SPECIFICATIONS SHEET FOR APPROVAL

ULTRASONIC SENSOR
P/N: UO1612ATRAP-01

DESCRIPTION: D16mm, H12mm Ultrasonic Sensor (Transmitter & Receiver), 40,000Hz, 115dB/-65dB, 55° beam angle

VERSION: 01

DATE: 11-Dec-08

REVISIONS

VERSION	DESCRIPTION	DATE
01	Released from engineering	11-Dec-08

APPROVED BY :

CUSTOMER NAME :
DATE :

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SOUND COMPONENTS LIMITED 聲港科技有限公司
Unit 1206 • 12/F • Billion Trade Centre • 31 Hung To Road • Kwun Tong • Hong Kong
香港九龍觀塘鴻圖道31號鴻貿中心12樓06室
Tel: +852 2304 4000 Fax: +852 2304 7000
email: sales@hk-sound.com website: www.hk-sound.com

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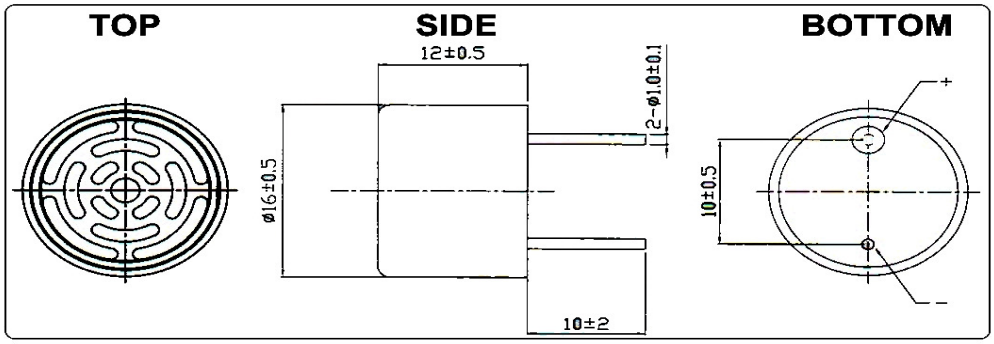
ULTRASONIC SENSOR
P/N: UO1612ATRAP-01

1. SPECIFICATIONS

PARAMETERS	UO1612ATAP-01	UO1612ARAP-01	UNITS
CENTER FREQUENCY	40,000 ± 1,000		Hz
*SOUND PRESSURE LEVEL	> 115	-	dB
SENSITIVITY (0dB=1volt/μbar)	-	-65	
BEAM ANGLE	55	55	◦
CAPACITANCE	2,000 ± 20%		pF
MAX DRIVING VOLTAGE	20		Vrms
FUNCTION	TRANSMITTER	RECEIVER	-
OPERATING TEMPERATURE	-20 to +70		℃
STORAGE TEMPERATURE	-30 to +80		℃
HOUSING	ABS		-

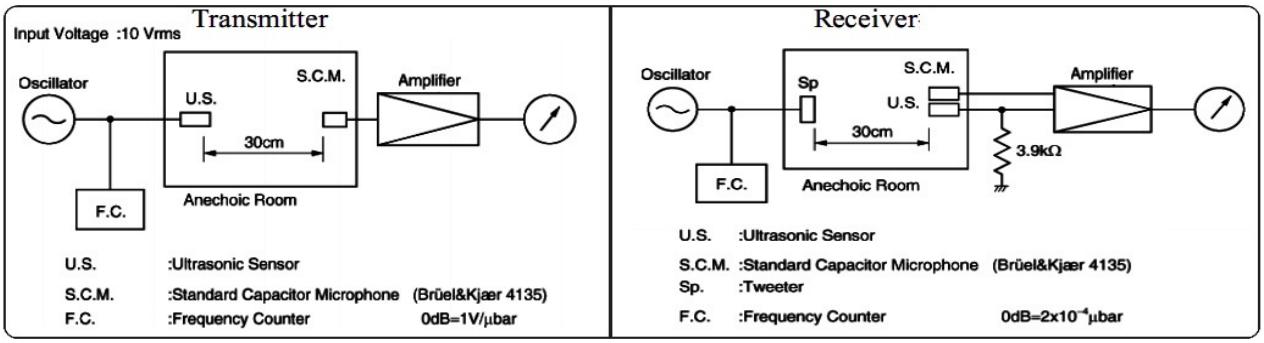
*Standard: 0 dB = 0.0002μ bar

2. DIMENSIONS (unit in mm)



Tolerance: ±0.5mm except specified

3. TESTING CIRCUIT



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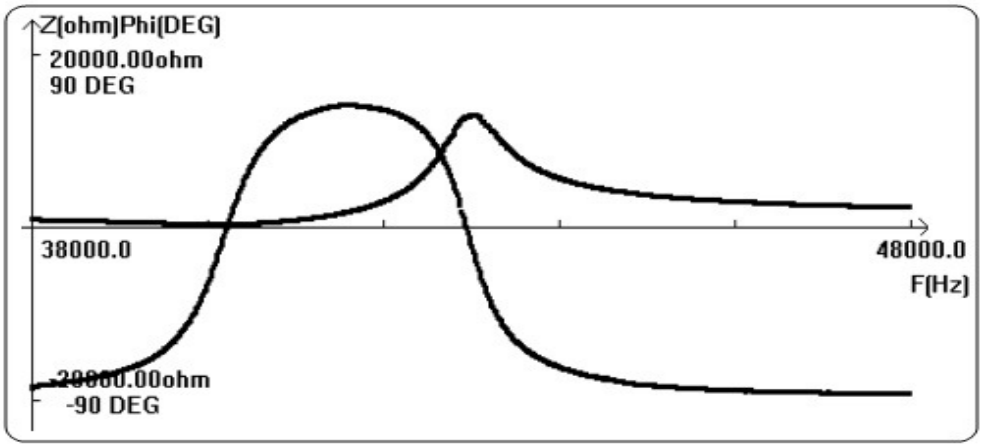
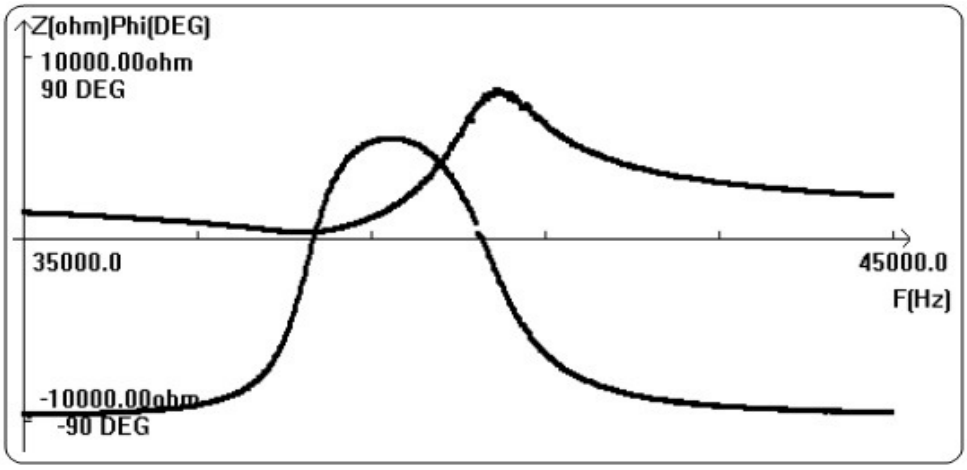
4. FREQUENCY RESPONSE CURVE

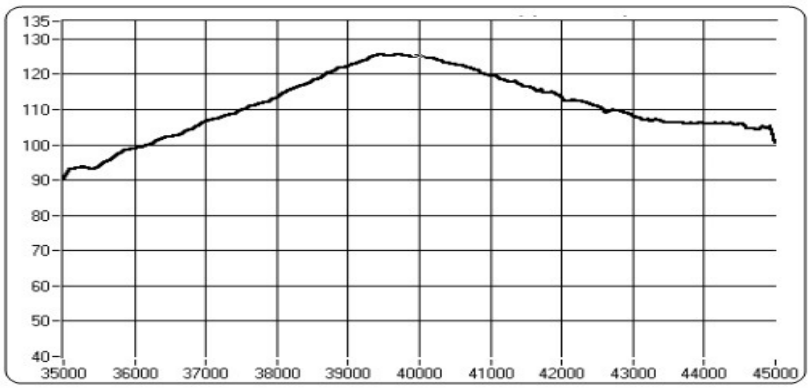
a)Transmitter Impedance



b) Receiver Impedance



5. TRANSMITTER SPL



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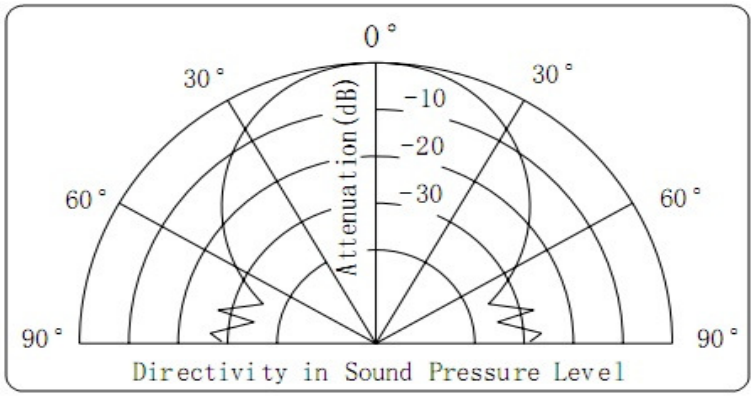
6. BEAM ANGLE



7. RELIABILITY TEST

Testing Criteria

All specifications (in page 2) must be satisfied after below tests.
(Recovery:2 to 4 hrs of recovery under the standard condition after the removal from test chamber.)

1) Temperature Test

a) Exposure at +80℃ for 96 hours then leave 3 hours in normal temperature and test the Specifications.
b) Exposure at -30℃ for 96 hours then leave 3 hours in normal temperature and test the Specifications.

2) Humidity Test

Exposure at +40℃ and 90%-95% relative humidity for 96 hours and leave 3 hours in normal temperature.
Then test the Specifications.

3) Drop Test

Drop the speakers from a height of 1.5m for 6 times .

4) Vibration Test

Frequency: 10~55~10Hz Oct/min ,Amplitude: 1.5mm Duration: 2 hours in each 3 axes

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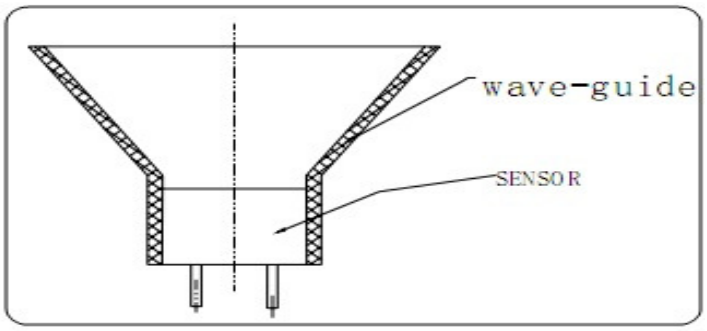
8. Note

DESIGN RESTRICTION/PRECAUTIONS

a) This sensor is designed for use in air environment. Do not use it in liquid.

b) In the case where secondary accidents due to operation failure or malfunctions can be anticipated, add a fail safe function to the design.

c) 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) In strong shock or vibration.

b) In high temperature and humidity for a long time.

c) In corrosive gases or sea breeze.

d) In an atmosphere of organic solvents.

e) In 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 just after soldering.In case you form the leads, support the root firmly.

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