



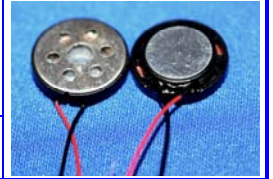
# PRODUCT INFORMATION

<b>PART #</b>	<b>CES150R035AH8PMN1100W153R</b>	<b>Revision: 1-2015</b>
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## ROUND SPEAKER

**DESCRIPTION:** Challenge Electronics Speaker; 15.0 mm; Round Shape; 3.5 mm High; AH = 0.8W Maximum Power; 8 Ohm; Plastic Frame; Mylar Cone; NdFeB Magnet; 1100 Hz. (Fo) Resonant Frequency; Wire leads connection; RoHS Lead Free Compliant;



### SPECIFICATIONS

<b>Shape</b>	Round	<b>Impedance</b>	8 Ω ± 15% Ω, at 2K Hz, 1.0 V			<b>DC Resistance</b>	7.4 ± 10% Ω									
<b>Rated Power</b>	<b>Sine Wave</b> 0.5 W	<b>Square Wave</b>	<b>Maximum Power</b>			<b>Sine Wave</b> 0.8 W	<b>Square Wave</b>									
<b>Effective Frequency Band</b>	1100 Hz. to 20,000 Hz.		<b>Resonant Frequency (Fo)</b>			1100 ± 20% Hz., at 1.0 V										
<b>Sound Pressure Level</b>	95 ± 3.0 dB (A), at 0.5W, 0.1 m		Average at(1,000, 1,200, 1,500, 2,000)Hz, with Baffle board (IEC)													
<b>Operating Temperature</b>	-20°C to + 60°C		<b>Storage Temperature</b>			-30°C to +60°C										
<b>Physical Dimensions</b>	<b>Length or Diameter (L /D)</b>	15 mm Ø	<b>Width (W)</b>	mm	<b>Height (H)</b>	3.5 mm										
<b>Baffle Opening</b>	<b>Length or Diameter (L /D)</b>		<b>Width (W)</b>		<b>Minimum Opening Recessed</b>											
<b>Mounting</b>	<b>Length or Diameter (L /D)</b>	mm Ø	<b>Width (W)</b>		<b>Holes size</b>	mm Ø	<b>Mounting</b>									
<b>Distortion</b>	Less than 10% at 1,000 Hz. at 0.1 W															
<b>Buzz &amp; Rattle</b>	Not be audible at 2.0V sine wave between 100 Hz. and 5,000 Hz.															
<b>Polarity</b>	When a positive DC Current is applied to the voice coil terminal marked + or red, the diaphragm shall move forward															
<b>Material</b>	<b>Magnet</b>	NdFeB, OD 8.0 mm Ø, H 1.0 mm				<b>Flux Density</b>	/ T									
	<b>Frame</b>	Plastic			<b>Cone Material</b>	Clear Mylar										
	<b>Termination</b>	Wire leads connection, UL1571 AWG30, Red=positive, Black=negative, 153mm														
	<b>Optional Gasket</b>															
<b>Speaker Parameters</b>	<b>Qms</b>		<b>Qes</b>		<b>Qts</b>		<b>Vas</b>		<b>Cms</b>		<b>M</b>		<b>M/N</b>		<b>BL</b>	
<b>Approximate Weight</b>	1.3 grams		<b>Shielding</b>	No	<b>Compliance</b>	Lead Free, RoHS										
<b>Options</b>																

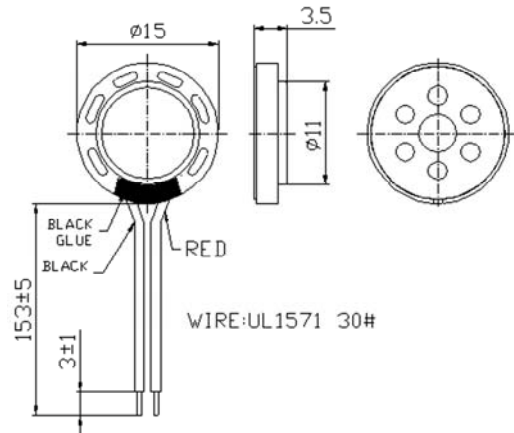
### RELIABILITY

<b>Max. Power Test</b>	With program White-Noise source <b>Maximum Power</b> , 1 minute on, 2 minutes off, 10 cycles, per (EIA) *
<b>Thermal Operating Temperature Test</b>	96 hours continuous operation at <b>Rated Power</b> , at <b>Maximum Rated Operating Temperature</b> *
	96 hours continuous operation at <b>Rated Power</b> , at <b>Minimum Rated Operating Temperature</b> *
<b>Thermal Storage Temperature Test</b>	96 hours storage at <b>Maximum Rated Storage Temperatures</b> *
	96 hours storage at <b>Minimum Rated Storage Temperatures</b> *
<b>Thermal Shock Test</b>	<p>5 cycles of <b>Minimum and Maximum Operating Temperature</b></p> <p>Each cycle shall be set per diagram below and is three (3) hours long *</p>
<b>Humidity Test</b>	After parts are subjected to <b>96 Hours</b> at +40°C±2°C. 90-95% RH*
<b>Operation Life Test</b>	Must perform normal with program White-Noise source at <b>Rated Power</b> for <b>96 Hours</b> per (EIA)
<b>Insulation Test</b>	A minimum of 1 MC, measured with 100 Vdc Insulation Resistance Meter, between the Electrical Terminals and the Transducer Case
<b>Vibration Test</b>	Parts in Shipping Container are subjected to 15 minutes of at 0.75 mm with 10 to 55 Hz. vibration frequency to each of 3 perpendicular directions *
<b>Termination Strength</b>	Maximum of 9.8 N (1.0 Kg) load pull test, applied to each terminal in axial direction for <b>10 seconds</b>
<b>Drop Test</b>	Parts in Shipping Container 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) *
<b>* Reliability Test Performance</b>	<b>Parts should conform to original performance within ±5 dB tested with Rated Power, after 3 hours of recovery period</b>

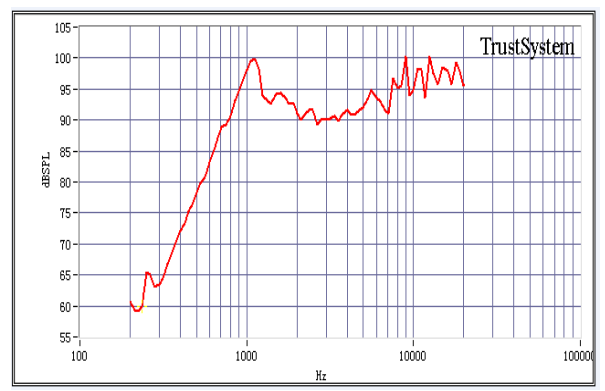
<b>Warranty</b>	For a period of one (1) year from date of shipping under normal operations conditions This warranty does not apply to products damaged through misuse, abuse, improper installation, alteration, rework, or attempt to repair
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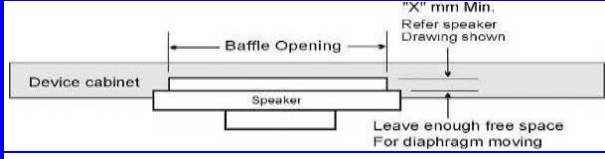
**DIMENSIONS** Units in: mm, Tol: ± 0.5 mm unless specified otherwise



**SPL vs. FREQUENCY RESPONSE**

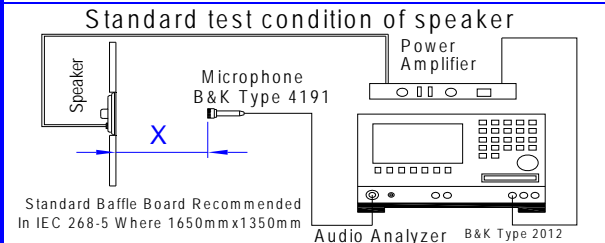


**MOUNTING PRECAUTION**



The speaker must be mounted so that the diaphragm can move freely without mechanical interference from the baffle, enclosure or other parts. The required clearance (if specified) will be given in the mechanical drawing and/or detailed specifications above.

**TEST PROCESS**



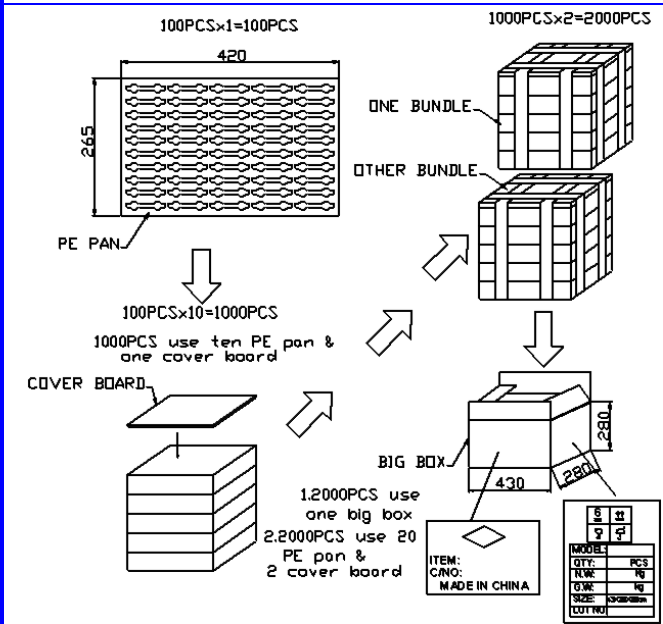
**Test Condition**  
Temperature: 15 ~ 35°C  
Relative humidity: 45% ~ 85% Atmospheric  
**STANDARD**  
pressure: 860 mbar to 1060mbar  
**JUDGEMENT**  
Temperature : 20±3°C  
Relative humidity: 60% ~ 70%  
Atmospheric pressure: 860mbar to 1060mbar

**Standard Test Fixture**  
Zero Level: -dB  
Mode: TSR  
potentiometer Range: 50dB  
Sweep Time: 0.5sec  
**Input Power:**  
**0.5 W (2.0 V)**  
**Microphone Distance:**  
**X = 10 cm**

**SUBSTANCE OF VERY HIGH CONCERN (SVHC)**

This product does NOT contain any of the REACH Substances of Very High Concern (SVHC), and is in compliance with European Union REACH Regulation No.1907/2006 regarding chemical substances which must be registered or disclosed.

**PACKAGING**



MARKING		TRAY	
<b>Bundle</b>		X1	42 cm
Customer PN	Dimensions	Y1	26.5 cm
Other PN if required		Z1	
Quantity		Quantity	
Lot and/or Date Code	<b>BUNDLE</b>		
Bundle Number		X2	42 cm
<b>Shipping Box</b>	Dimensions	Y2	26.5 cm
Customer Part Number		Z2	
Other PN (if required)		Quantity	
Quantity	<b>SHIPPING BOX</b>		
Lot and/or Date Code		X3	43 cm
PO Number	Dimensions	Y3	28 cm
Gross Weight		Z3	28 cm
Box Number of Boxes	Number of Bundles	2	
Made in China	Quantity	2,000pcs	
	Approximate Weight	10 Kg	

Revision	Description	By:	Date
1-2015	Moved a comma (in the frequency response) from 2,0000 to 20,000	W.Sargent	8/3/2015