Challenge Electronics
95 East Jefryn Boulevard
Deer Park, NY 11729
Tel: 1-800-722-8197
1-631-595-2217
Fax: 1-631-667-5484
EMAIL: SALES@CHALLELEC.COM
WEB: WWW.CHALLENGEELECTRONICS.COM
ISO 9001:2008, ISO-TS 16949:2009

PRODUCT INFORMATION

PART # CES505S120DA8SMN800T — **Revision:** 0-2014

Lead Free RoHS COMPLIANCE

SQUARE SPEAKER

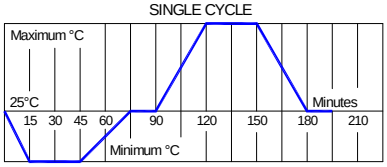
DESCRIPTION: **C**hallenge **E**lectronics **S**peaker; **50.5** mm Long; **S**quare shape; **50.5** mm Wide, **12.0** mm High; **DA**= **3 W** Maximum Power; Impedance **8** Ohm; **S**teel Plated Frame; **M**ylar PET Cone; **NdFeB** Magnet; **800** Hz. (Fo) Resonant Frequency; **T**erminal Lugs Termination; **Water Proof, R**oHS, Lead Free Compliant

SPECIFICATIONS

Shape	Square		**Impedance**	8 Ω ± 15%, at: 1,000 Hz. 1.0 V			**DC Resistance**					
Rated Power	**Sine Wave**	1.5 W	**Square Wave**	W	**Maximum Power**	**Sine Wave**	3 W	**Square Wave**	W			
Effective Frequency Band	**800 Hz. to 6,000 Hz.** SPL within 10 dB Average					**Resonant Frequency (Fo)**	800 Hz. ± 20%, at 1.0 V					
Sound Pressure Level	85 ± 3.0 dB(A), at: 1.0 W, 1.0 m, Average 800, 1,000, 1,500, 2,000 Hz, at 25°C, Baffle board (IEC)											
Operating Temperature	-25ºC to + 60ºC		**Storage Temperature**	-30ºC to + 70ºC								
Physical Dimensions	**Length or Diameter (L /D)**	50.5 mm	**Width (W)**	50.5 mm	**Height (H)**	12.0 mm						
Baffle Opening	**Diameter (D)**	45 mm ø	**Width (W)**		**Minimum Opening Recessed**	3 mm						
Mounting	**Length or Diameter (L /D)**	40.0 mm	**Width (W)**	40.0 mm	**Mounting Holes**	4	**Holes size**	4.0 mm ø				
Distortion	Less than 5% at 1,000 Hz. at 1.5 W.											
Buzz & Rattle	Not be audible at 3.46 V (1.5 W) sine wave between Fo to 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**	NdFeB, N-35 Material, OD 12.5 mm, H 2.0 mm			**Flux Density**	± 10% Gauss						
	Frame	Steel, Zinc Plated		**Cone Material**	Mylar, PET							
	Termination	Terminal Lugs. (Caution, overheating the terminal may damage connections of voice coil leads)										
	Optional Gasket	Plastic Gasket										
Speaker Parameters	**Qms**		**Qes**		**Qts**		**Vas**		**Mmd**		**M**		**M/N**		**BL**	
Approximate Weight	17.5 grams		**Shielding**	No	**Compliance**	RoHS Lead Free										
Options																

RELIABILITY

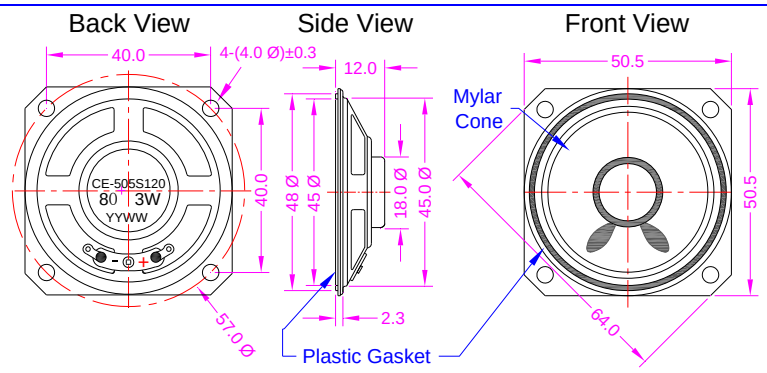
Maximum Load Test	**96 hours** continuous operation **at Rated Power** with program White-Noise source, weighted Filter, per (EIA) *
Thermal Operating Temperature Test	**16 hours** continuous operation **at Rated Power**, at **Maximum Rated Operating Temperature** *
	16 hours continuous operation **at 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	**48 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) *
Vibration Test	**2 Hours** 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	Shipping Box 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) *
Solderability	Apply Rosin to Terminals and solder with Solder Iron set for 350±5°C for 3±0.5 Seconds. (Caution, overheating the terminal may damage connections of voice coil leads)
* **Reliability Test Performance**	**Parts should conform to original performance within ±5 dB tested with Rated Power, after 3 hours of recovery period.**



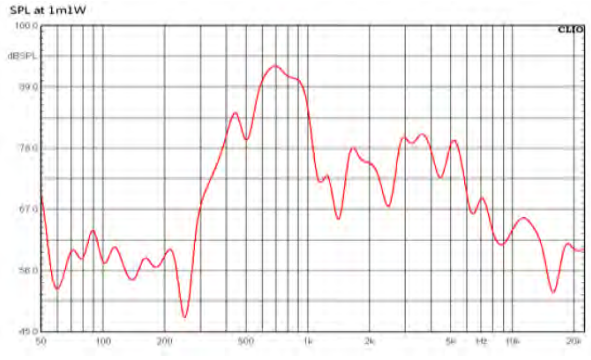
Note	Manufactured and tested to CNS4784 and CNS4785 standards.
Warranty	For a period of one (1) year from date of shipping under normal operations conditions This warranty does not apply to products damaged through misuse, abuse, improper installation, alteration, rework, or attempt to repair

Challenge Electronics
95 East Jefryn Boulevard
Deer Park, NY 11729
Tel: 1-800-722-8197
1-631-595-2217
Fax: 1-631-667-5484
EMAIL: SALES@CHALLELEC.COM
WEB: WWW.CHALLENGEELECTRONICS.COM
ISO 9001:2008, ISO-TS 16949:2009

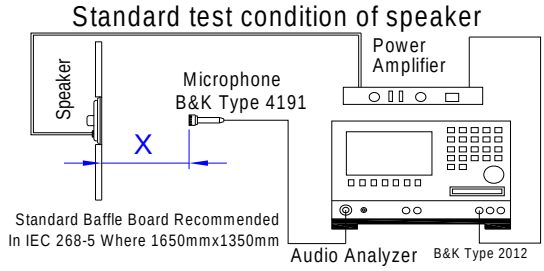
DIMENSIONS
Units in: mm; Tolerance: ± 0.5 mm unless specified otherwise



SPL vs. FREQUENCY RESPONSE



TEST PROCESS



Test Condition

STANDARD

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

JUDGEMENT

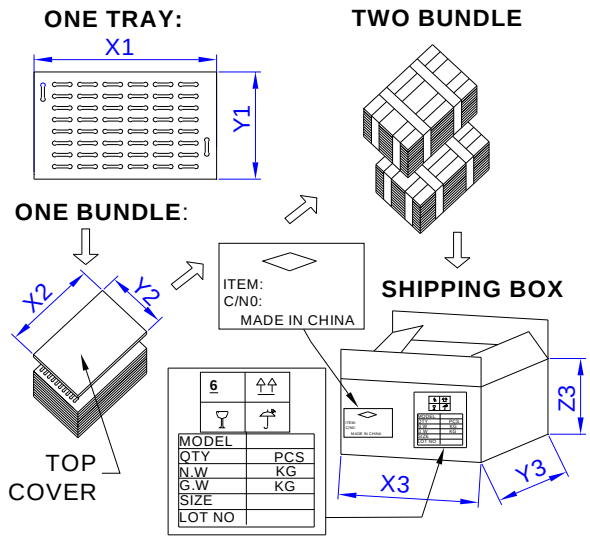
Temperature :	20±3ºC
Relative humidity:	60% ~ 70%
Atmospheric pressure:	860mbar to 1060 mbar

Standard Test Fixture

Zero Level:	-dB
Mode:	TSR
potentiometer Range:	50 dB
Sweep Time:	0.5 sec

Input Power:
1.0 W
Microphone Distance:
X = 1.0 m

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**	**cm**
PO Number		**Y3**	**cm**
Net Weight		**Z3**	**cm**
Gross Weighjt	Number of Bundles		
Box Number of Boxes	Quantity		
Made in China	Approximate Weight		**Kg.**

Revision	Description	By	Date