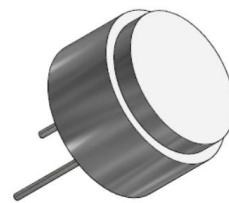




PUIaudio



Data Sheet

UTR-1440K-TT-R

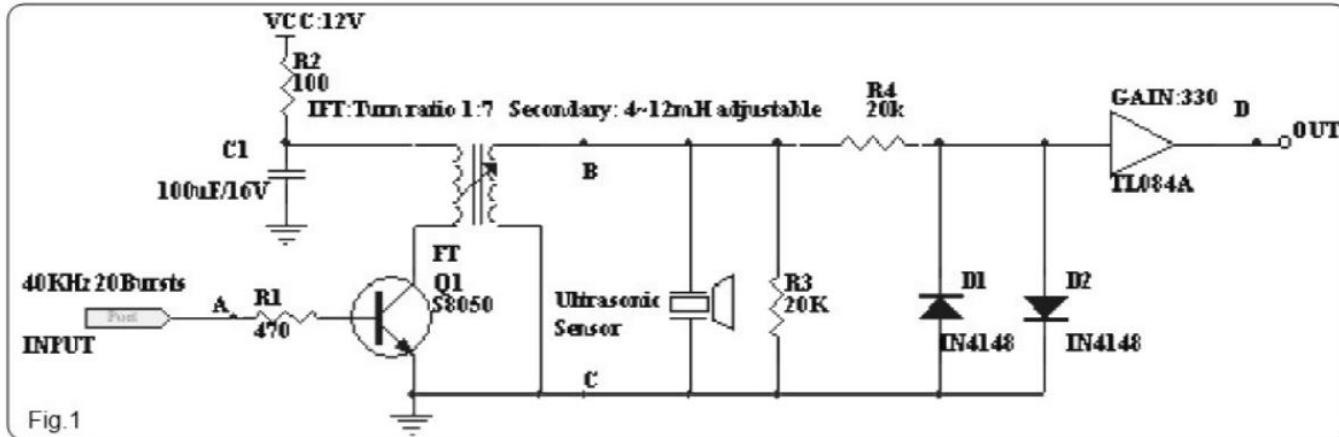
Features:

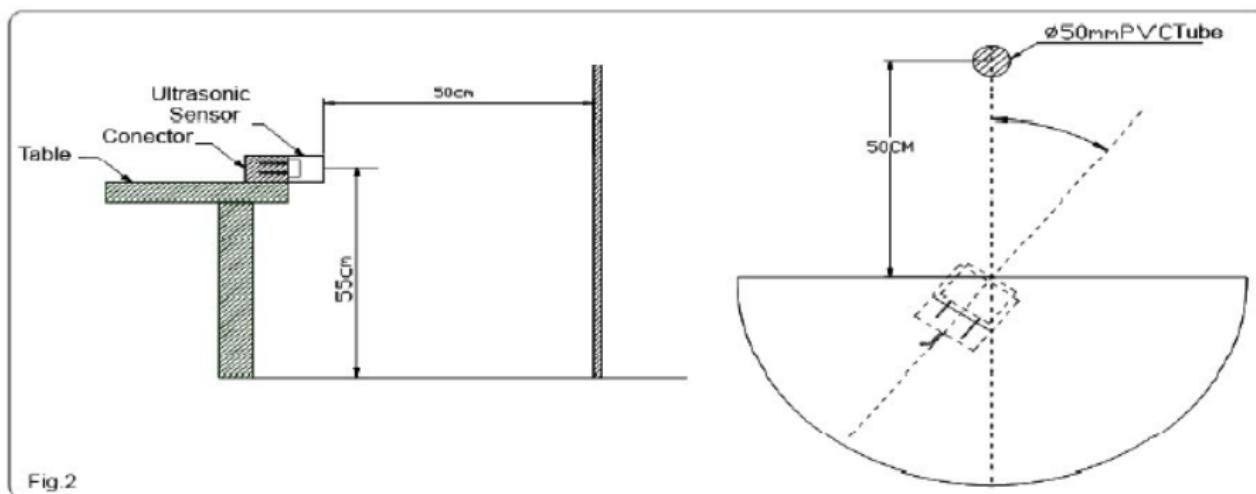
- 40,000Hz Dual Mode Ultrasonic Sensor

Specifications

Parameters	Values	Units
Max Drive Voltage	140	Vpp
Capacitance	$1800 \pm 15\%$	pF
Echo Sensitivity (0dB=1V/uBAR)	≥ 200	mV
Center Frequency	$40,000 \pm 1,000$	Hz
Bandwidth	2500	Hz
Directivity (-6dB)	$70^\circ \pm 15$ typical	-
Decay Time	≤ 1.2	ms
Housing Material	Aluminum	-
Terminal Material	Sn plated Copper	-
Weight	4.8	Grams
Ingress Protection Rating	IP65	-
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	-40 to 80	°C
Operating Temperature	-40 to 85	°C

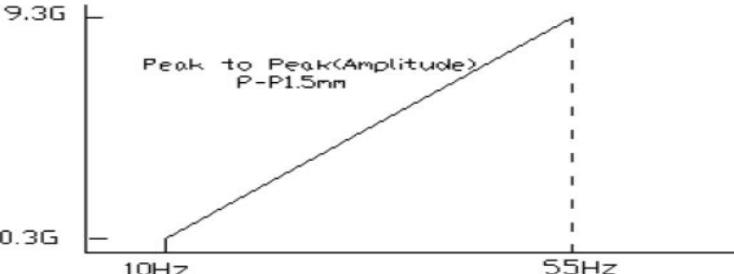
Measurement Method





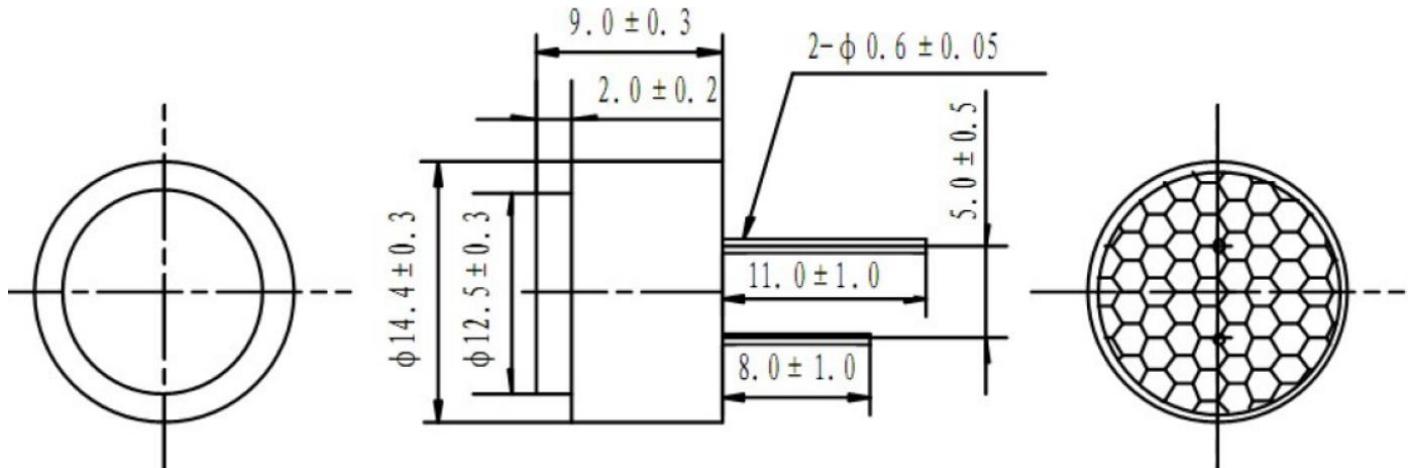
Reliability Testing

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.
Temperature Cycle Testing	Operation at 95%RH and 40C for 100hrs followed by normalization period for 24hrs at 30%RH and 25C. See figure.
Vibration Test	Vibration at 10Hz to 55Hz, 1.5mm amplitude, 1min sweep in each x/y/z direction 3 times for 3hrs. See figure.

	
Drop Test	Drop sensor from 700mm onto surface of 10mm thick wooden board in 2 directions.

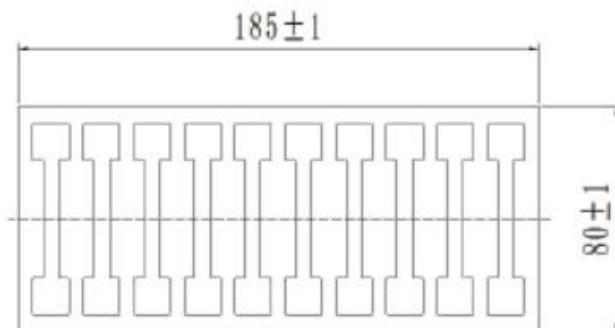
All sensitivity and SPL shall be within 3dB of specified values after subjected to these conditions unless otherwise noted.

Dimensions

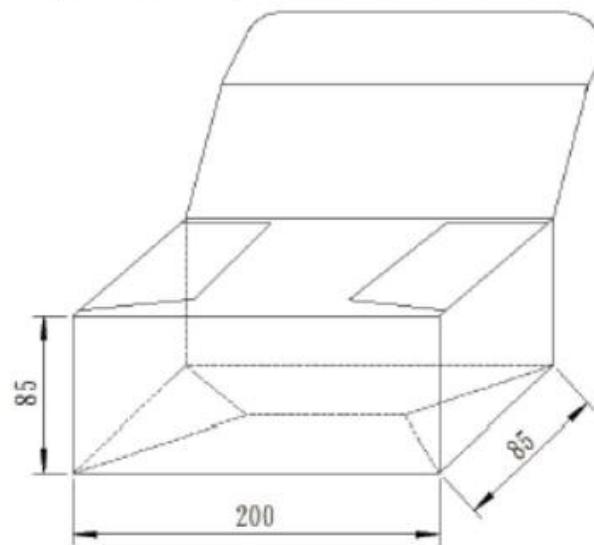


Packaging

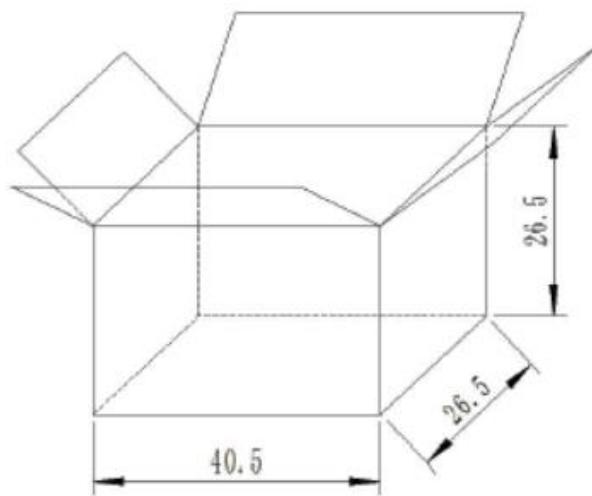
Packaging tray: 20 PCS in a tray(Unit: mm)



Internal Packing Box: 5 trays in an internal packing box, total 100 PCS(Unit: mm)

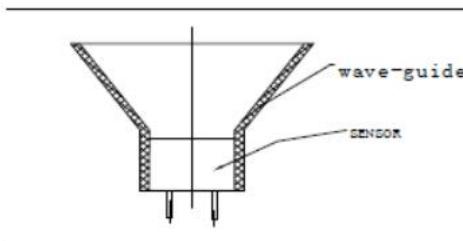


External Packing Box: 12 internal packing boxes in an external packing box ,total 1800 PCS(Unit: mm)



Design Notes

- This sensor is designed for use in air environment. Do not use it in liquid.
该探头是按照应用于空气环境而设计的，禁止用于液体环境。
- In the case where secondary accidents due to operation failure or malfunctions can be anticipated, add a fail safe function to the design.
- 为了防止归于操作失败或者故障所致的可预测的次要事故，
给设计增加一个失效安全功能。
- 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 .
为了防止探头受到外力的冲击或挤压，并加强探头的接收能力，应给探头加上 V 型波导管。如图示：



2. USAGE RESTRICTION/PRECAUTIONS 使用限制/预防:

- To prevent sensor malfunctions, operational failure or any deterioration of its characteristics, do not use this sensor in the following, or similar conditions:
为了防止探头故障，操作失败，或者其任何性能退化，禁止使用本探头于以下情况或者相似环境条件：
 - a) strong shock or vibration. 强烈的冲击或者振荡情况；
 - b) high temperature and humidity for a long time. 长时间处于高温高湿的环境；
 - c) corrosive gases or sea breeze. 腐蚀气体或者海风环境；
 - d) an atmosphere of organic solvents. 有机溶剂环境；
 - e) dirty and dusty environments that may contaminate the sensor front. 可能污染探头顶部的肮脏、灰尘环境；
 - f) Over specified allowable input voltage . 超过指定允许输入电压的条件。
- 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.
禁止在焊接插针脚时施加应力和刚焊接后施加旋转应力或压应力。在焊接引线时，应紧紧地支撑住

Specifications Revisions

Revision	Description	Date
-	Released from Engineering	06/01/2016
A	Added Housing Material	06/07/2017

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.