

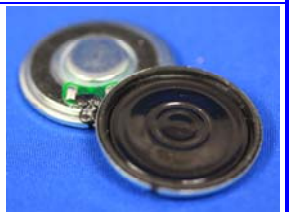


PRODUCT INFORMATION

PART #	CES300R048BA08SMN500UR	Revision: 2-2016
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	Round Speaker
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DESCRIPTION: Challenge Electronics Speaker; 30 mm Diameter; Round shape; 4.8 mm High; BA = 1.0 W maximum power; 8 Ohm; Plated Steel Plated Frame; Mylar PET Black Cone; NdFeB Ferrite magnet; 500 Hz. (Fo) Resonant Frequency; PCB Solder Point Termination (U); RoHS Lead Free Compliant

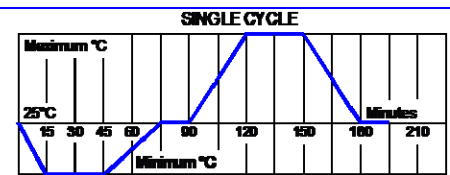


SPECIFICATIONS

Shape	Round	Impedance	8 Ω ± 15%, at 2,000 Hz., 1.0 V		DC Resistance	
Rated Power	Sine Wave 0.5 W	Square Wave	W	Maximum Power	Sine Wave 1.0 W	Square Wave
Effective Frequency Band	500 Hz. to 5,000 Hz.		Resonant Frequency (Fo)		500 Hz. ± 20%, at 1.0 V	
Sound Pressure Level	88 ± 3.0 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)	30 mm ø			Height (H)	4.8 mm
Baffle Opening	Diameter (D)	25 mm ø			Minimum Opening Recessed	3 mm
Mounting					Pins Diameter	Pins #
Distortion	Less than 5% at 1,000 Hz. at 0.5 W					
Buzz & Rattle	Not be audible at 2 V sine wave between 500 Hz and 6,000 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	0.6 T
	Frame	SPCC Steel	Cone Material	PET Mylar		
	Termination	Solder Tabs				
	Gasket	Black Paper Gasket OD 26.7 mm, ID 25.2 mm				
Speaker Parameters	Qms	Qes	Qts	Vas	Cms	M, M/N, BL
Approximate Weight	5.8 grams		Shielding	No	Compliance	Lead Free, RoHS

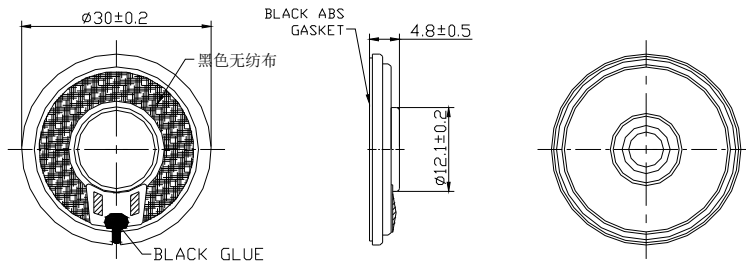
RELIABILITY

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	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	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

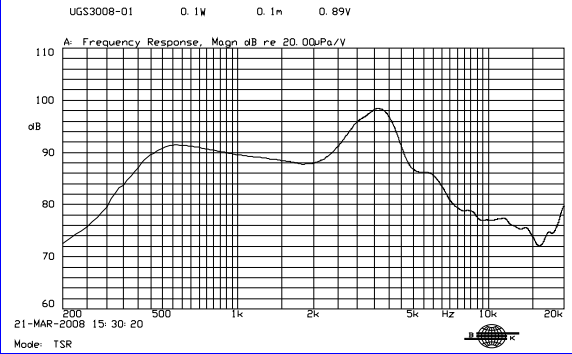




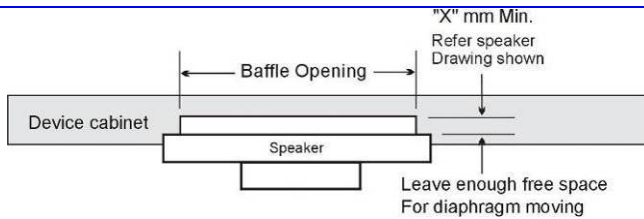
DIMENSIONS Units in: mm, Tolerance: ± 0.3mm unless specified otherwise



SPL vs. FREQUENCY RESPONSE

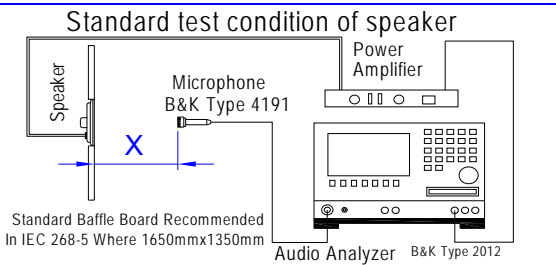


MOUNTING PRECAUTION



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

TEST PROCESS



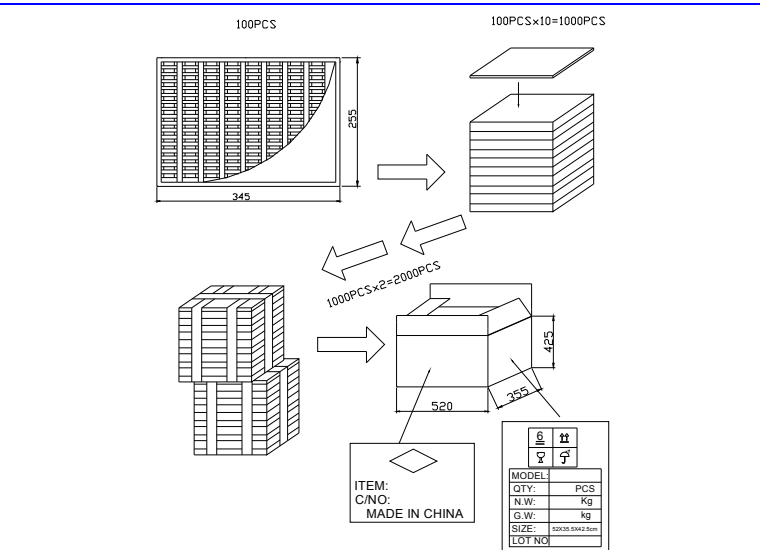
Test Condition	
STANDARD	
Temperature:	15 ~ 35°C
Relative humidity:	45% ~ 85%
Atmospheric pressure:	860 mbar to 1060 mbar
JUDGEMENT	
Temperature :	20±3°C
Relative humidity:	60% ~ 70%
Atmospheric pressure:	860 mbar to 1060 mbar

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		X1	25.5 cm	
Part Number	Dimensions	Y1	34.5 cm	
Other PN if required		Z1	cm	
Quantity		Quantity		100
Lot and/or Date Code	BUNDLE			
Bundle Number	Dimensions	X2	25.5 cm	
Shipping Box		Y2	34.5 cm	
Part Number		Z2	cm	
Other PN (if required)	Quantity	Quantity		1,000
Quantity	SHIPPING BOX			
Lot and/or Date Code	Dimensions	X3	35.5 cm	
PO Number		Y3	52.0 cm	
Net Weight		Z3	42.5 cm	
Gross Weight	Number of Bundles	Quantity		2
Box Number of Boxes	Quantity	Quantity		2,000
Made in China	Approximate Weight			

Revision	Description	By	Date
1-2015	Revised part number from CES030R048BA08SMN500UR to CES300R048BA08SMN500UR. Add Product photo.	WS	1/22/2015
2-2016	Revised THD measurement condition from 1.0V to 0.5W. Added Flux Density.	WS	9/22/2016