



PUIaudio



Data Sheet

UT-1240K-TT-2

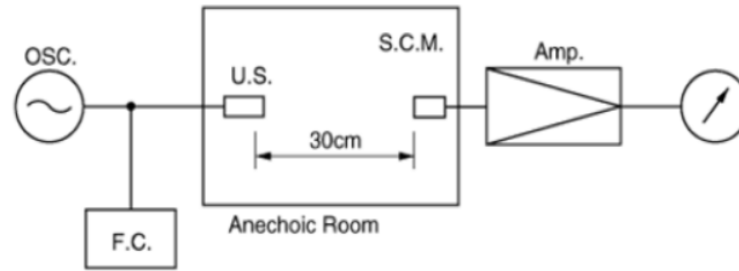
Features:

- 40,000Hz Ultrasonic Transmitter
- Pairs with receiver UR-1240K-TT-2
- 12.8mm Diameter X 9.0mm
- 115dB
- Open Type, Aluminum Housing
- 302 Stainless Steel mesh

Specifications

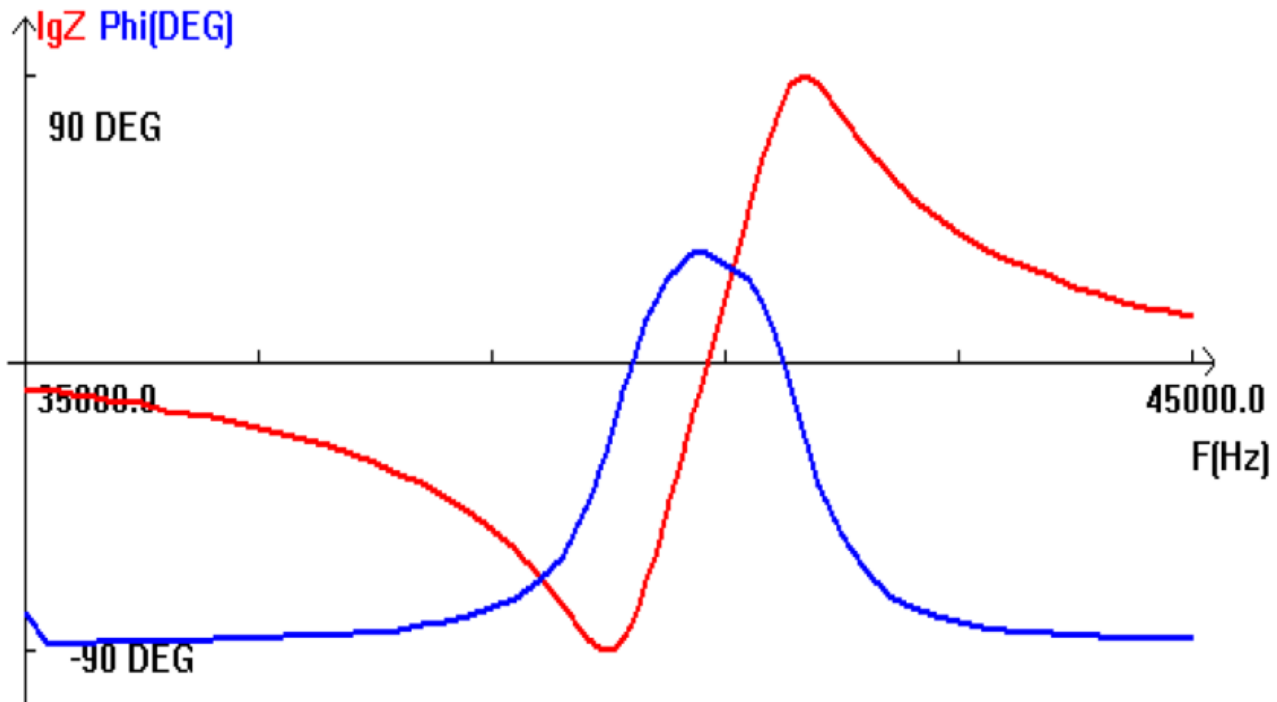
Parameters	Values	Units
Max Drive Voltage	30	Vrms
Capacitance	2100 $\pm$ 20%	pF
SPL (0dB=0.002uBAR)	$\geq$ 115	dBA
Center Frequency	40,000 $\pm$ 1,000	Hz
Bandwidth	2000	Hz
Directivity (-6dB)	70° typical	-
Housing Material	Aluminum	-
Terminal Material	Sn plated Cu	-
Weight	4.8	Grams
Ingress Protection Rating	None	-
Acceptable Soldering Methods	Hand Solder Only	Iron temp 350C Solder time 3-10sec
Environmental Compliances	ROHS/REACH	Exempt. 7c-1
Moisture Sensitivity Level	NA	-
Storage Temperature	-30 to 80	°C
Operating Temperature	-20 to 70	°C

Measurement Method (40kHz, 30cm, 10Vrms)

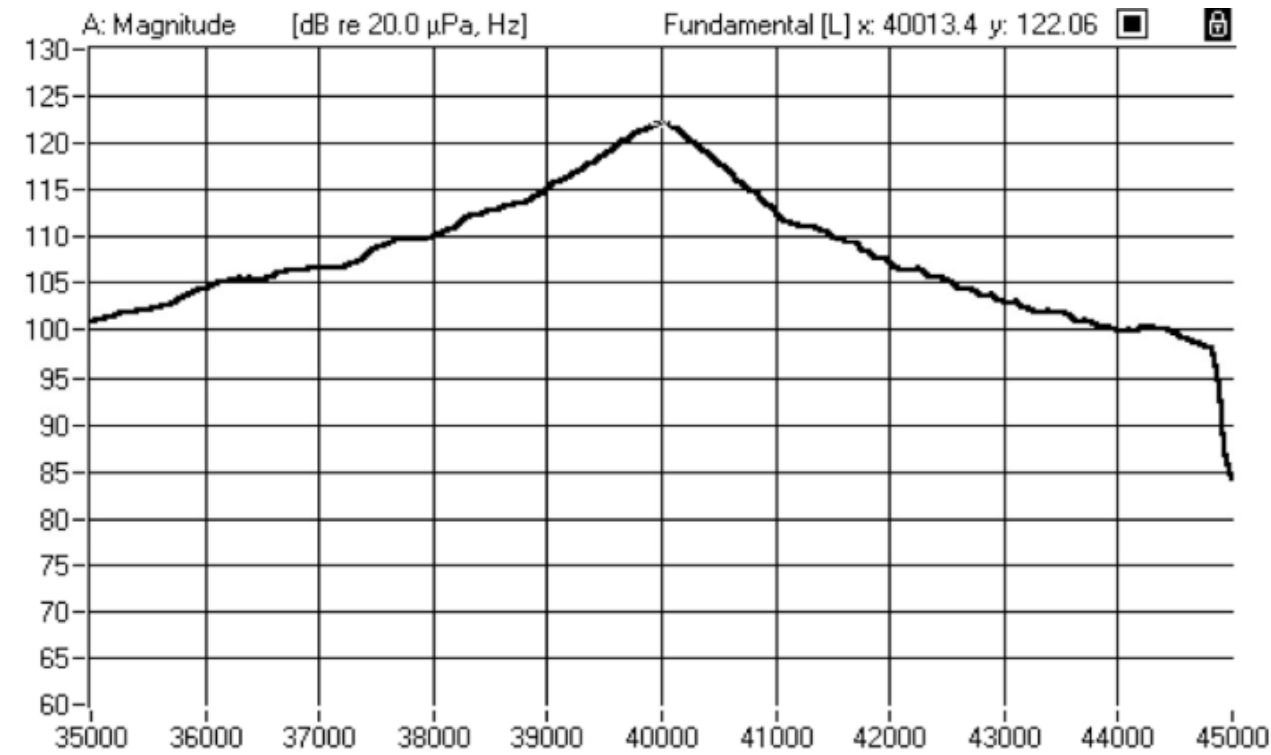


U.S. :Ultrasonic Sensor
 S.C.M. :Standard Capacitor Microphone (Brüel&Kjær 4135)
 Amp. :Amplifier (Brüel&Kjær 2610)
 Input Voltage :10 Vrms
 F.C. :Frequency Counter 0dB=1V/ μ bar

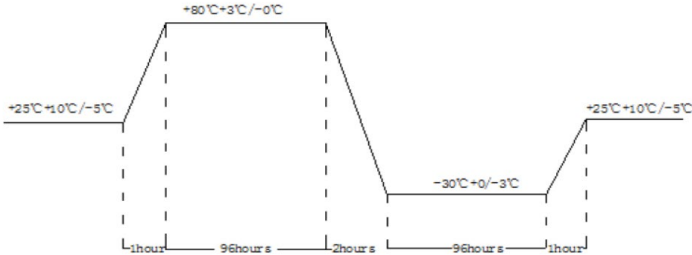
Typical Frequency Response

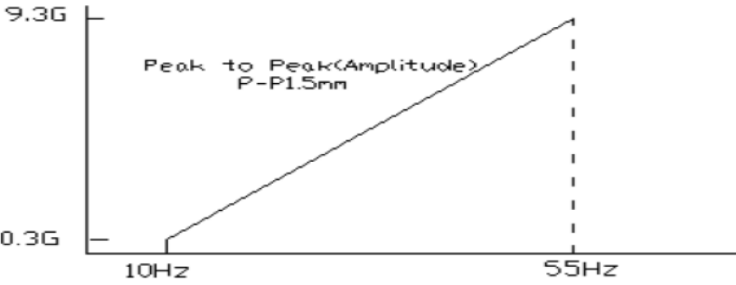


Transmitter SPL Curve



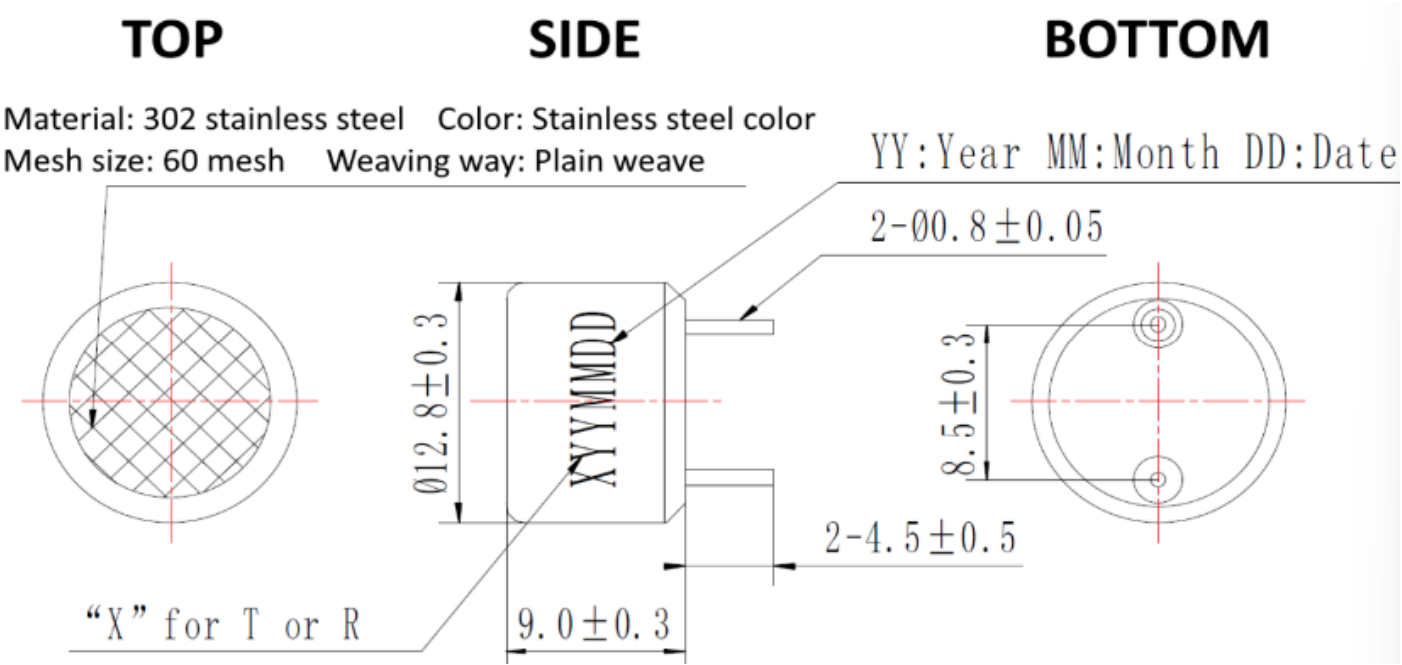
Reliability Testing

Type of Test	Test Specifications
High and Low Temperature Test	-20C to 70C in relative humidity of 30%. SPL and peak sensitivity shall not change by more than 15dB within the temp range from high to low.
Humidity Test	Humidity of 10% to 90% at temperature of 25C. SPL and sensitivity shall not change by more than 6dB within the humidity range.
Storage Temperature Testing	Storage at 80C for 96hrs and at -30C for 96hrs followed by normalized period at 25C. See figure. <div></div>
Temperature Cycle Testing	Operation at 95%RH and 40C for 100hrs followed by normalization period for 24hrs at 30%RH and 25C. See figure.

	 <p>The graph shows a temperature and humidity profile. It starts at 40°C 95% RH for 100 hours, then drops to 25°C 30% RH in 15 minutes, and remains at 25°C 30% RH for 24 hours.</p>
Vibration Test	<p>Vibration at 10Hz to 55Hz, 1.5mm amplitude, 1 min sweep in each x/y/z direction 3 times for 3hrs. See figure.</p>  <p>The graph shows a linear increase in acceleration from 0.3G at 10Hz to 9.3G at 55Hz. The peak-to-peak amplitude is 1.5mm.</p>
Drop Test	<p>Drop sensor from 1000mm onto surface of ASTM/JXW-004 board freely, repeating it 24 times.</p>

All sensitivity and SPL shall be within 3dB of specified values after subjected to these conditions unless otherwise noted.

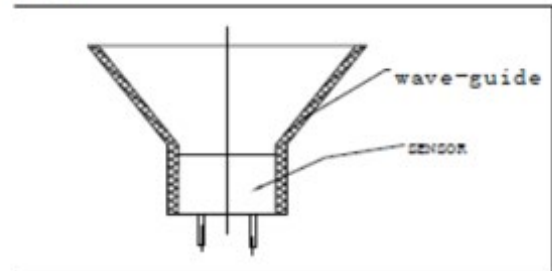
Dimensions



Design Notes

- This sensor is designed for use in air environment. Do not use it in liquid.
- In the case where secondary accidents due to operation failure or malfunctions can be anticipated, add a fail safe function to the design.

■ In the case where this sensor is to be Shocked or impacted, fit a "V" wave-guide on the sensor (see the following drawing), which also is to improve receiving sensitivity .



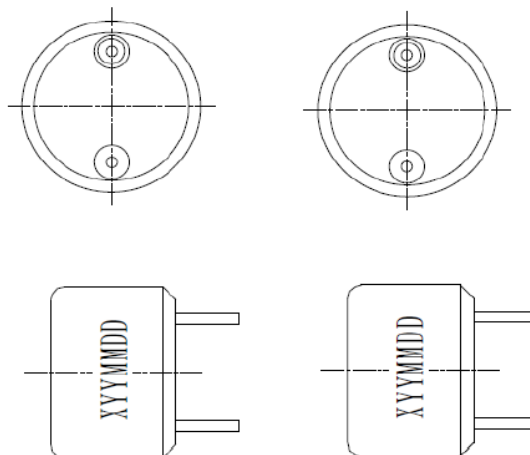
2.USAGE RESTRICTION/PRECAUTIONS

■ To prevent sensor malfunctions, operational failure or any deterioration of its characteristics, do not use this sensor in the following, or similar conditions:

- a) strong shock or vibration.
- b) high temperature and humidity for a long time.
- c) orrosive gases or sea breeze.
- d) an atmosphere of organic solvents.
- e) dirty and dusty environments that may contaminate the sensor front.
- f) Over specified allowable input voltage .

■ Do not solder adding stress on outer lead, also do not apply stress like spin or pressure after soldering. In case you form the leads, support the root firmly.

In order to reduce and avoid the interference between the transmitting sensor and receiving sensor, we suggest the two sensors should be mounted as shown in figure below:



Soldering Temperature and Time Requirement

- **Wave Soldering:** Soldering temperature 260–280°C, soldering time ≤ 3 seconds (depending on the solder melting point).
- **Hand Soldering:** Soldering temperature $380 \pm 20^\circ\text{C}$, soldering time ≤ 5 seconds (depending on the solder melting point).

Packaging:

- 300pcs/Tray
- 36,000per carton

Specifications Revisions		
Revision	Description	Date
A	Released from Engineering	2/24/2026

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.