**PRODUCT INFORMATION**

**PART #:** CEPT300B100-330-20P15R

**Revision:** 0-2015

**DESCRIPTION**

Challenge Electronics Piezoelectric Transducer; 30 mm Diameter; B style case (round w/standoff); 10 mm High; 3 to 30 Vp-p Operating Voltage; 2,000 Hz. Resonant Frequency; minimum Sound output of 90 dB(A) min at 10 cm at Rated Voltage; Pin Termination, RoHS, Lead Free and REACH Compliance

**FEATURES**

- RoHS, Lead Free Compliant
- REACH Compliant
- ISO 9001 Certified

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Voltage</td>
<td>3-30 Vp-p</td>
</tr>
<tr>
<td>Nominal Rated Voltage</td>
<td>10 Vp-p</td>
</tr>
<tr>
<td>Resonant Frequency</td>
<td>2,000 ± 500 Hz.</td>
</tr>
<tr>
<td>Sound Pressure Level</td>
<td>Minimum 90 dB(A), at: 10 cm, Resonant Frequency, Nominal rated Voltage, Square Wave 50% Duty Cycle</td>
</tr>
<tr>
<td>Operating Current</td>
<td>Maximum 5 mA, at: Resonant Frequency, Nominal rated Voltage, Square Wave</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-30°C to +85°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-40°C to +85°C</td>
</tr>
<tr>
<td>Capacitance</td>
<td>35,000 ± 30% pF at 120 Hz.</td>
</tr>
<tr>
<td>Material Housing</td>
<td>Plastic, LCP Vectra E130i or equal</td>
</tr>
<tr>
<td>Diaphragm</td>
<td>Brass</td>
</tr>
<tr>
<td>Termination</td>
<td>Pin (Ø1.0 ±0.05 x 6.0 mm) Red Copper 15.0 mm spacing</td>
</tr>
<tr>
<td>Physical Dimensions</td>
<td>Diameter (D): 30 mm ± 0.5 mm</td>
</tr>
<tr>
<td></td>
<td>Height (H): 10 mm ± 0.5 mm</td>
</tr>
<tr>
<td>Approximate Weight</td>
<td>5.0 grams</td>
</tr>
<tr>
<td>Packaging</td>
<td>1000 PCS per box. Dimension: 31.5 x 31.0 x 19.5 cm</td>
</tr>
</tbody>
</table>

**RELIABILITY**

- **Thermal Operating Temperature Test:** 96 hours continuous operation at Rated Voltage, at Maximum Rated Operating Temperature
- **Thermal Storage Temperature Test:** 96 hours storage at Maximum Rated Storage Temperatures
- **Thermal Shock Test:** 5 cycles of Minimum and Maximum Operating Temperature
- **Humidity Test:** 140 Hours at +40°C±2°C, 90-95% RH
- **Insulation Test:** A minimum of 10 MΩ, measured with 100 Vdc Insulation Resistance Meter, between the Electrical Terminals and the Transducer Case
- **Vibration Test:** 2 Hours of 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 750 mm height onto the surface of 40 mm wooden board, 3 axes (X,Y,Z) directions, 3 times (9 times total)

**Operation Life Test**

- **Continuous:** Two hundred fifty (250) hours of continuous operation, at Rated Voltage, each at Minimum & Maximum Rated Operating Temperatures
- **Intermittent:** One thousand (1,000) hours of: 1 minute ON 4 minutes OFF cycle, at Room Temperature, and Maximum Rated Voltage

**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

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Specifications
**Specifications**

**Dimensions**
- Units in: mm
- Tolerance: ±0.2 mm

**Frequency Response Curve**

**Recommended Circuit Drive**

**Storage**
- Shelf life: Twelve (12) months when devices are to be stored in factory supplied unopened ESD moisture sensitive bag under maximum environmental conditions of 30°C, 70% R.H.
- Exposure: Devices should not be exposed to high humidity high temperature environment. MSL (moisture sensitivity level) Class 2

**Assembly Detail**

<table>
<thead>
<tr>
<th>Part</th>
<th>Name</th>
<th>Quantity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PCB</td>
<td>1</td>
<td>Epoxy</td>
</tr>
<tr>
<td>2</td>
<td>Piezo Element</td>
<td>1</td>
<td>Brass</td>
</tr>
<tr>
<td>3</td>
<td>Housing</td>
<td>1</td>
<td>Black Noryl</td>
</tr>
</tbody>
</table>

**Substance of Very High Concern**

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.

**Soldering Information**

This product may be wave soldered, but not washed.

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### Packaging

<table>
<thead>
<tr>
<th>Foam Board</th>
<th>Reel</th>
<th>Parts Number</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>X 30.0 cm</td>
<td>Y 30.0 cm</td>
<td>Z 0.8 cm</td>
<td>100</td>
</tr>
</tbody>
</table>

**MARKING**

- **Foam Board**
  - X 30.0 cm
  - Y 30.0 cm
  - Z 0.8 cm
- **Reel**
  - Dimensions
  - Part Number: Quantity
  - Bundle
  - Lot and/or Date Code
  - Shipping Box
    - Dimensions
    - Part Number
    - Customer PN (if required)
  - Quantity
- **Shipping Box**
  - Dimensions
  - Net Weight
  - Gross Weight
  - Number of Bundles
  - Box Number of Boxes
  - Quantity
  - Approximate Weight
  - Made in: China

<table>
<thead>
<tr>
<th>Revision</th>
<th>Description</th>
<th>By:</th>
<th>Date:</th>
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