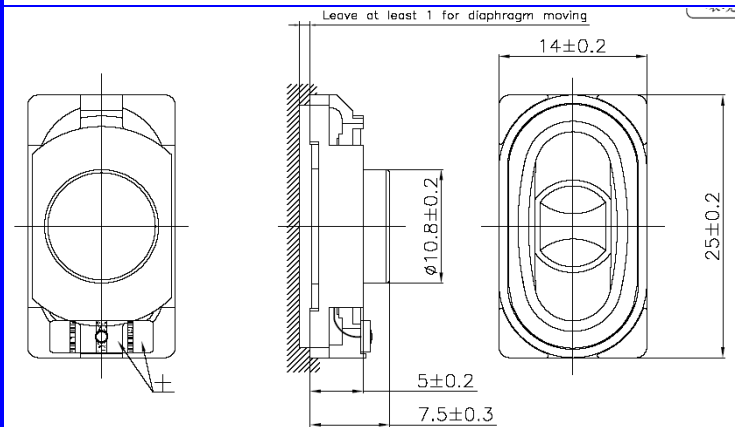
RELIABILITY

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	After parts are subjected to 96 hours storage at Maximum Rated Storage Temperatures * After parts are subjected to 96 hours storage at Minimum Rated Storage Temperatures *
Thermal Shock Test	<p>5 cycles of Minimum and Maximum Operating Temperature</p> <p>Each cycle shall be set per diagram below and is three (3) hours long *</p> <div style="text-align: center;"> </div>
Humidity Test	After parts are subjected to 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 (6 times total) *
* Reliability Test Performance	Parts should conform to original performance within ±5 dB tested with Rated Power , after 3 hours of recovery period.
Life Test	96 hours continuous operation at Rated Power , with White Noise
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

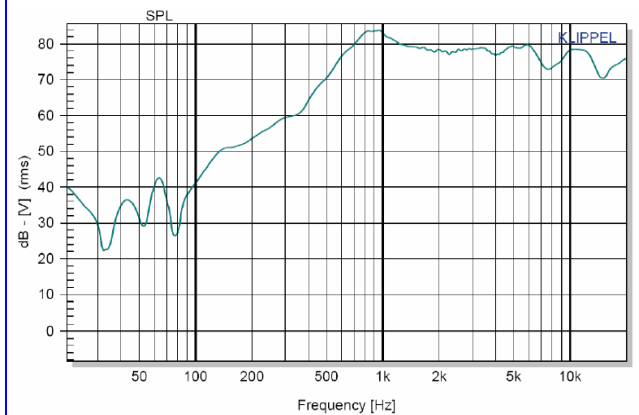


DIMENSIONS

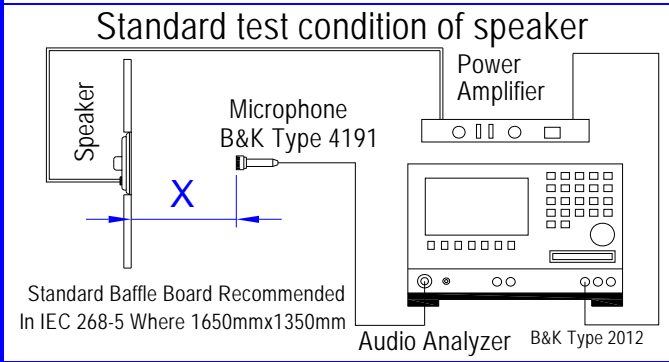
Units in: mm, Tolerance: ± 0.3 mm unless specified otherwise.



SPL vs. FREQUENCY RESPONSE



TEST PROCESS



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

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

PACKAGING

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