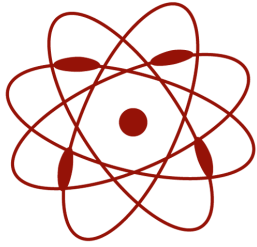




# THE DATASHEET OF APS4812B-LW100-R



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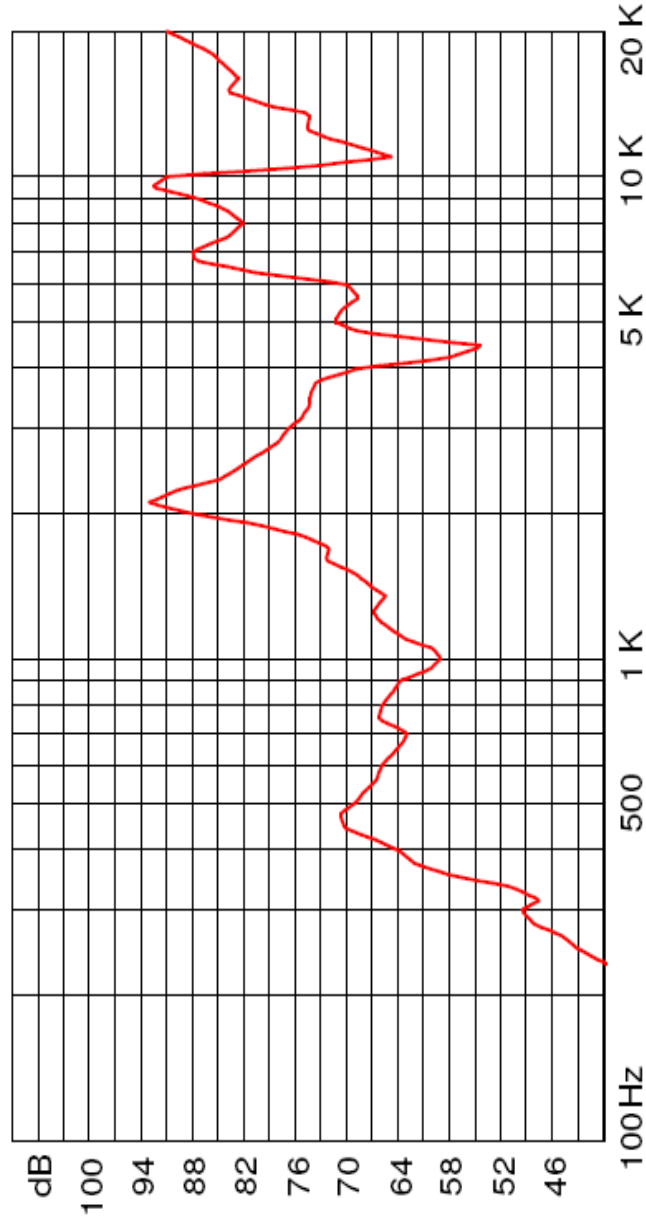
3541 Stop Eight Road • Dayton, Ohio 45414

## APS4812B-LW100-R 48mm Piezo Speaker

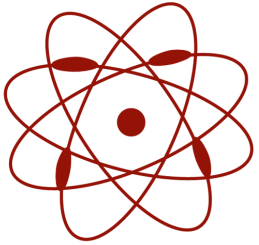
### Product Overview

- 48mm diameter speaker built using a piezo ceramic for minimum current draw
- Designed to work with TTL or CMOS signals as high as 30Vp-p
- Only 2.2 mm thick for slim devices that need high output
- Convenient 100mm leads for quick connection

**Frequency Response (5Vp-p @ 10 cm)**



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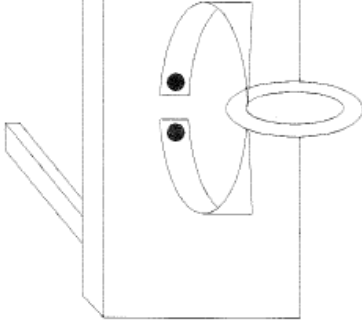
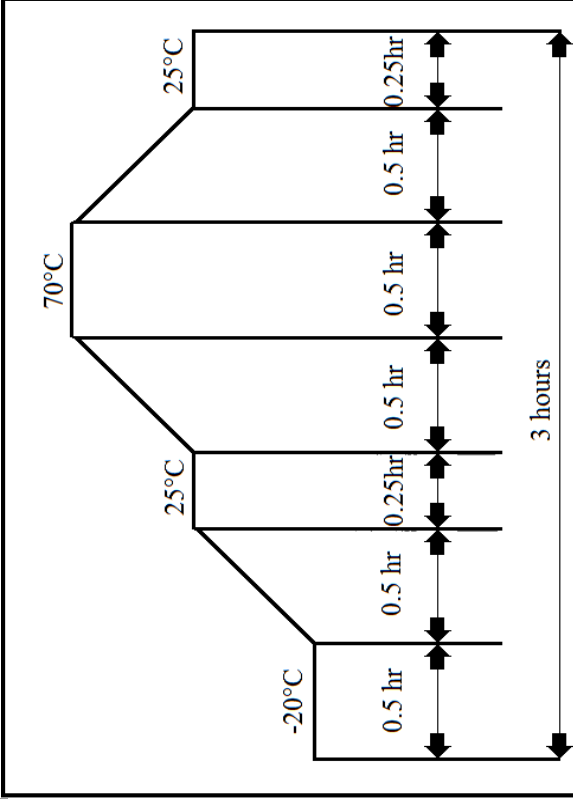
# APS4812B-LW100-R

## 48mm Piezo Speaker

| Mechanical and Environment Testing |                                                                 |
|------------------------------------|-----------------------------------------------------------------|
| Test Description                   | Test Condition                                                  |
| High Temperature                   | 70°C with random humidity for 240 hours                         |
| Low Temperature                    | -20°C with random humidity for 240 hours                        |
| Humidity                           | 40°C with 90% to 95% relative humidity for 240 hours            |
| Vibration                          | 1.5 mm movement modulated at 10 to 55 Hz for 2 hours            |
| Drop Test                          | 75 cm free fall onto 40 mm thick board, 10 cycles               |
| Temperature Cycle Test             | -20°C to 70°C, 5 cycles (refer to Temperature Cycle Test Graph) |

After 4 hours at rest, resonant frequency shall be  $\pm 10\%$  of original value with capacitance  $\pm 20\%$  of original value.

Temperature Cycle Test Graph



The piezo ceramic diaphragm shall be clamped at a nodal point above and be free from any mechanical stress. The resonant impedance is measured using sine sweep analysis. The resonant frequency is where the impedance shows minimum value; this shall also be the impedance.

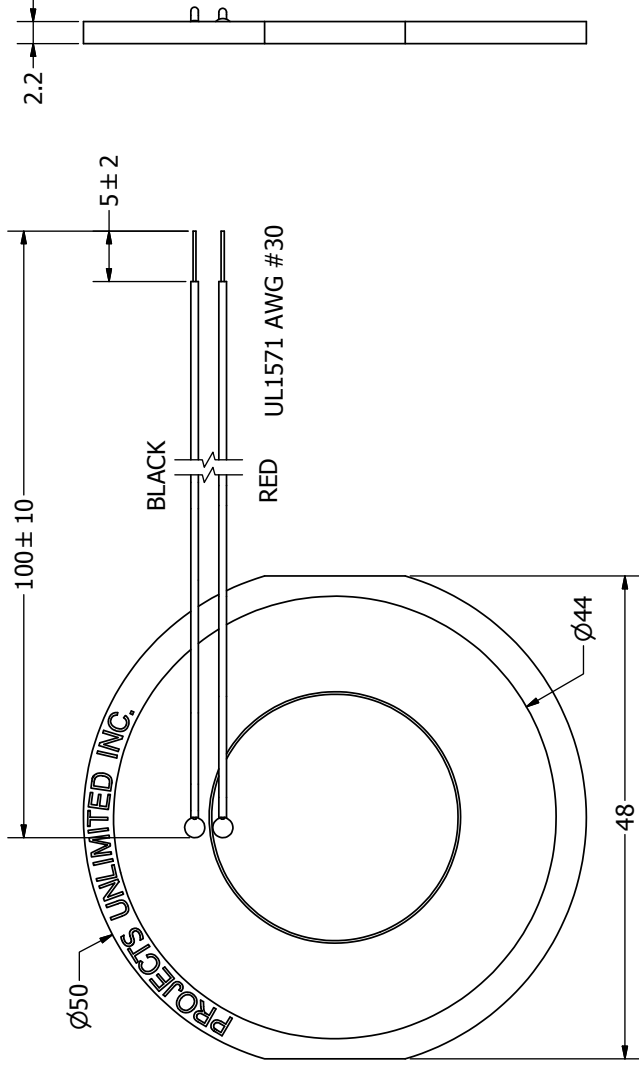
Capacitance is measured at 120 Hz using an LCR meter such as HP49194A.

| SPECIFICATIONS               |              |       |
|------------------------------|--------------|-------|
| PARAMETERS                   | VALUES       | UNIT  |
| OPERATING VOLTAGE (MAX)      | 30           | Vp-p  |
| CAPACITANCE @ 1kHz           | 65,000 ± 30% | pF    |
| RESONANT FREQUENCY           | 1,200 ± 200  | Hz    |
| RESONANT IMPEDANCE(MAX)@1kHz | 3,500 ± 10%  | Ohm   |
| OPERATING TEMPERATURE        | -20 ~ +70    | °C    |
| STORAGE TEMPERATURE          | -20 ~ +70    | °C    |
| PLATE MATERIAL               | BRASS        | -     |
| HOUSING MATERIAL             | ABS          | -     |
| TERMINAL MATERIAL            | LEAD WIRE    | -     |
| WEIGHT                       | 3            | grams |

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| REVISION HIST |                                          |
|---------------|------------------------------------------|
| LTR           | DESCRIPTION                              |
| -             | RELEASED FROM ENGINEERING                |
| A             | REVISED TO INVENTOR 3-D DRAWING TEMPLATE |



#### 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><br>DIMENSIONS ARE IN MILLIMETERS,<br><br>TOLERANCES ARE ±0.5 AND ANGLES ARE ±3°. | SIZE |                                                                                                                                                                         | Designed by | Date     | Checked by | Date     |
|                                                                                                                  | A3   |                                                                                                                                                                         | J.D.        | 9/6/2006 | B.R.       | 9/6/2006 |
| APS4812B-LW100-R.idw                                                                                             |      | <div><div><b>pui audio</b><sup>TM</sup><br/>a projects unlimited company</div></div> |             |          |            |          |
|                                                                                                                  |      | APSC                                                                                                                                                                    |             |          |            |          |
|                                                                                                                  |      | PIEZOC                                                                                                                                                                  |             |          |            |          |

## Looking for pricing, stock, or lifecycle information?

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