

|                                                                                   |                                   |
|-----------------------------------------------------------------------------------|-----------------------------------|
|  | <h1>Product Specification</h1>    |
| <b>Model:</b> ISTO-P1040H07T                                                      | <b>RoHS</b>                       |
| <b>Revision:</b> original version                                                 | <b>Effective Date:</b> 2016-08-16 |
| <b>Customer:</b>                                                                  | <b>Page 1 of 6</b>                |

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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



## Product Specification

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**RoHS**

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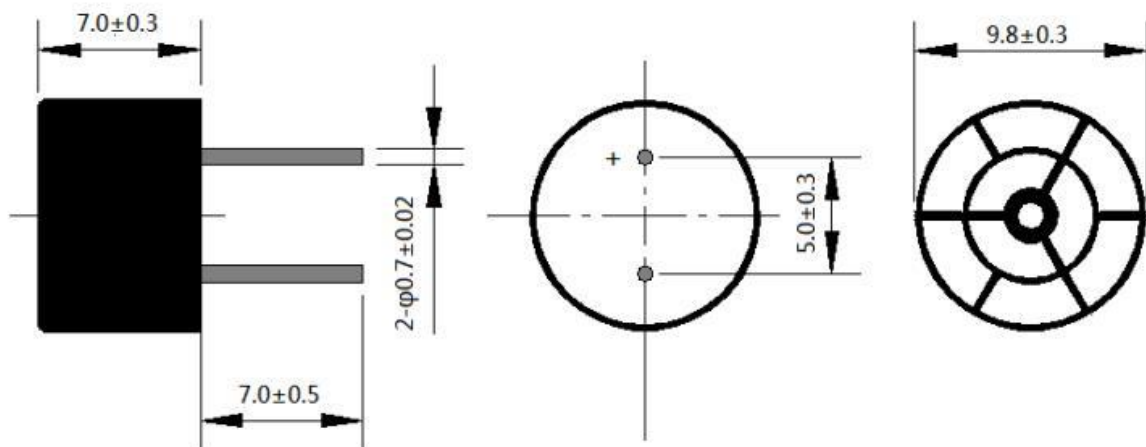
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| Item                  | Value                                    |
|-----------------------|------------------------------------------|
| Using method          | Transmitter                              |
| Nominal Frequency     | 40KHZ                                    |
| S P L                 | $\geq 105\text{dB}$ (10V/30cm/sine wave) |
| Directivity           | 80deg                                    |
| Capacitance           | $2400\text{pF} \pm 25\% @ 1\text{KHz}$   |
| Detectable range      | 0.2~15m                                  |
| Operating Temperature | -20~ +80°C                               |
| Housing material      | Plastic                                  |
| Weight                | 0.58g                                    |

## 4 Mechanical Drawing

units:mm



## 5 Beam Pattern



## Product Specification

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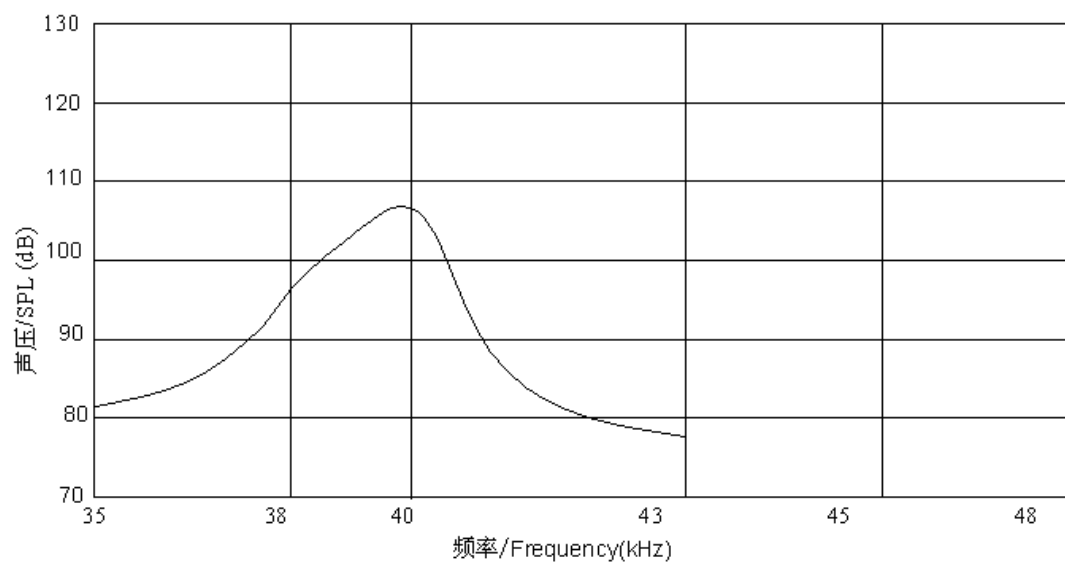
**RoHS**

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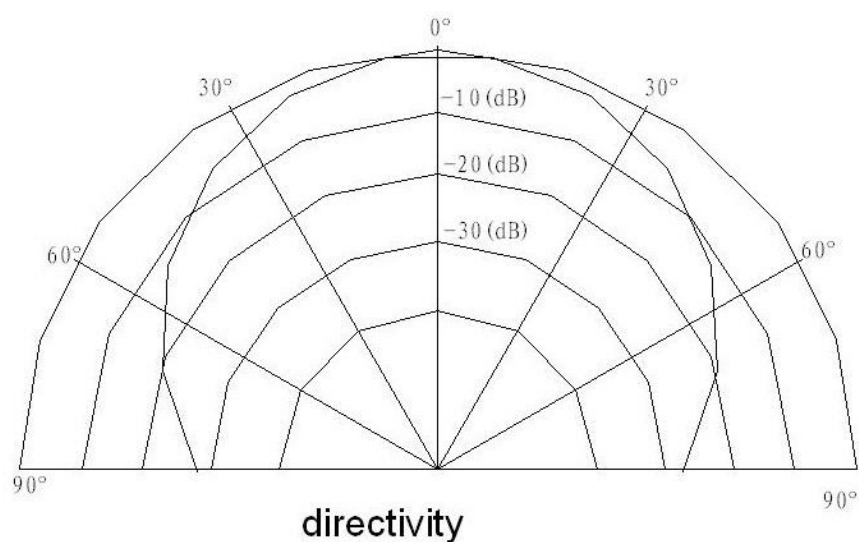
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声压-频率特性图/SPL-Freq. Characteristics

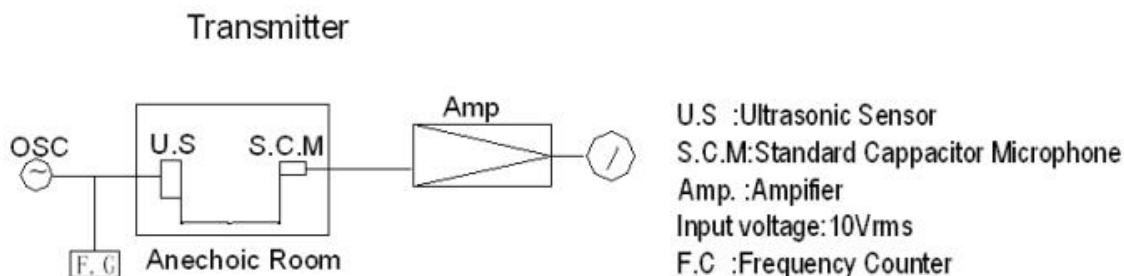


## 6 Test Circuit



## Product Specification

|                                   |                                   |
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## 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<br>$-40 \pm 3^{\circ}\text{C}$ 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 $260^{\circ}\text{C}$ | 10                                                                     |
|     | Seconds.                                                                      |                                                                        |
|     | Notice:                                                                       |                                                                        |

|                                                                                   |                                                            |
|-----------------------------------------------------------------------------------|------------------------------------------------------------|
|  | <h2 style="text-align: center;">Product Specification</h2> |
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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.

## 10 Packaging Details



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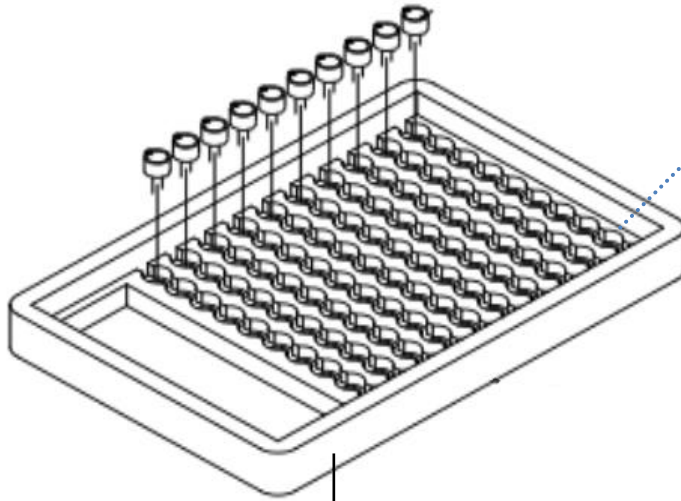
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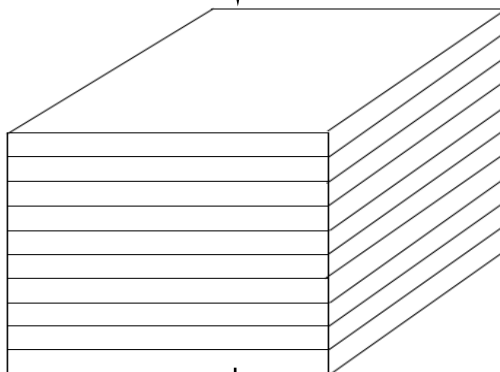
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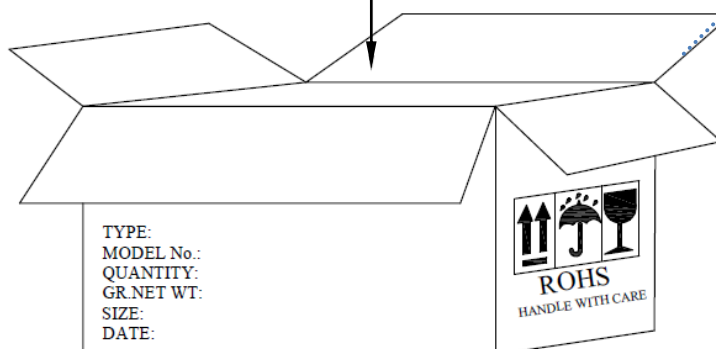
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100 PCS/BOX  
BOX SIZE: 23\*13.5\*3.5CM



10BOXES/STACK,  
TOTAL 1000PCS  
STACK SIZE: 23\*13.5\*28CM



4000PCS/CARTON  
CARTON SIZE:  
49\*35\*27CM