



PRODUCT INFORMATION

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|---------------|--------------------------------|-------------------------|
| PART # | CES7100255CD08RPN250STR | Revision: 1-2014 |
|---------------|--------------------------------|-------------------------|



OVAL SPEAKER

DESCRIPTION: Challenge Electronics Speaker; **71.0** mm Long; **OVAL** shape; **40.0** mm Wide; **25.5** mm High; **CD = 5.0 W** maximum power; **8 Ohm**; **Steel Plated** frame; **Paper** with Cloth edged Cone; **NdFeB** Ferrite magnet; **250** Hz. (Fo) Resonant Frequency; **Shielded**, Solder Tabs Termination; **RoHS Lead Free** Compliant

SPECIFICATIONS

| | | | | | | | | |
|--------------------------|---|--|---|--------------------------|------------------------|-------------------------|--------------|--|
| Shape | Oval | Impedance | 8 Ω ± 15%, at 1,000 Hz., at 1.0 V | | | | DC Impedance | |
| Rated Power | Sine Wave 3.0 W | Square Wave | Maximum Power | Sine Wave 5.0 W | Square Wave | | | |
| Effective Frequency Band | 250 Hz. to 20,000 Hz. within 10 dB Average SPL | | | Resonant Frequency (Fo) | 250 Hz. ±20%, at 1.0 V | | | |
| Sound Pressure Level | 86 ± 3.0 dB (A), at: 1 W, 0.5 m | | Average 800, 1,000, 1,200, 1,500 (Hz), 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) | 71.0 mm | Width (W) | 40.0 mm | Height (H) | 25.5 mm | | |
| Baffle Opening | Length or Diameter (L /D) | mm | Width (W) | Minimum Opening Recessed | | 2.0 mm | | |
| Mounting | Length or Diameter (L /D) | 64.0 mm | Width (W) | 34.0 mm | Holes size | 3.8 mm Ø | Holes 4 | |
| Distortion | Less than 5% at 1,000 Hz., at 2 W | | | | | | | |
| Buzz & Rattle | Not be audible at 2.83 V sine wave between 250 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 | NdFeB, mm Ø X mm t | | | Flux Density | T | | |
| | Frame | Steel, Fe, Zinc Plated | | | Cone Material | Cloth Edged, Paper Cone | | |
| | Termination | Solder tabs Terminals (Caution, overheating the terminal may damage connections of voice coil leads) | | | | | | |
| | Optional Gasket | | | | | | | |
| Speaker Parameters | Qms | | Qes | | Qts | | Vas | |
| | Cms | | M | | M/N | | BL | |
| Approximate Weight | 38 grams | Shielding | Yes | Compliance | RoHS, Lead Free | | | |
| Options | | | | | | | | |

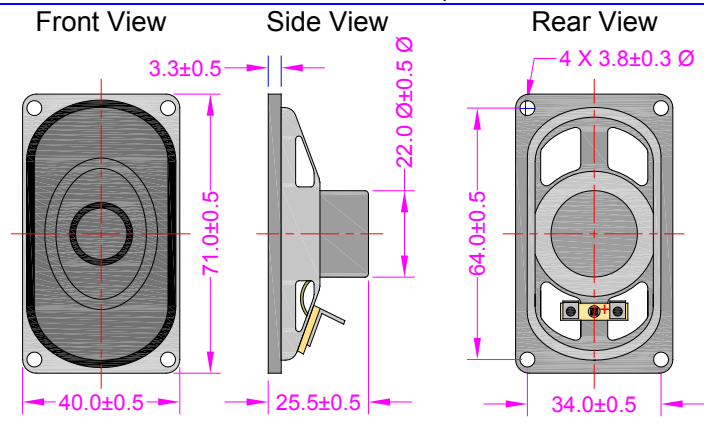
RELIABILITY

| | |
|------------------------------------|---|
| Maximum Power Test | With program White-Noise source Maximum Power , 1 minute on, 2 minutes off, 10 cycles, per (EIA) * |
| Thermal Operating Temperature Test | 50 hours continuous operation at Rated Power , at Maximum Rated Operating Temperature * |
| | 50 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> |
| | <p>The diagram shows a single cycle of thermal shock. The temperature starts at 25°C, drops to a minimum temperature, and then returns to 25°C. The total duration of the cycle is 180 minutes. The x-axis is labeled 'Minutes' and has markers at 15, 30, 45, 60, 90, 120, 150, 180, and 210. The y-axis is labeled 'Maximum °C' and 'Minimum °C'.</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) * |
| Temp/Humidity Cycle | 60 hours . 5 cycles, 12 hours/cycle from +25°C (5 hours) to +65°C at 90-95% RH. (6 hours) * |
| Vibration Test | 10 ~ 55 ~ 10 Hz. Frequency sweep vibration, 15 min. 5G (constant) X.Y.Z. 3 hours each, 2 hours each. 6 hours total. * |
| Termination Strength | Maximum of 9.8 N (1.0 Kg) load pull test, applied to each terminal in axial direction for 30 seconds |
| Free Drop Test | Free Drop a speaker onto concrete floor six (6) times on each axis (x,y,z,6) from 1.0 m height and test. |
| * 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 |

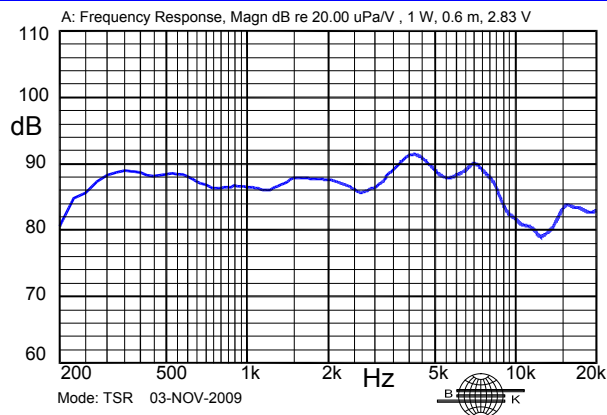


DIMENSIONS

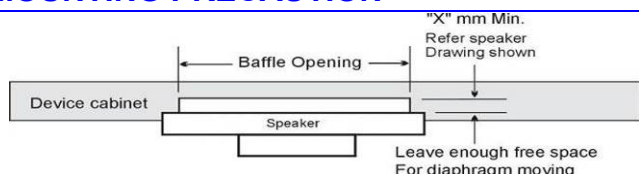
Units in: mm, Tolerance: ± 0.3 mm unless specified otherwise



SPL vs. FREQUENCY RESPONSE

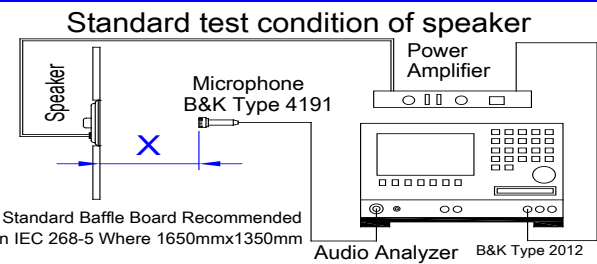


MOUNTING PRECAUTION



In order to keep speaker work normally, there shall leave enough free space for diaphragm moving, minimum distance required is marked in speaker mechanical drawing.

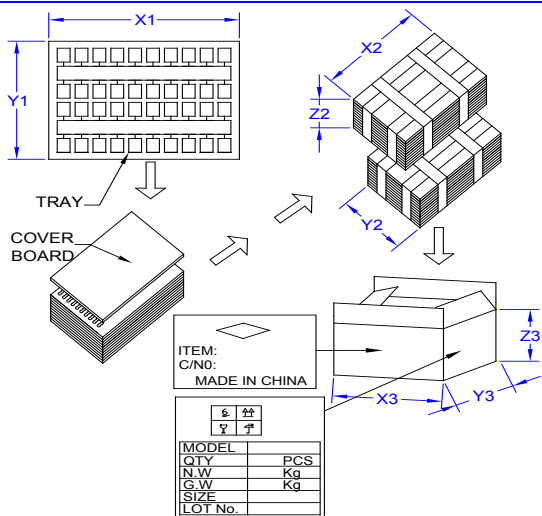
TEST PROCESS



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

| Standard Test Fixture | |
|-----------------------------|-----------------------|
| Zero Level: | -dB |
| Mode: | TSR |
| potentiometer Range: | 50dB |
| Sweep Time: | 0.5sec |
| Input Power: | 1.0 W (2.83 V) |
| Microphone Distance: | X = 50 cm |

PACKAGING



| MARKING | | | |
|------------------------|---------------------|---------------|----------------|
| Bundle | | | |
| Part Number | | | |
| Other PN if required | | | |
| Quantity | BUNDLE | | |
| Lot and/or Date Code | | X2 | 48.8 cm |
| Bundle Number | Dimensions | Y2 | 33.7 cm |
| Shipping Box | | Z2 | 8.3 cm |
| Part Number | Quantity | 100 | |
| Other PN (if required) | SHIPPING BOX | | |
| Quantity | | X3 | 51.4 cm |
| Lot and/or Date Code | Dimensions | Y3 | 34.3 cm |
| PO Number | | Z3 | 18.4 cm |
| Net Weight | Number of Bundles | 2 | |
| Gross Weight | Quantity | 200 | |
| Box Number of Boxes | Approximate Weight | 9.4 kg | |
| Made in China | | | |

| Revision | Description | By | Date |
|----------|--|-----------|-----------|
| 1-2014 | Updated format. Revised distortion and resonant frequency. Added packaging info. | Ely Zofan | 4/18/2014 |
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