

## AI-2438-TT-R 24mm Indicator

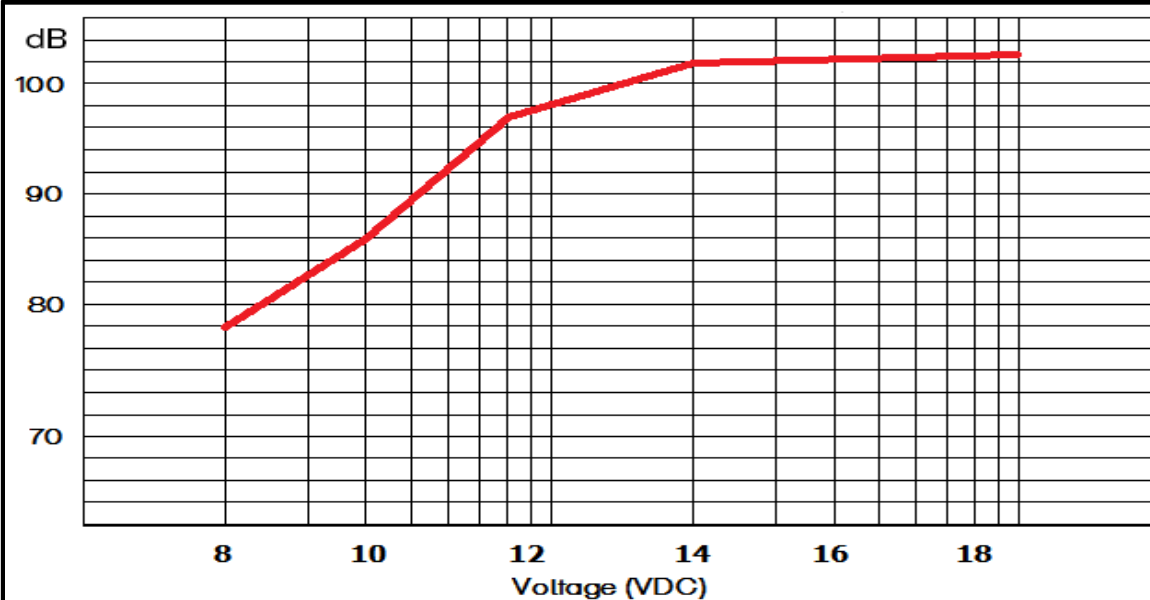
3541 Stop Eight Road • Dayton, Ohio 45414

### Product Overview

- 24mm diameter self-drive indicator
- 95 dBA minimum output (12 VDC @ 10 cm) and 3,800 Hz continuous tone
- High-temp UL-94 ABS housing withstands Wave soldering temperatures
- Designed to be used in alert circuits

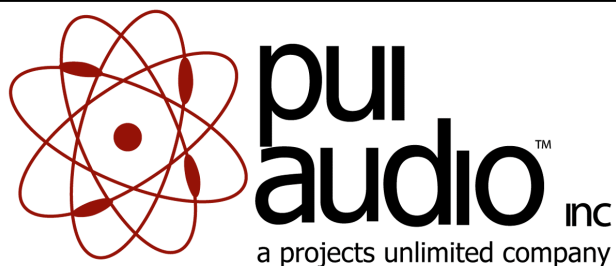


**SPL vs Voltage (measured @ 30 cm)**



Audio Products of PUI Audio Inc.





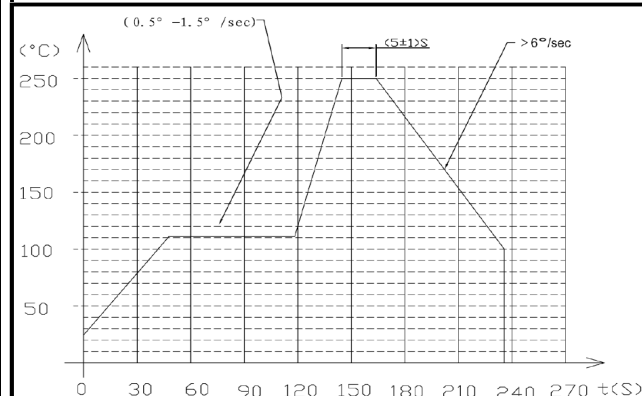
## AI-2438-TT-R 24mm Indicator

### Mechanical and Environment Testing

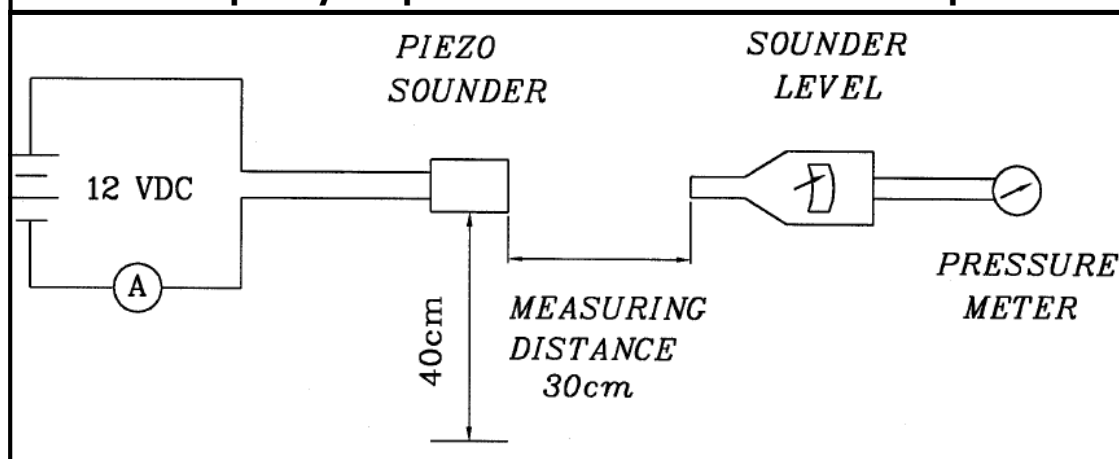
| Test Description       | Test Condition                                                                |
|------------------------|-------------------------------------------------------------------------------|
| High Temperature       | 95°C ( $\pm 2^\circ\text{C}$ ) with random humidity for 96 hours              |
| Low Temperature        | -40°C ( $\pm 2^\circ\text{C}$ ) with random humidity for 96 hours             |
| Humidity               | 40°C ( $\pm 2^\circ\text{C}$ ) with 90% to 95% relative humidity for 96 hours |
| Vibration              | 1.5 mm movement modulated at 10-55 Hz for 3 hours                             |
| Drop Test              | 75 cm free fall onto wood board, 9 cycles                                     |
| Temperature Cycle Test | -40°C to 95°C, five 3 hour cycles                                             |

After tests, part shall rest for 2 hours. Parts are then tested for clean, pure tones.

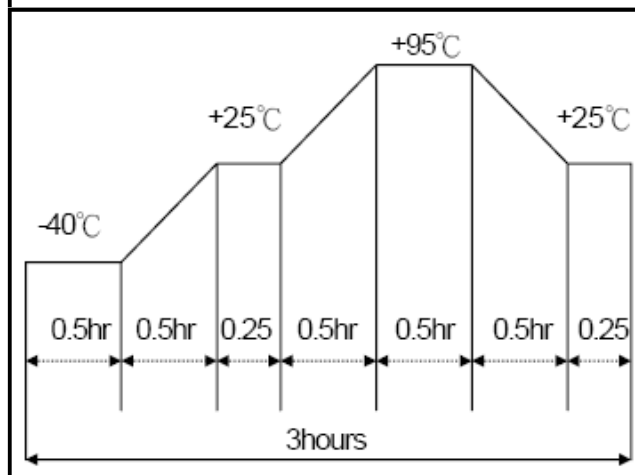
### Wave Solder Profile



### Frequency Response and SPL Measurement Setup



### Temperature Cycle Test Graph

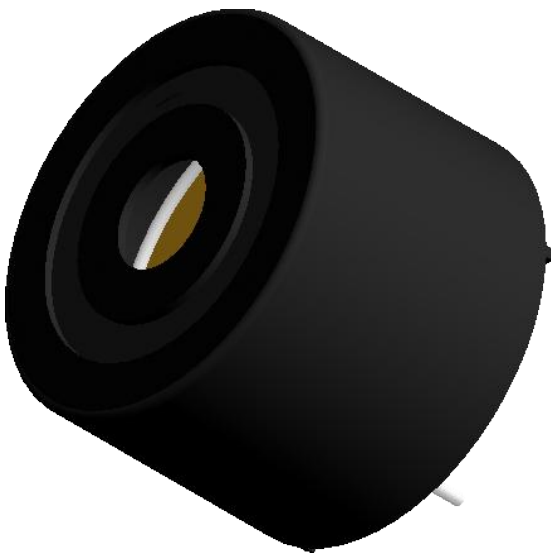
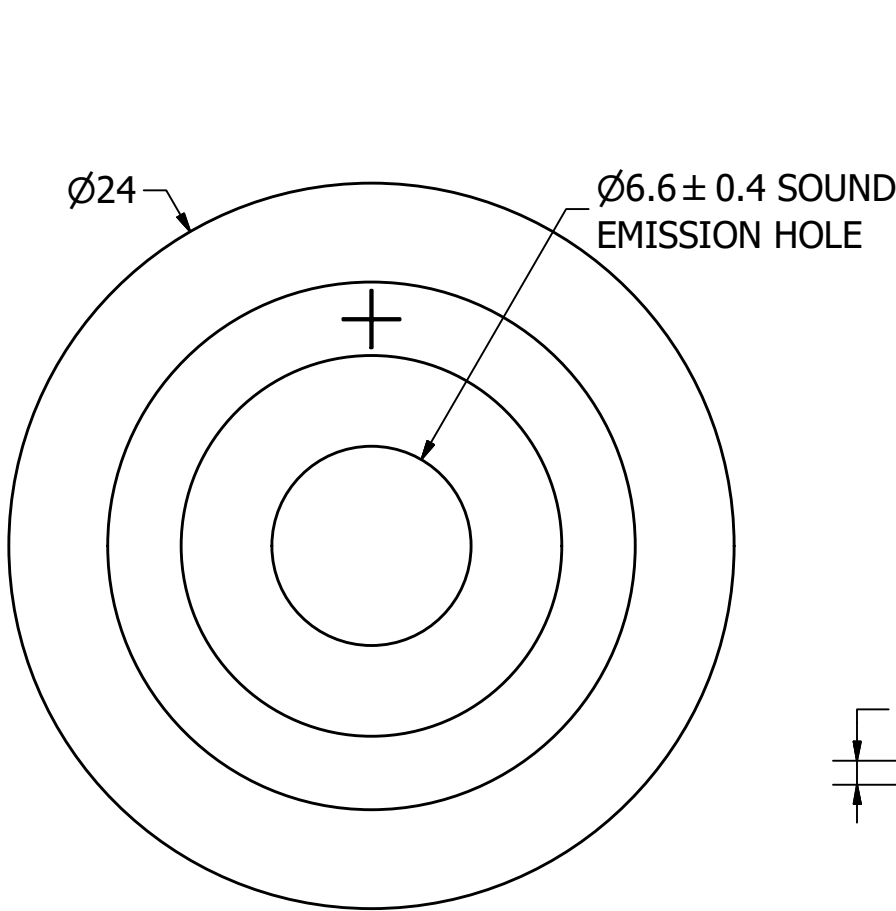
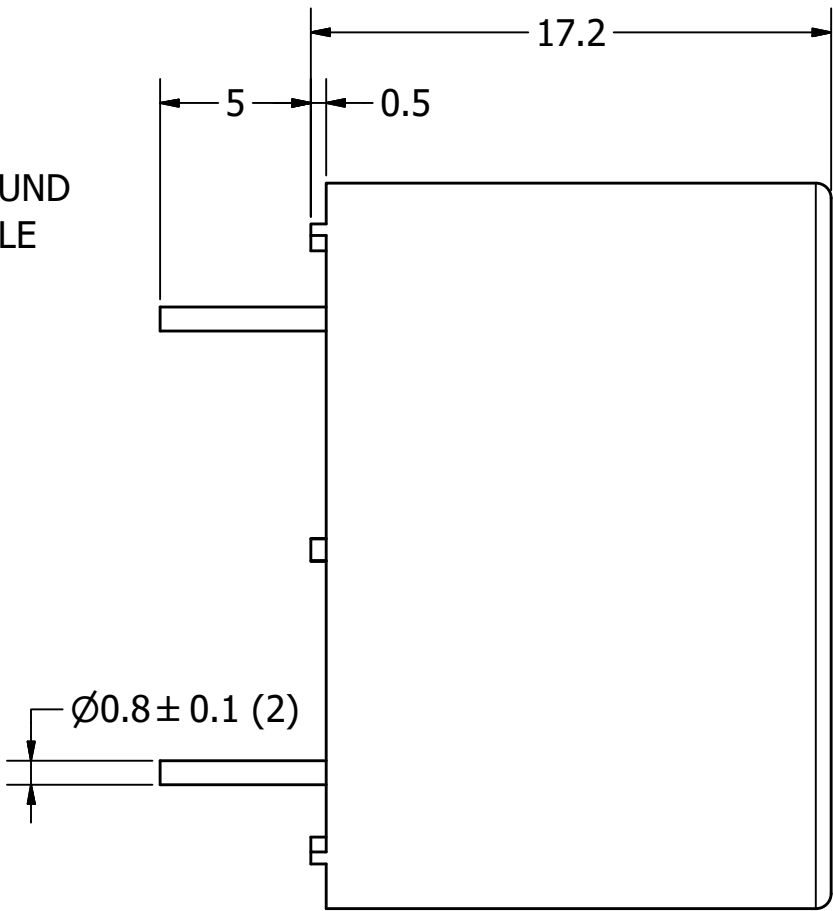
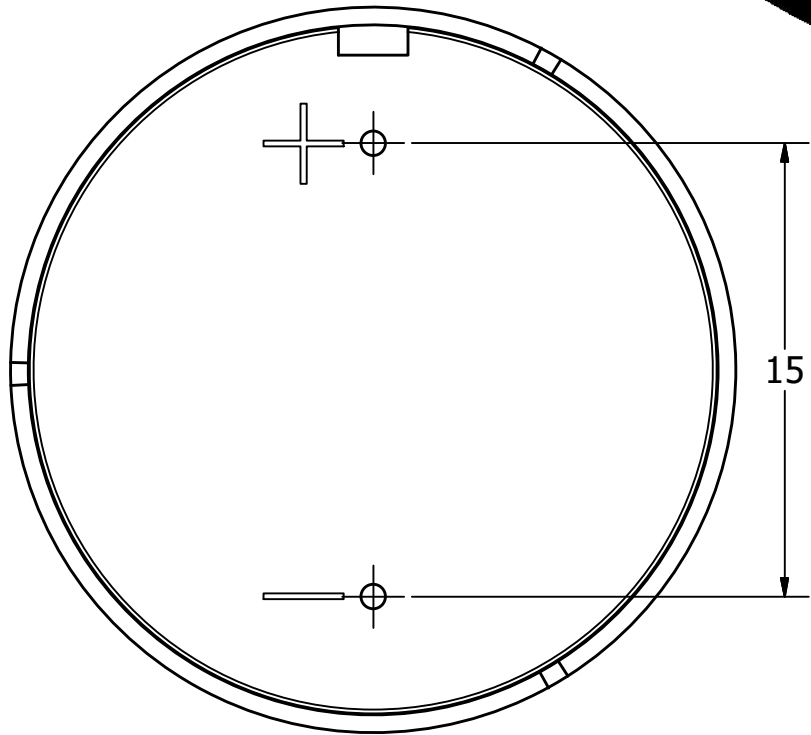


| SPECIFICATIONS          |                     |             |
|-------------------------|---------------------|-------------|
| PARAMETERS              | VALUES              | UNITS       |
| RATED VOLTAGE           | 12                  | Vdc         |
| OPERATING VOLTAGE RANGE | 8 ~ 16              | Vdc         |
| RATED CURRENT (MAX)     | 12                  | mA          |
| MINIMUM SPL @ 10 CM     | 95                  | dBA         |
| RESONANT FREQUENCY      | 3,800 ± 500         | Hz          |
| TONE OR PULSE RATE      | CONTINUOUS          | 0 pulse/sec |
| OPERATING TEMPERATURE   | -30 ~ +85           | °C          |
| STORAGE TEMPERATURE     | -40 ~ +95           | °C          |
| HOUSING MATERIAL        | ABS                 | -           |
| TERMINAL MATERIAL       | Sn PLATED<br>BRONZE | -           |
| WEIGHT                  | 4                   | grams       |

THIS DOCUMENT CONTAINS DATA PROPRIETARY TO PROJECTS UNLIMITED, INC. ANY USE OR REPRODUCTION, IN ANY FORM, WITHOUT PRIOR WRITTEN PERMISSION OF PROJECTS UNLIMITED, INC. IS PROHIBITED.

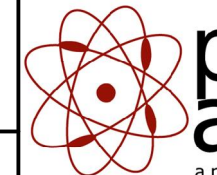
©2003, Projects Unlimited Inc.

| REVISION HISTORY |                                                   |            |          |
|------------------|---------------------------------------------------|------------|----------|
| LTR              | DESCRIPTION                                       | DATE       | APPROVED |
| -                | RELEASED FROM ENGINEERING                         | 1/5/2006   |          |
| A                | REVISED HEIGHT DIMENSION                          | 10/25/2007 | R.W.     |
| B                | REVISED TO INVENTOR 3-D DRAWING TEMPLATE & HEIGHT | 1/29/2008  | B.R.     |
| C                | REVISED RATED CURRENT                             | 9/6/2013   | B.R.     |
| D                | REVISED OPERATING VOLTAGE RANGE                   | 1/4/2019   | M.V.     |



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. SPECIFICATIONS SUBJECT TO CHANGE OR WITHDRAWL WITHOUT NOTICE.
3. THIS PART IS RoHS 2011/65/EU COMPLIANT.

|                                                                                                                  |      |                                                                                                                                                      |          |            |              |             |          |            |  |
|------------------------------------------------------------------------------------------------------------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------|--------------|-------------|----------|------------|--|
| UNLESS OTHERWISE SPECIFIED:<br><br>DIMENSIONS ARE IN MILLIMETERS,<br><br>TOLERANCES ARE ±0.5 AND ANGLES ARE ±3°. | SIZE | Designed by                                                                                                                                          | Date     | Checked by | Date         | Approved by | Date     | Drawn Date |  |
|                                                                                                                  |      | J.A.F.                                                                                                                                               | 1/5/2006 | E.P.       | 1/5/2006     | B.R.        | 1/5/2006 | 1/29/2008  |  |
|                                                                                                                  | A3   |  <b>pui audio</b> <sup>TM</sup><br>a projects unlimited company |          |            | AI-2438-TT-R |             |          |            |  |
|                                                                                                                  |      |                                                                                                                                                      |          |            | Indicator    |             |          |            |  |
| AI-2438-TT-R.idw                                                                                                 |      |                                                                                                                                                      |          |            |              |             |          |            |  |