Challenge Electronics
95 East Jefryn Boulevard
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PRODUCT INFORMATION

PART # 4030CESH **Revision:** 2-2012

Lead Free RoHS COMPLIANCE

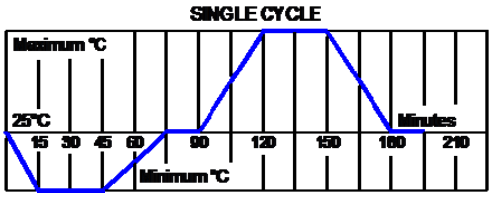
4" SQUARE SPEAKER

DESCRIPTION: **C**hallenge **E**lectronics **S**peaker, **102** mm Long, **S**quare shape, **102** mm Wide, **43** mm High, **KA** = 10 W maximum power, **8** Ohm, **Fe** Plated Steel Frame, **P**aper Cone, **N**dFeB Ferrite magnet, **222** Hz. (Fo) Resonant Frequency, **T**erminal Lugs Termination, **SH** with Shielding

SPECIFICATIONS

Shape	Square	**Mounting**	4 Holes, 7 mm Long, 5 mm Wide, 81.3 mm between holes Horizontal and Vertical						
Impedance	8 Ω ± 15%, at: 1,000 Hz. 1.0 V	**DC Resistance**	7.2 Ω ± 15%	**Rated Power**	5.0 W	**Maximum Power**	10.0 W		
Effective Frequency Band	150 Hz. to 18,000 Hz.			**Resonant Frequency (Fo)**	222 Hz. ± 20%, at 1.0 V				
Sound Pressure Level	86 ± 3.0 dB(A), at: 1 W, 1.0 m, Average 400, 600, 800, 1,000, and 1,500 (Hz), at 25°C, Baffle board (IEC)								
Operating Temperature	-20°C to + 60°C			**Storage Temperature**	-30°C to +70°C				
Physical Dimensions	**Length or Diameter (L /D)**	102.0 mm	**Width (W)**	102.0 mm	**Height (H)**	43.0 mm			
Distortion	Less than 5% at 1,000 Hz. at 1.0 W.								
Buzz & Rattle	Not be audible at 4 V sine wave between 20 Hz and 10,000 Hz.								
Polarity	When a positive DC Current is applied to the voice coil terminal marked +or red, the diaphragm shall move forward								
Material	**Magnet**	Y20 NdFeB Ferrite, OD 55 mm Ø, ID 25 mm Ø, H 9 mm Y20 NdFeB Ferrite, OD 35 mm Ø, ID 20 mm Ø, H 9 mm			**Flux Density**	± 10% Gauss			
	Frame	Plated Steel			**Cone Material**	Paper			
	Termination	**Terminal Lugs for wire leads soldering. (**Caution, overheating the terminal may damage connections of voice coil leads)							
	Optional Gasket	Yes, OD 100 mm Ø, ID 95 mm Ø, H 1.2 mm, Plastic							
Speaker Parameters	**Qts**	3.124	**Vas**	1.184	**BL**	1.998 T			
Approximate Weight	1,200 grams	**Shielding**	Yes	**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** at Maximum Rated Storage Temperatures * **96 hours** at Minimum Rated Storage Temperatures *
Thermal Shock Test	**5 cycles** of **Minimum and Maximum Operating Temperature**. Each cycle shell 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 **100 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	15 minutes 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	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.**
Warranty	For a period of one (1) year from date of shipping under normal operations conditions

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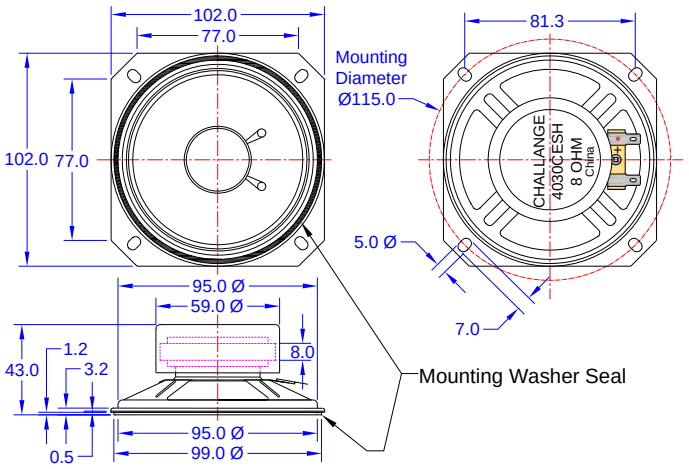
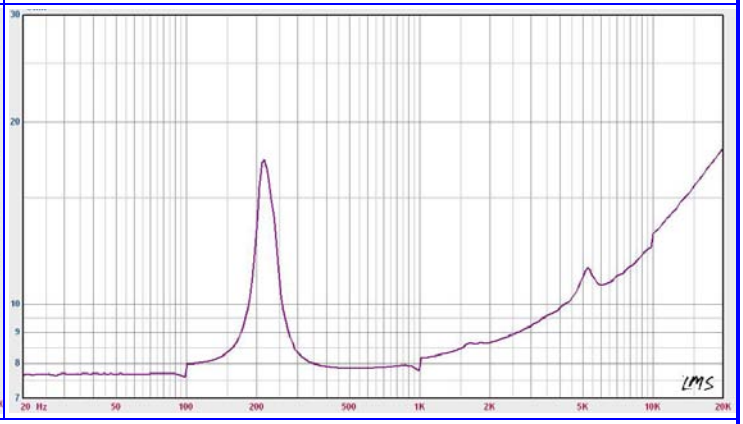
DIMENSIONS

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

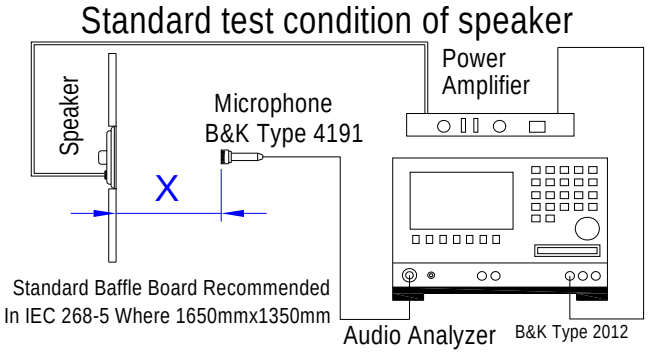


SPL vs. FREQUENCY RESPONSE

IMPEADANCE vs. FREQUENCY RESPONSE



TEST PROCESS



Test Condition

STANDARD

Temperature:	15 ~ 35ºC
Relative humidity:	45% ~ 85%
Atmospheric pressure:	860 mbar to 1060mbar

JUDGEMENT

Temperature :	20±3ºC
Relative humidity:	60% ~ 70%
Atmospheric pressure:	860mbar to 1060mbar

Standard Test Fixture

Input Power:	0.1W (0.89V)
Zero Level:	-dB
Mode:	TSR
potentiometer Range:	50dB
Sweep Time:	0.5sec

Microphone Distance:

X = 100 cm

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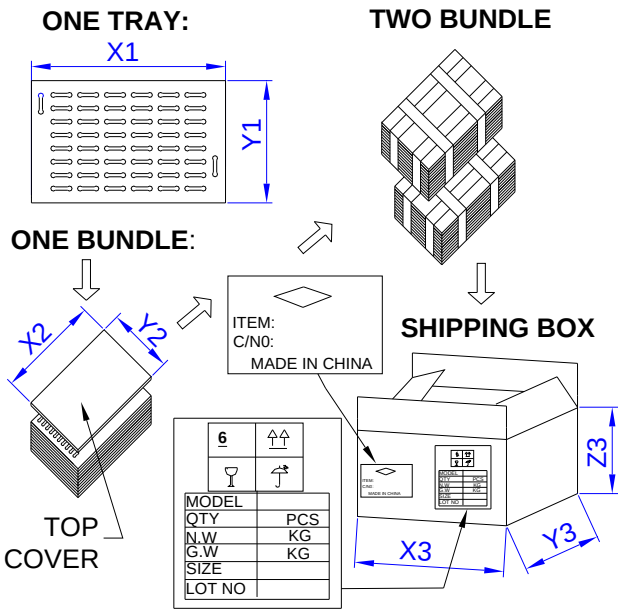
PACKAGING



MARKING	TRAY		
Bundle	Dimensions	**X1**	**cm**
Customer PN		**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 Weighjt	Number of Bundles		
Box Number	Quantity		
of Number of Boxes	Approximate Weight		
Made in China			