



PRODUCT INFORMATION

PART #	CES250V030BC04PMN900TR	Revision: 4-2018
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Oval Speaker



DESCRIPTION: Challenge Electronics Speaker; 25 mm Long; Oval shape; 9 mm Wide; 3.0 mm High; BC = 1.2 W maximum power; 4 Ohm; Plastic Frame; Mylar PEEK + AL, Black Diaphragm; NdFeB magnet; 900 Hz. (Fo) Resonant Frequency; Solder Tab Termination; RoHS Lead Free Compliant

SPECIFICATIONS

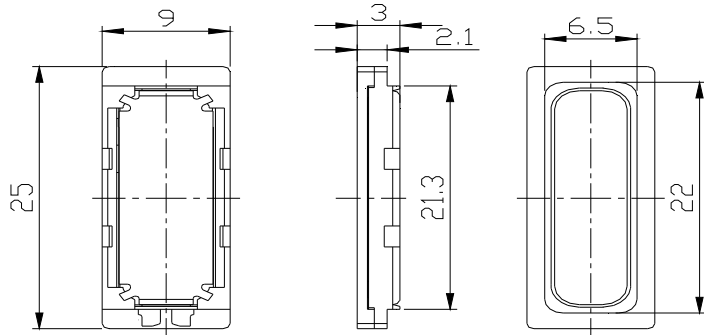
Shape	Oval	Impedance	4 Ω ± 15%, at 3,000 Hz., 1.0 V			DC Resistance	5.4 Ω ± 10%								
Rated Power	Sine Wave	1.0 W	Square Wave	W	Maximum Power	Sine Wave	1.2 W	Square Wave							
Effective Frequency Band	900 Hz. to 20,000 Hz.			Resonant Frequency (Fo)		900 Hz. ± 20%, at 2.0 V									
Sound Pressure Level	93 ± 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 + 70° C		Storage Temperature		-40° C to +85° C										
Physical Dimensions	Length or Diameter (L /D)	25 mm Ø	Width (W)	9 mm	Height (H)	3.0 mm									
Baffle Opening	Length or Diameter (L /D)	13.6 mm	Width (W)	6.6 mm	Minimum Opening Recessed		3 mm								
Mounting	PCB														
Distortion	Less than 10% at Fo - 1,000 Hz. at 1 W														
Buzz & Rattle	Not be audible at 1 W sine wave between 400 Hz and 5,000 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									
	Frame	Black Plastic			Diaphragm Material	PEEK + AL, Black									
	Termination	Solder Tab													
	Optional Gasket	Black gasket													
Speaker Parameters	Qms		Qes		Qts		Vas		Cms		M		M/N		BL
Approximate Weight	2.7 grams		Shielding	No		Compliance	Lead Free, RoHS								
Options															

RELIABILITY

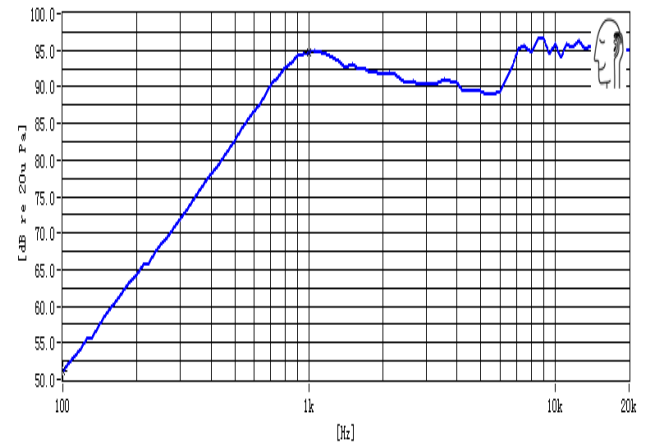
Maximum Power Test	With program White-Noise source Maximum Power , 1 minute on, 2 minutes off, 10 cycles, per (EIA) *
Thermal Operating Temperature Test	96 hours continuous operation at Rated Power , at Maximum Rated Operating Temperature *
	96 hours continuous operation at Rated Power , at Minimum Rated 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 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



DIMENSIONS Units in: mm . tol. 0.2 mm unless specified otherwise



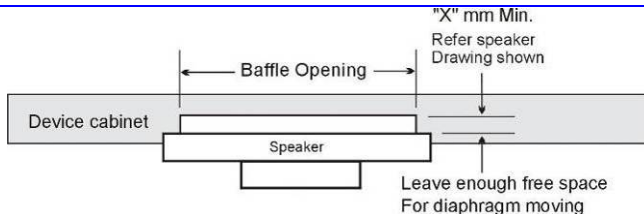
SPL vs. FREQUENCY RESPONSE



CONSTRUCTION

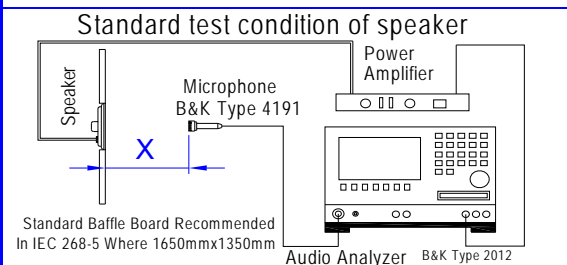
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7	Gasket	1		Black Plastic
6	PCB	1		SUS
5	Magnet	1		NdFeB
4	Plate	1		SPCC
3	Voice coil	1		Copper
2	Diaphragm	1		PEN+AL
1	Frame	1		Black Plastic
PART NO.	PART NAME	Q'TY		MATERIAL

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 Amplitude:	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	cm
		Part Number		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
		Part Number		Z2	cm
		Other PN (if required)	Quantity		
		Quantity	SHIPPING BOX		
		Lot and/or Date Code	Dimensions	X3	43.0 cm
		PO Number		Y3	31.0 cm
		Net Weight		Z3	35.0 cm
		Gross Weight	Number of Bundles		
		Box Number of Boxes	Quantity		1000
		Made in China	Approximate Weight		3.5 kgs
Revision	Description	By	Date		
1-2015	Changed mounting from SMD to PCB	ws	2015-05-11		
2-2016	Added shipping and packaging details: quantity, weight, dimensions	ws	2016-08-22		
3-2016	Revised packaging details: quantity, weight, dimensions	ws	2016-11-09		
4-2018	Updated diaphragm material from PEEK + AL to PEEK + AL, Black. Updated photo	JL	2018-05-10		