



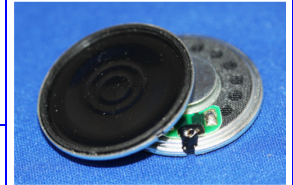
PRODUCT INFORMATION

PART #	CES280R042AE8SMN750UR	Revision: 0-2014
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Round Speaker

DESCRIPTION: Challenge Electronics Speaker; 28 mm Diameter; Round shape; 4.2 mm High; AE = 0.5 W maximum power; 8 Ohm; SPCC Steel Plated Frame; Mylar PET Black Cone; NdFeB Ferrite magnet; 750 Hz. (Fo) Resonant Frequency; PCB Solder Point Termination (U); RoHS Lead Free Compliant



SPECIFICATIONS

Shape	Round	Impedance	8 Ω ± 15%, at 2,000 Hz., 1 V			DC Resistance									
Rated Power	Sine Wave	0.25 W	Square Wave	W	Maximum Power	Sine Wave	0.5 W	Square Wave							
Effective Frequency Band	750 to 7,000 Hz.			Resonant Frequency (Fo)	750 Hz. ± 20%, at 1 V										
Sound Pressure Level	92 ± 2.0 dB (A), at 0.1 W, 0.1 m, Average 800,1,000, 1,200, 1,500 (Hz), at 25°C, Baffle board (IEC)														
Operating Temperature	-30° C to + 60° C		Storage Temperature	-30° C to + 60° C											
Physical Dimensions	Diameter (D)	28 mm ø				Height (H)	4.2 mm								
Baffle Opening	Diameter (D)	25 mm ø				Minimum Opening Recessed	1 mm								
Mounting															
Distortion	Less than 5% at 1,000 Hz. at 0.25 W														
Buzz & Rattle	Not be audible at 1.4 V sine wave between 750 Hz and 7,000 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				Flux Density	T								
	Frame	SPCC Steel			Cone Material	PET									
	Termination	PCB Solder Points													
	Optional Gasket	Black Paper Gasket OD 26.8 mm, ID 25 mm													
Speaker Parameters	Qms		Qes		Qts		Vas		Cms		M		M/N		BL
Approximate Weight	6 grams		Shielding	No		Compliance	Lead Free, RoHS, REACH								
Options															

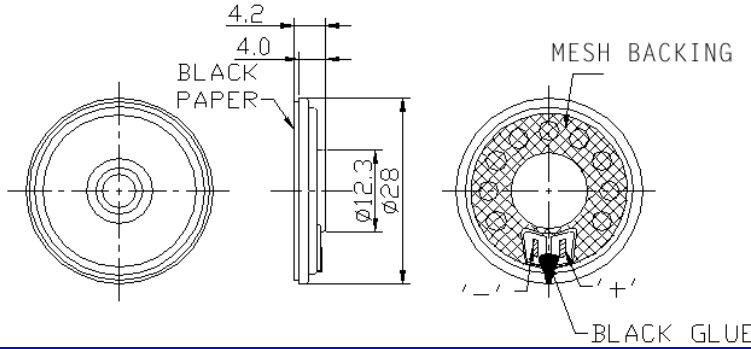
RELIABILITY

Maximum Power Test	With program White-Noise source 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 storage at Maximum Rated Storage Temperatures *
	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>
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	Parts in Shipping Container are subjected to 15minutes of at 0.75 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	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) *
* Reliability Test Performance	Parts should conform to original performance within ±5 dB tested with Rated Power, after 3 hours of recovery period.

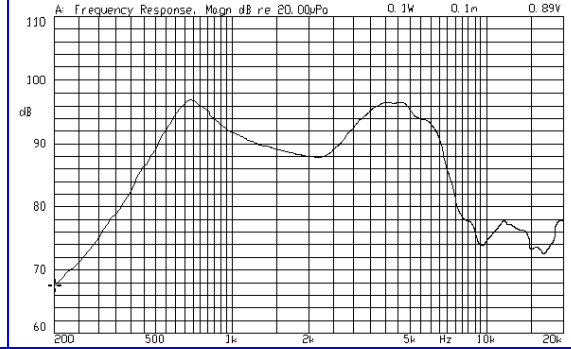
Warranty	For a period of one (1) year from date of shipping under normal operations conditions This warranty does not apply to products damaged through misuse, abuse, improper installation, alteration, rework, or attempt to repair
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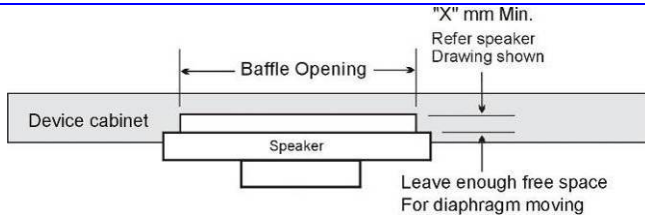
DIMENSIONS Units in: mm, Tolerance: ± 0.3mm unless specified otherwise



SPL vs. FREQUENCY RESPONSE

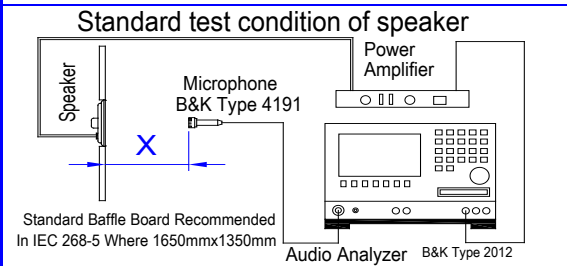


MOUNTING PRECAUTION



The speaker must be mounted so that the diaphragm can move freely without mechanical interference from the baffle, enclosure or other parts. This speaker requires a minimum clearance of 2 mm.

TEST PROCESS



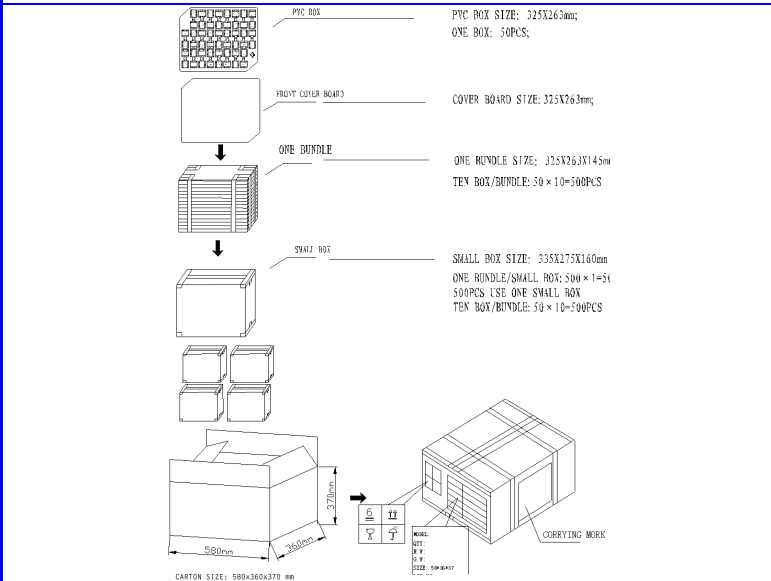
Test Condition	
STANDARD	
Temperature:	15 ~ 35°C
Relative humidity:	45% ~ 85%
Atmospheric pressure:	860 mbar to 1060 mbar
JUDGEMENT	
Temperature:	20±3°C
Relative humidity:	60% ~ 70%
Atmospheric pressure:	860 mbar to 1060 mbar

Standard Test Fixture	
Zero Level:	-dB
Mode:	TSR
potentiometer Range:	50 dB
Sweep Time:	0.5 sec
Input Power:	0.1 W
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	
Bundle	Dimensions	X1	32.5 cm
Part Number		Y1	26.3 cm
Other PN if required		Z1	cm
Quantity	Quantity	50	
Lot and/or Date Code	BUNDLE		
Bundle Number	Dimensions	X2	32.5 cm
Shipping Box		Y2	26.3 cm
Part Number		Z2	14.5 cm
Other PN (if required)	Quantity	50	
Quantity	SHIPPING BOX		
Lot and/or Date Code	Dimensions	X3	58 cm
PO Number		Y3	36 cm
Net Weight		Z3	37 cm
Gross Weight	Number of Bundles	10	
Box Number of Boxes	Quantity	500	
Made in China	Approximate Weight		

Revision	Description	By	Date