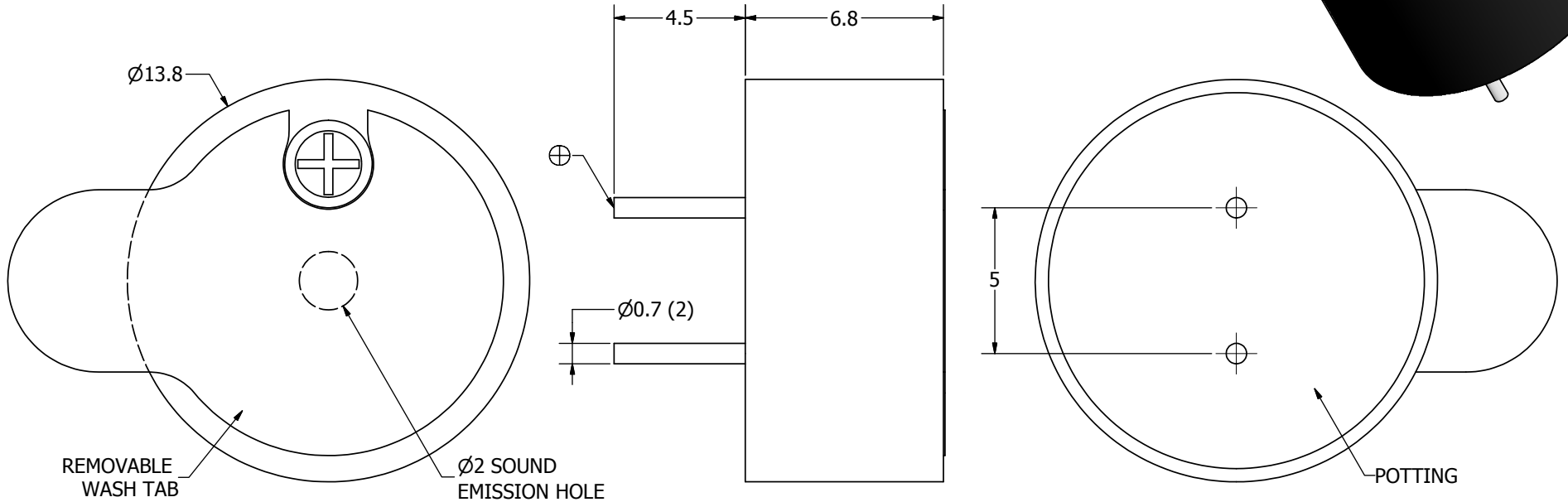
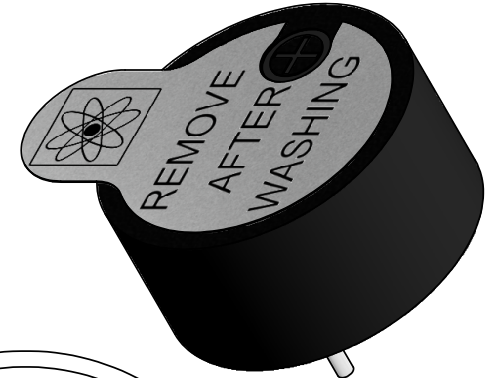


| SPECIFICATIONS          |                      |       |
|-------------------------|----------------------|-------|
| PARAMETERS              | VALUES               | UNIT  |
| RATED VOLTAGE           | 5                    | Vp-p  |
| OPERATING VOLTAGE RANGE | 1 ~ 20               | Vp-p  |
| RATED CURRENT (MAX)     | 1                    | mA    |
| CAPACITANCE             | 13,000 ± 30%         | pF    |
| MINIMUM SPL @ 10 CM     | 80                   | dB    |
| RESONANT FREQUENCY      | 3,800 ± 500          | Hz    |
| OPERATING TEMPERATURE   | -30 ~ +80            | °C    |
| STORAGE TEMPERATURE     | -30 ~ +80            | °C    |
| HOUSING MATERIAL        | NORYL                | -     |
| TERMINAL MATERIAL       | Sn PLATED RED COPPER | -     |
| WEIGHT                  | 1                    | 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                | 12/08/2006 |          |
| A                | REVISED TO INVENTOR 3-D DRAWING TEMPLATE | 4/16/2008  | B.R.     |



**NOTES:**

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. SPECIFICATIONS SUBJECT TO CHANGE OR WITHDRAWAL WITHOUT NOTICE.
3. THIS PART IS RoHS 2002/95/EC COMPLIANT.

|  |                   |   |           |            |           |  |           |            |
|--|-------------------|---|-----------|------------|-----------|--|-----------|------------|
| UNLESS OTHERWISE SPECIFIED:<br>DIMENSIONS ARE IN MILLIMETERS,<br>TOLERANCES ARE ±0.5 AND ANGLES ARE ±3°. | SIZE<br><b>A3</b> | Designed by   | Date      | Checked by | Date      | Approved by                                  | Date      | Drawn Date |
|  |                   | J.D.  | 12/8/2006 | D.F.       | 12/8/2006 | R.W.   | 12/8/2006 | 4/16/2008  |
| AT-1438-TWT-2-R.idw  |                   |  |           |            |           | <b>AT-1438-TWT-2-R</b><br>Transducer (Piezo) |           |            |
|  |                   |   |           |            |           | Edition                                      |           | Sheet      |
|  |                   |   |           |            |           | -  |           | 1 / 1      |