



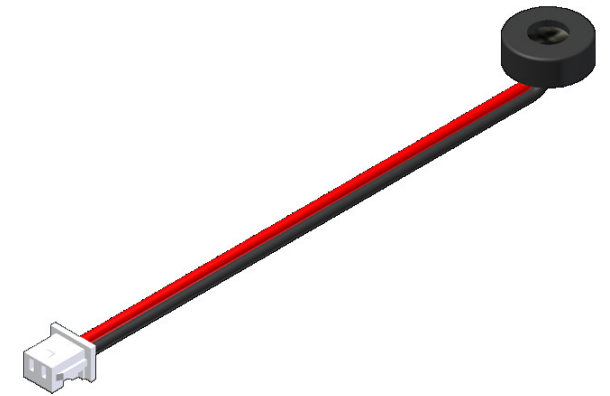
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# POW-1644L-LWC50-B-R Omni-Directional Waterproof Microphone

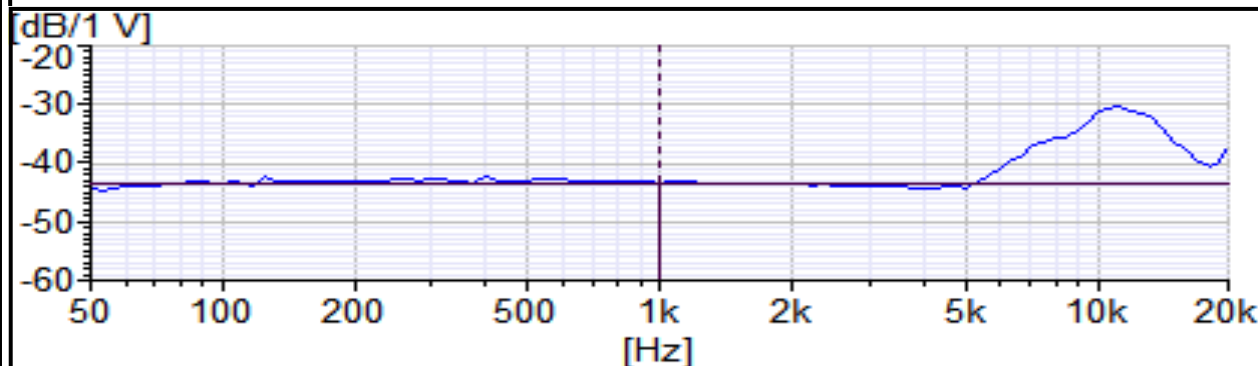
3541 Stop Eight Road • Dayton, Ohio 45414

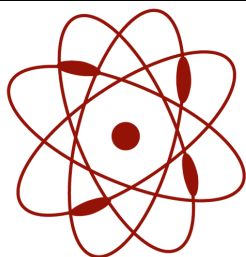
## Product Overview

- 7.1mm overall diameter and 2.6mm height
- -44 dB sensitivity for use in most environments
- Wide 2 to 10 VDC operating voltage and 50-16,000 Hz frequency response
- >60 dB signal-to-noise ratio and 2.2 kOhm impedance
- Omni-directional polar pattern for great off-axis response
- IP57 rated and built with a rubber boot for a superior seal
- 50mm lead wires and a Molex® 51021-0200 connector



Typical Frequency Response and Sensitivity



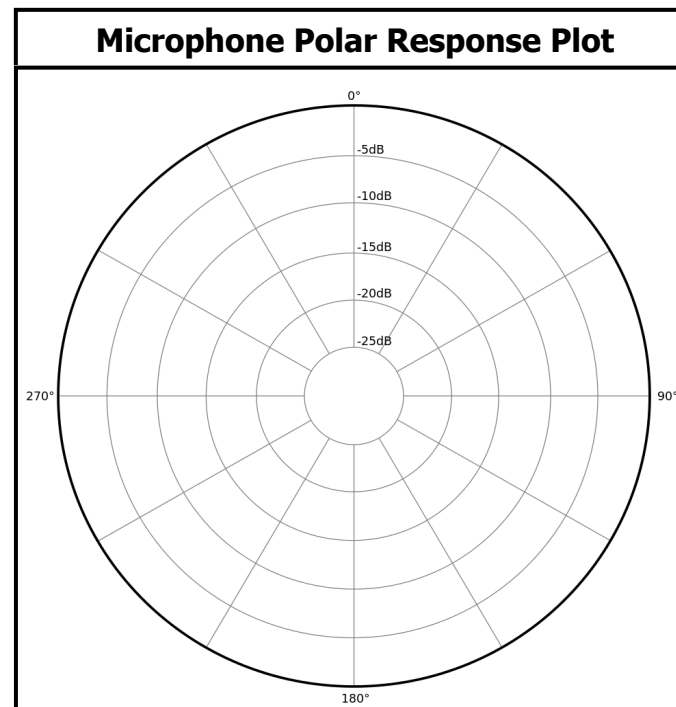
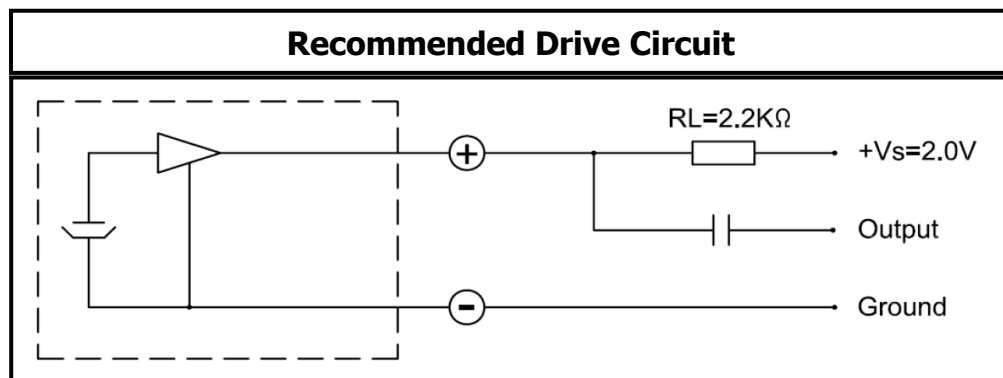


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# POW-1644L-LWC50-B-R

## Omni-Directional Waterproof Microphone

| Mechanical and Environment Testing |  |
|------------------------------------|--|
| Test Description                   | Test Condition   |
| High Temperature                   | 70°C with random humidity for 200 hours                |
| Low Temperature                    | -25°C with random humidity for 200 hours               |
| Humidity                           | 40°C with 90% relative humidity for 200 hours          |
| Vibration                          | 3 mm movement for 3 minutes in each of 3 axis          |
| Drop Test                          | 70 cm free fall onto 20 mm thick board, two directions |
| Temperature Cycle Test             | -10°C to 50°C, 5 cycles                                |



# SPECIFICATIONS

| PARAMETERS                   | VALUES    | UNITS |
|------------------------------|-----------|-------|
| DIRECTIVITY                  | OMNI      | -     |
| SENSITIVITY                  | -44 ± 3   | dB    |
| STANDARD OPERATING VOLTAGE   | 2         | Vdc   |
| MAX OPERATING VOLTAGE        | 10        | Vdc   |
| CURRENT CONSUMPTION (MAX)    | 0.5       | mA    |
| IMPEDANCE                    | 2.2       | KOhm  |
| SIGNAL TO NOISE RATIO (MIN.) | 60        | dB    |
| OPERATING TEMPERATURE        | -20 ~ +70 | °C    |
| TERMINAL                     | LEAD WIRE | -     |
| INTERNAL CAPACITOR           | N/A       | pF    |

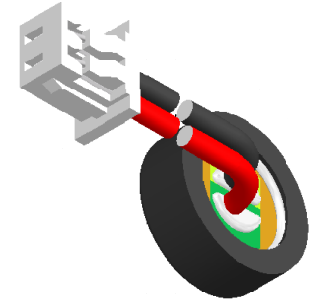
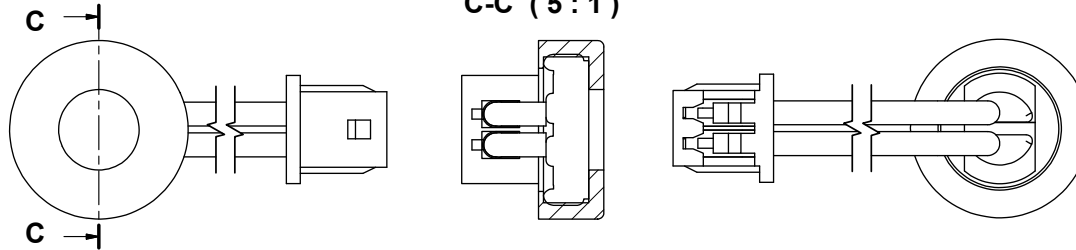
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# REVISION HISTORY

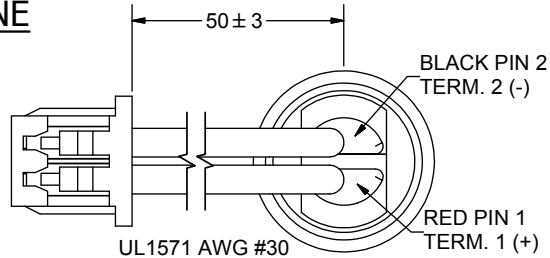
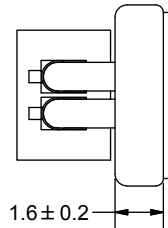
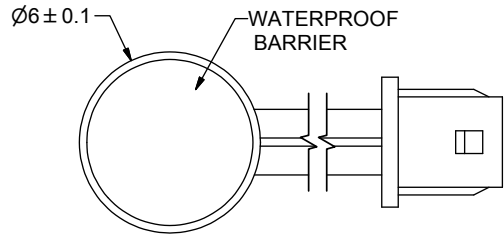
| LTR | DESCRIPTION                                 | DATE       | APPROVED |
|-----|---|------------|----------|
| -   | RELEASED FROM ENGINEERING                   | 10/10/2006 |          |
| A   | REVISED OPERATING TEMPERATURE AND IP RATING | 6/9/2008   | B.R.     |
| B   | REVISED TO INVENTOR 3-D DRAWING TEMPLATE    | 9/4/2008   | B.R.     |
| C   | ADDED PIN LOCATION                          | 7/14/2010  | B.R.     |

## ASSEMBLY

C-C (5:1)

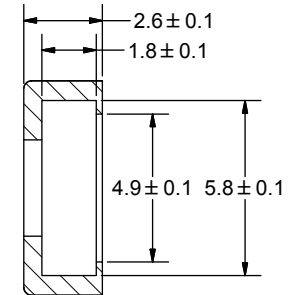
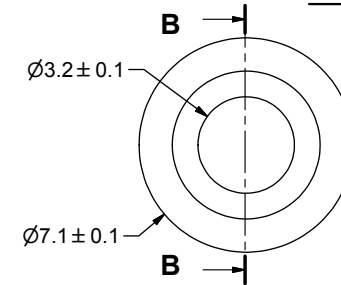


## MICROPHONE



UL1571 AWG #30

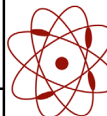
## BOOT



B-B (6:1)

### NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. SPECIFICATIONS SUBJECT TO CHANGE OR WITHDRAWL WITHOUT NOTICE.
3. THIS PART IS RoHS 2002/95/EC COMPLIANT.
- Δ4. MOLEX CONNECTOR P/N: 51021-0200
5. PART IS IP57 RATED.
6. ASSEMBLY IS WASHABLE WITH BOOT IN PLACE.

| 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.   | 10/10/2006 | B.R.                                     | 10/11/2006 | R.W.        | 10/11/2006 | 9/4/2008   |
| POW-1644L-LWC50-B-R.idw  |                   |  <b>pui audio</b><br>a projects unlimited company |            | <b>POW-1644L-LWC50-B-R</b><br>Microphone |            |             | Edition    | Sheet      |
|  |                   |  |            |  |            | -           | 1 / 1      |            |