

## Data Sheet

TOM-1537L-HD-R

PUI Audio's all-new **HD Series** microphones use premium-grade FETs and diaphragms for high sensitivity and superior signal-to-noise ratio. Each microphone features GSM buzz-blocking capacitors. Upgrade the ECM microphone that you use today with a PUI Audio **HD Series** microphone.

The 4mm diameter **TOM-1537L-HD-R** is designed for extreme fidelity, from 20 Hz to 20 kHz, in the smallest ECM package that PUI Audio has offered to date.

### Features:

- 4mm diameter
- 1.5mm height
- -37 dB sensitivity
- 68 dB signal-to-noise ratio
- True 20 Hz to 20 kHz performance

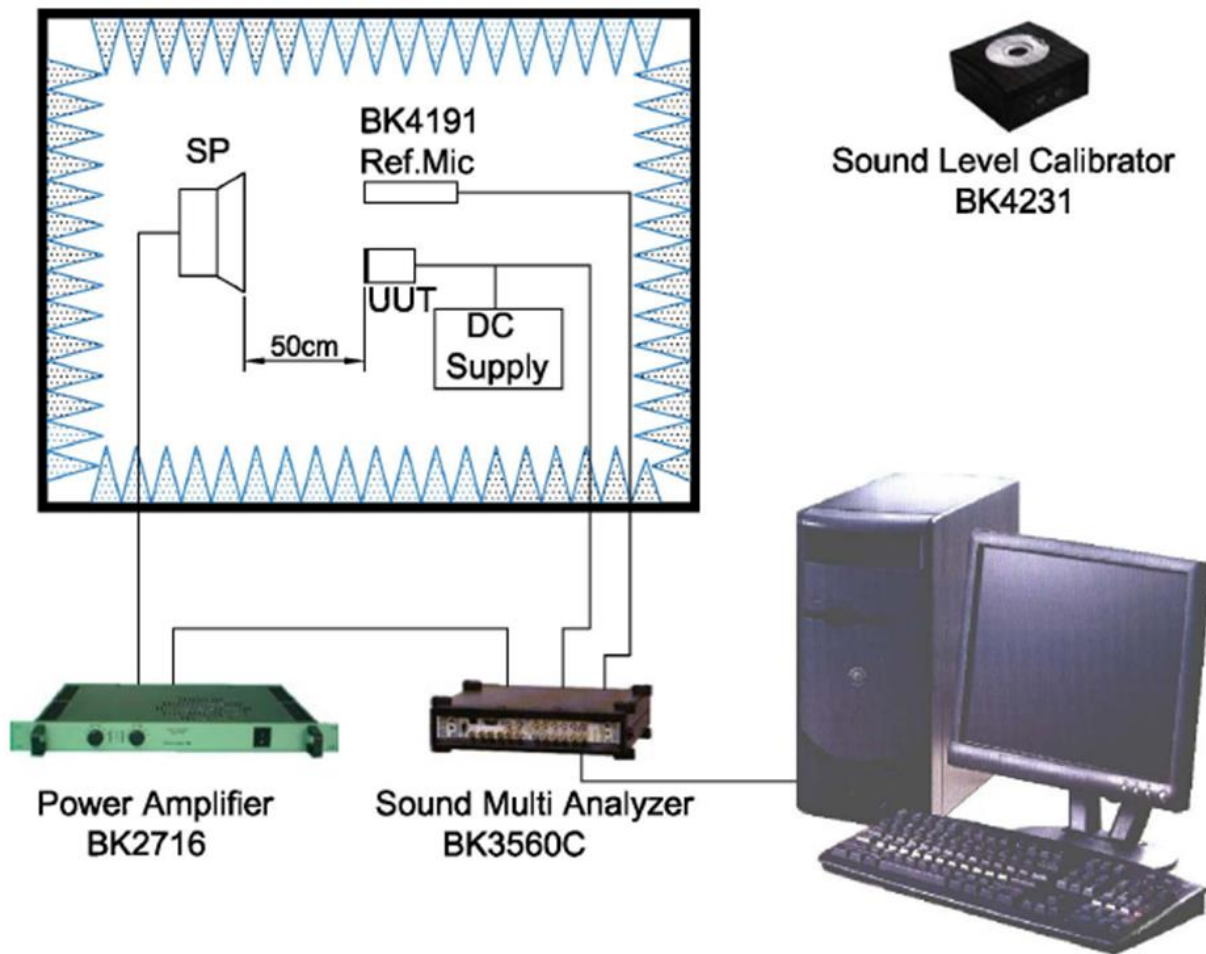
### Specifications

Parameters	Values	Units
Sensitivity (1 kHz @ 50cm) 0 dB=1V/Pa	-37 ±3	dB
Rated Voltage	2	VDC
Output Impedance (@ 1 kHz)	2.2	kΩ
Current consumption (2VS with 2.2 kΩ RL)	500	μA
Signal-to-Noise Ratio (1kHz, 94 dB input, A-weighted)	68	dB
Decreasing Voltage (2VS to 1.5VS)	-3	dB
Frequency Range	20 ~ 20,000	Hz
Operating Voltage Range	1 ~ 10	VDC
Maximum SPL Input (THD<3%)	110	dB
Directivity	Omni-directional	-

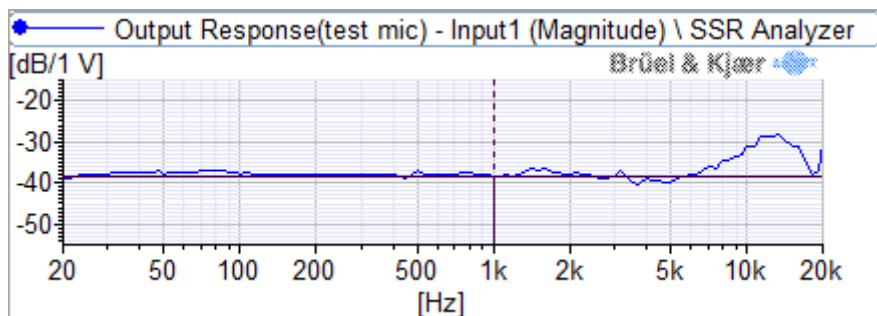
## Specifications (continued)

Operating Temperature	-20 ~ +70	°C
Storage Temperature	-40 ~ +85	°C
Weight	<0.3	Grams

## Measurement Method (in Anechoic Chamber)



## Typical Frequency Response (measured at 50cm with 3V input and 94 dB source)

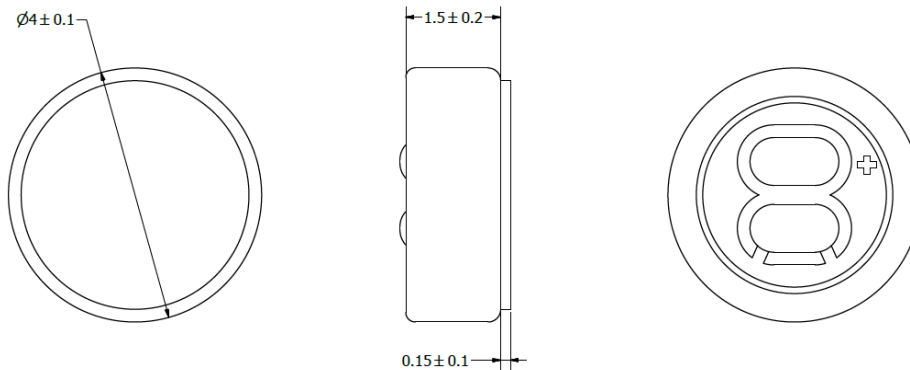


## Reliability Testing

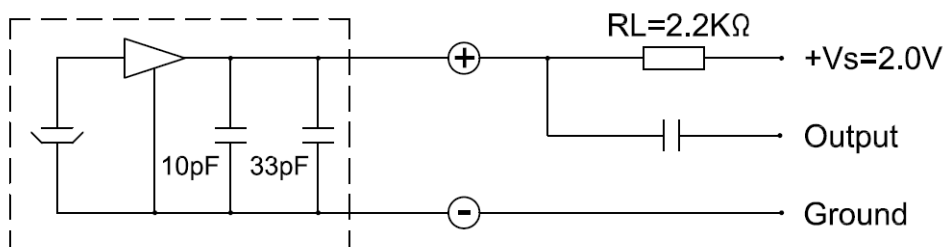
Type of Test	Test Specifications
High Temperature Test	200 hours at +70°C ± 3°C followed by two hours in normal room temperature
Low Temperature Test	200 hours at -25°C ± 3°C followed by two hours in normal room temperature
Humidity Test	200 hours at +40°C ± 3°C with relative humidity at 90% to 95% followed by 2 hours in normal room temperature
Temperature Cycle Testing	30 minutes at -25°C, 10 minutes at 20°C, 30 minutes at +70°C, 10 minutes at 20°C for five cycles, followed by 2 hours in normal room temperature
Vibration Test	10 to 55 Hz for 1 minute with 1.52mm distance, followed by a two hour 3 axis test in packaging
Drop Test	Drop microphones in packaging onto concrete floor from 1 meter height in each of 3 axis
ESD Test (according to IEC 6100)	<ol style="list-style-type: none"> <li>Contact discharge - Discharge 6000 VDC from capacitor into microphone output through 330Ω resistor ten times.</li> <li>Air discharge - Discharge 8000 VDC into sound hole of the microphone ten times.</li> </ol>

After each test, the speaker's SPL shall be ±3 dB of the original SPL

## Dimensions



## Recommended Drive Circuit



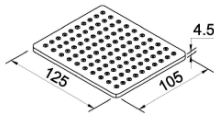
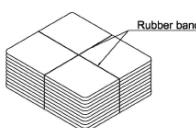
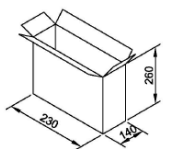
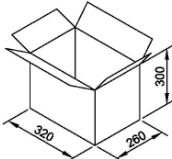
## Microphone Handling Precautions

High temperature and/or static electricity may damage microphones. To ensure careful handling, we suggest following these precautions:

- Ensure the power rating of the soldering iron is below 90 watts
- The temperature of the soldering iron must be limited to 360°C ±10°C (680°F ±50°F)
- Soldering duration for each terminal shall be at or under 2 seconds
- If practical, use a metal fixture to hold the microphone in-place and to act as a heatsink. A fixture should have appropriate diameter holes drilled through the entire fixture to prevent pressure from being placed on the diaphragm (as below)



## Packaging

	Drawing	Qty (pcs.)	Size(mm) L×W×H	Material
Packing		100	125×105×4.5	Plastic
Inner Package		1000 (10×100)	126×55×106	Paper
Middle Package		10000 (10×1000)	230×140×260	Paper
Outer Package		20000 (2×10000)	320×260×300	Paper

**Specifications Revisions**

<b>Revision</b>	<b>Description</b>	<b>Date</b>
-	Released from Engineering	6/6/2017

**Note:**

1. Unless otherwise specified:
  - A. All dimensions are in millimeters.
  - B. Default tolerances are  $\pm 0.5\text{mm}$  and angles are  $\pm 3^\circ$ .
2. Specifications subject to change or withdrawal without notice.
3. This part is RoHS 2011/65/EU Compliant.