

	Product Specification
Model: ISTO-P1640H12T	RoHS
Revision: original version	Effective Date: 2016-08-16
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Revision

The first version.

1 Applications

Mainly used for ultrasonic ranging, smoke detector, parking system, robot R&D, liquid level measurement and so on.

2 Features

- 2.1 Transmitter: "T" mark on housing
- 2.2 Compact and light weight
- 2.3 High sound pressure level
- 2.4 Less power consumption
- 2.5 High reliability



3 Technical Specifications



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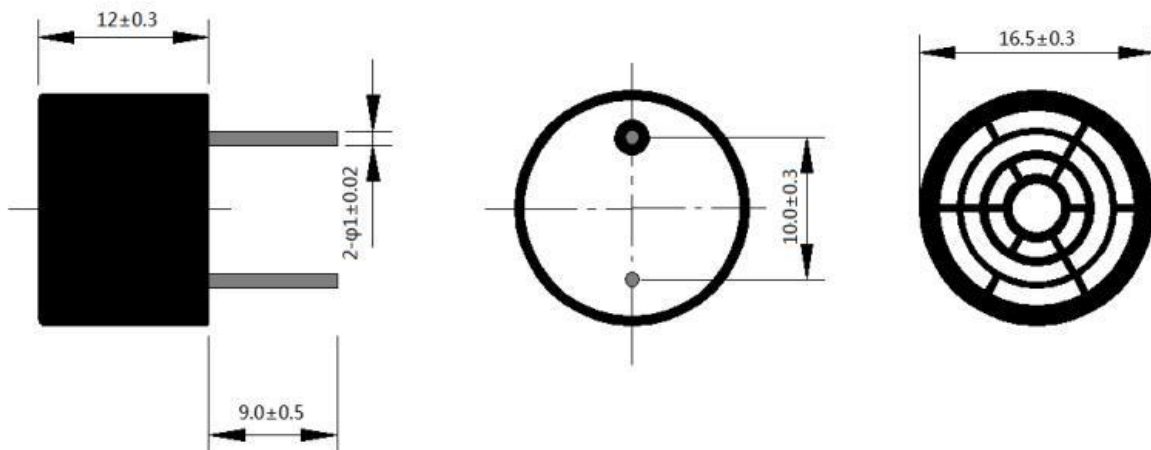
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Item	Value
Using method	Transmitter
Nominal Frequency	40KHZ
S P L	$\geq 115\text{dB}(10\text{V}/30\text{cm}/\text{sine wave})$
Directivity	80deg
Capacitance	$2200\text{pF} \pm 20\% @ 1\text{KHz}$
Allowable input voltage	$150\text{Vp-p}(40\text{KHz})$
Detectable range	0.2~18m
Operating Temperature	-20~ +70°C
Housing material	Plastic
Weight	2.0g

4 Mechanical Drawing

units:mm



5 Beam Pattern



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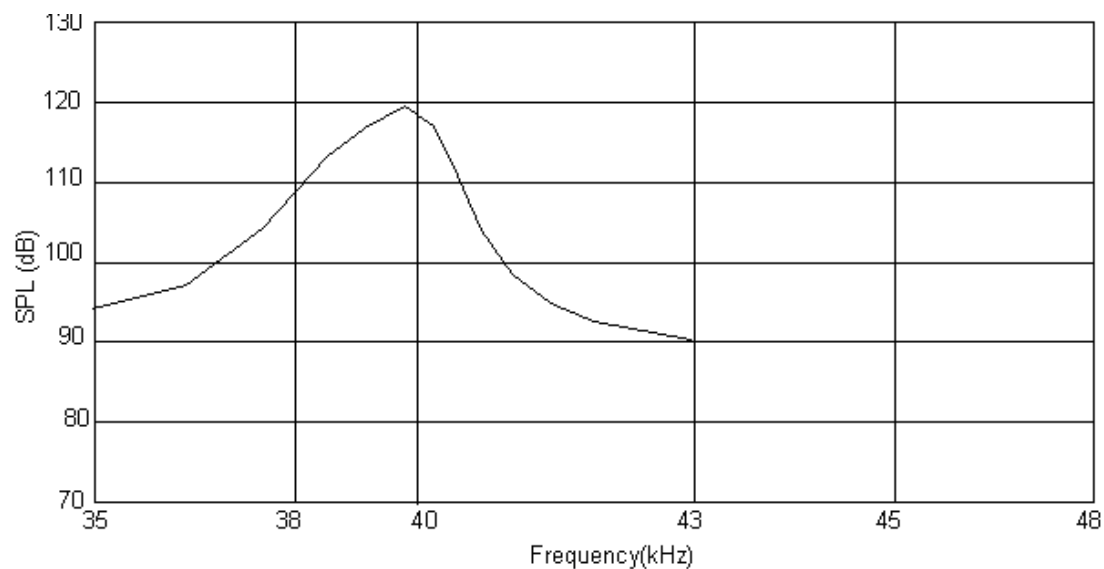
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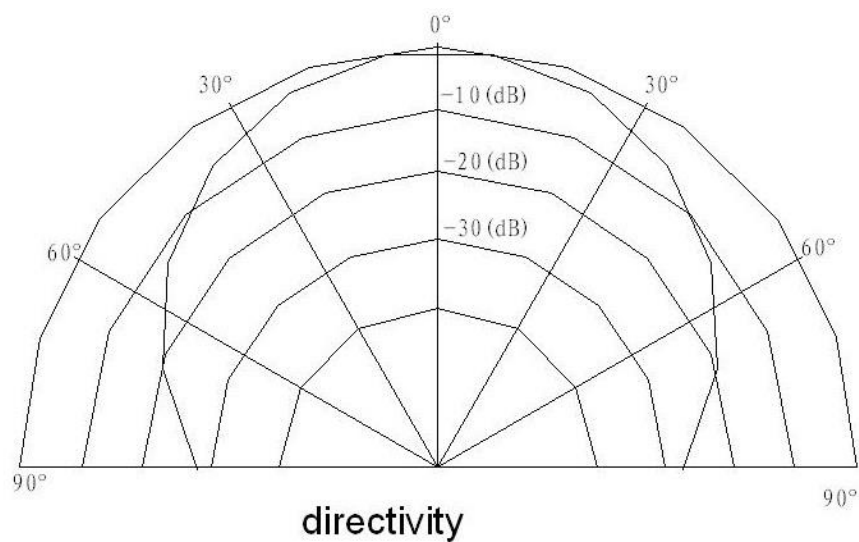
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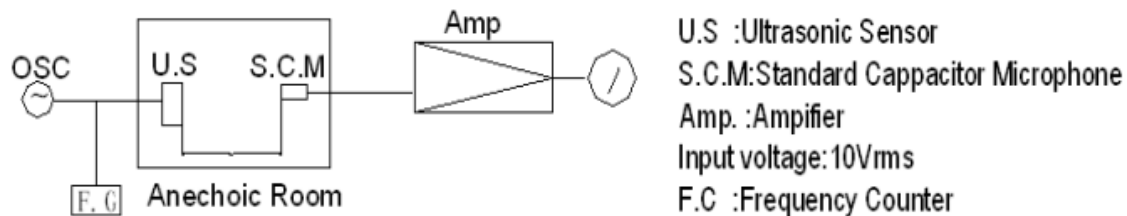
SPL-Frequency Characteristics



6 Test Circuit

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Transmitter



7 Reliability Test

- 7.1 High Temp. Life Test
 - Temperature $+85 \pm 3^{\circ}\text{C}$
 - Duration 100 hrs
 - 7.2 Low Temp. Life Test
 - Temperature $-40 \pm 3^{\circ}\text{C}$
 - Duration 100 hrs
 - 7.3 Heat Cycle Test
 - Temperature $+85 \pm 3^{\circ}\text{C}$ 1hour
 - $-40 \pm 3^{\circ}\text{C}$ 1hour
 - Cycles 10 cycles
 - 7.4 Humidity Test
 - Temperature $+60 \pm 2^{\circ}\text{C}$
 - Relative Humidity 90~95%
 - Duration 100 hrs
 - 7.5 Vibration Test
 - Vibration Frequency 10~55Hz
 - Sweep Period 1.5 min
 - Direction x,y&z
 - Time 2 hours/direction
 - 7.6 Shock Test
 - Acceleration sine 100G
 - Direction x,y&z
 - Shock Time 3 times/direction
 - 7.7 Drop Test
 - Height 1 m on concrete floor
 - Times 2 times
 - 7.8 Connector Soldering Check:
 - Immersing terminal up to 1mm below in soldering bath at 260°C 10 Seconds.
- Notice:

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The variation of the S.P.L at 40KHz is within 2dB compared with initial figures at 25°C in 24 hours after above test conditions.

8 Caution in Use

- 8.1 Please avoid applying an excessive stress to the transducer because it might be damaged.
- 8.2 The transducer may generate surge voltage by mechanical or thermal shock. Care should be taken to protect from it in designing your application circuit.
- 8.3 Please do not apply DC voltage to the transducer.
- 8.4 Please do not use the transducer in water.
- 8.5 The piece of sensor may be damaged by force pressure from back of sensor.
- 8.6 Please well evaluate the painting and electrical characteristic for your coating.
- 8.7 When used to distinguish between positive and negative.

9 Note

- 9.1 Please make sure that your product has been evaluated in view of your specifications with our product being mounted to your product.
- 9.2 You are requested not to use our product deviating from the agreed specifications.
- 9.3 We consider it not appropriate to include any terms and conditions with regard to the business transaction in the product specifications, drawings or other technical documents.

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10 Packaging Details

