

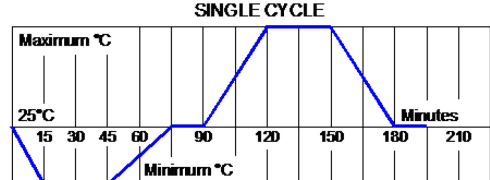




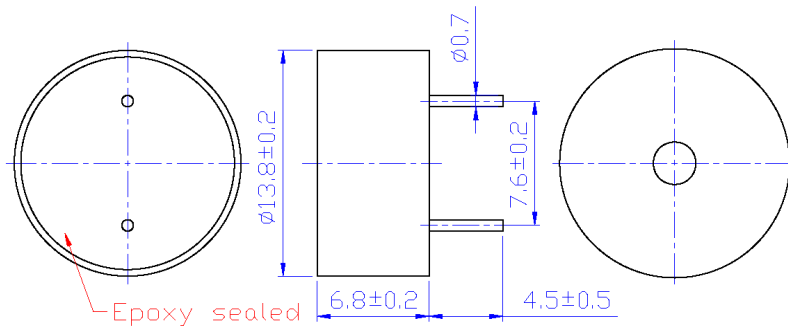
PRODUCT INFORMATION

| | | | | | | | | | | | | |
|---|--|---|--------------------------------|---|-----------|--|---|-------------------|---|------------------------|---------------|--|
| PART # | CPT14A05-4.0R | | | | | | Revision: 3-2014 | | | | | |
|  | Piezoelectric Sound Transducer | | | | | | | | | | | |
| DESCRIPTION | | | | | | FEATURES | | |  | | | |
| <p>Challenge Electronics Piezoelectric Transducer, 14.0 mm Diameter, A style case (Round, TOP Sound Port), 6.8 mm High, 1 to 25 Vpp operation, 4,000 Resonant Frequency Hz., Typical output of 90 dB(A) at 10 cm rated Voltage, PC Pins 7.6 mm Apart Termination, RoHS Compliant</p> | | | | | | <ul style="list-style-type: none"> • RoHS • ISO 9001 | | | | | | |
| SPECIFICATIONS | | | | | | | | | | | | |
| Operating Voltage | 1 - 25 Vpp | | Rated Voltage | 5 Vpp | | Resonant Frequency | 4,000 ± 500 Hz. | | | | | |
| Sound Pressure Level | Minimum 85 dB(A), at: Rated Voltage, Resonant Frequency, Square Wave, 50% Duty Cycle 10 cm | | | | | | | | | | | |
| Operating Current | 2 mA, at: Rated Voltage, Resonant Frequency, Square Wave, 50% Duty Cycle | | | | | | Capacitance | 15,000 pFD | | | | |
| Operating Temperature | -40°C to + 85°C | | Storage Temperature | -40°C to +90°C | | | | | | | | |
| Material | Case Plastic, MPPO SE1GFN2, Black | | | | | | | | | | | |
| | Diaphragm Brass | | | Termination Two PC Pins Brass, Nickel Plated, 0.7 mm Ø | | | | | | | | |
| | Encapsulation Epoxy Potting | | | | | | | | | | | |
| Physical Dimensions | Length or Diameter (L /D) | 13.8 mm Ø | | Width (W) | mm | | Height (H) | 6.8 mm | | PC Pins Spacing | 7.6 mm | |
| Approximate Weight | 4.7 grams | | Removable Washing Label | | No | | Compliance | | RoHS | | | |
| Options | | | | | | | | | | | | |
| RELIABILITY | | | | | | | | | | | | |
| Thermal Operating Temperature Test | 240 hours continuous operation at Rated Power , at Maximum Rated Operating Temperature * | | | | | | | | | | | |
| | 240 hours continuous operation at Rated Power , at Minimum Rated Operating Temperature * | | | | | | | | | | | |
| Thermal Storage Temperature Test | 240 hours at Maximum Rated Storage Temperatures * | | | | | | | | | | | |
| | 240 hours 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 * | | | | | | | | | | | |
| Insulation Test | A minimum of 10 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) * | | | | | | | | | | | |
| Solderability | Terminal leads are immersed in rosin for 5 seconds and then immersed in solder-bath of +270°C for 3±1 seconds | | | | | | | | | | | |
| Soldering Heat Resistance | Terminal leads are immersed, up to 1.5 mm from part case, in rosin for 5 seconds and then immersed in solder-bath of +350±5°C for 3±0.5 seconds or +260±5°C for 10±1 seconds | | | | | | | | | | | |
| Reliability Test Performance * | Parts should conform to original performance within ±3dB, after 3 hours of recovery period. | | | | | | | | | | | |
| Operation Life Test | Intermittent | One thousand (1,000) hours of: 1 minute ON 4 minutes OFF cycle, at Room Temperature, and Rated Voltage | | | | | | | | | | |
| | Continuous | Two hundred fifty (250) hours of continuous operation, at Rated Voltage, each at Minimum & Maximum Rated Operating Temperatures | | | | | | | | | | |
| Warranty | For a period of one (1) year from date of shipping under normal operations conditions | | | | | | | | | | | |

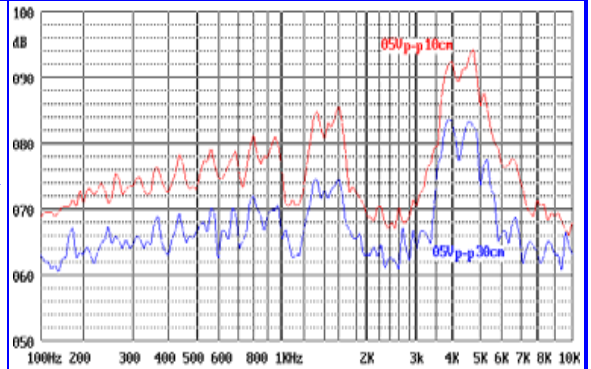


DIMENSIONS

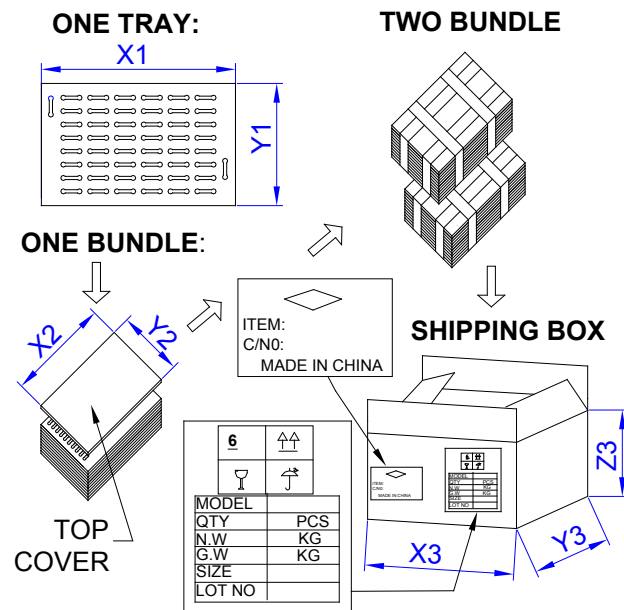
Units in: mm, Tolerance: ± 0.5mm unless specified otherwise.



SPL vs. FREQUENCY RESPONSE



PACKAGING



| MARKING | | TRAY | |
|------------------------|---------------------|-------------|-----------|
| Bundle | | X1 | |
| Customer PN | Dimensions | Y1 | |
| Other PN if required | | Z1 | |
| Quantity | Quantity | 100 | |
| Lot and/or Date Code | BUNDLE | | |
| Bundle Number | | X2 | |
| Shipping Box | Dimensions | Y2 | |
| Customer Part Number | | Z2 | |
| Other PN (if required) | Quantity | 5000 | |
| Quantity | SHIPPING BOX | | |
| Lot and/or Date Code | | X3 | cm |
| PO Number | Dimensions | Y3 | cm |
| Net Weight | | Z3 | cm |
| Gross Weight | Number of Bundles | | |
| Box Number | Quantity | | |
| of Number of Boxes | Approximate Weight | | |
| Made in China | | | |

| Revision | Description | By | Date |
|----------|-----------------------------------|-----------|-----------|
| 3-2014 | Revised Height from 5.1 to 6.8 mm | W.Sargent | 8-26-2014 |
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