

ULTRASONIC SENSOR

Customer	
Customer P/O	
Customer Spec. No.	
Bestar Model Name	BPU-1640IOAH12
Product No.	100902
Issue No.	BS/TEP01.201A
Issue Date	03/10/06

Approval:

- 1.Applications
- 2.Features
- 3.Technical terms
- 4.Drawing
- 5.Beam Pattem
- 6.Test Circuit
- 7.Reliability Test

Prepared	Chec.	Appr.	Revision		
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Reference:

超声波探头GS认证中的C12-5-2标准



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BPU-1640IOAH12

1.Applications

Burglar alarms、 Range finders、 Automatic doors、 Remote control.

2.Features

- 2.1) Open struct and Dual use
- 2.2) Compact and light weight.
- 2.3) High sensitivity and sound pressure.
- 2.4) Less power consumption.
- 2.5) High reliability

3.Technical terms

No.	Item	Specification
1.	Construction	Open Struct
2.	Using Method	Dual Use
3.	Center Frequency	40kHz
4.	Transmitting Sound Pressure Level	min115dB (30cm/10Vrms Sine Wave)
5.	Receive Sensitive	min-74dB/V/ μ bar
6.	-6dB Directivity	50deg
7.	Sensitivity Distance	min.13m
8.	Capacitance	2000pF $\pm$ 20% at1KHz
9.	Operating Tem.Range	-30 to 85 $^{\circ}$ C
10.	Allowable Input Voltage	120 Vp-p(40KHz)
11.	Housing Material	Aluminum

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3rd angle
projection

Ultrasonic Sensor

APPR.

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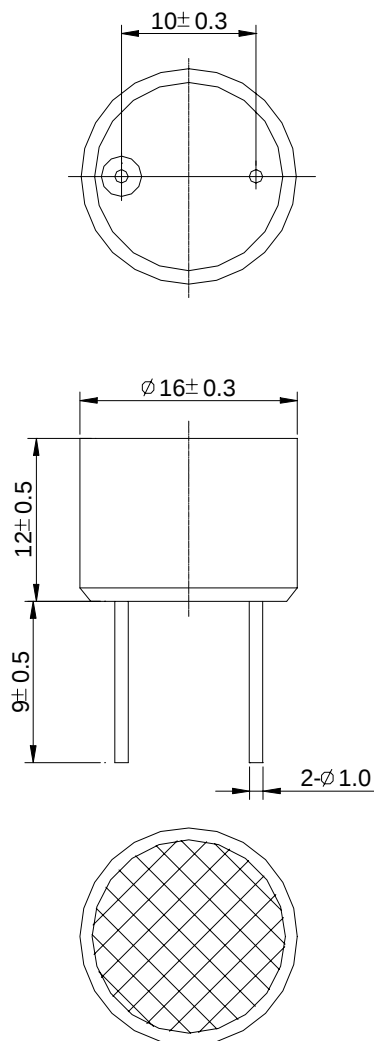
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4. Drawing



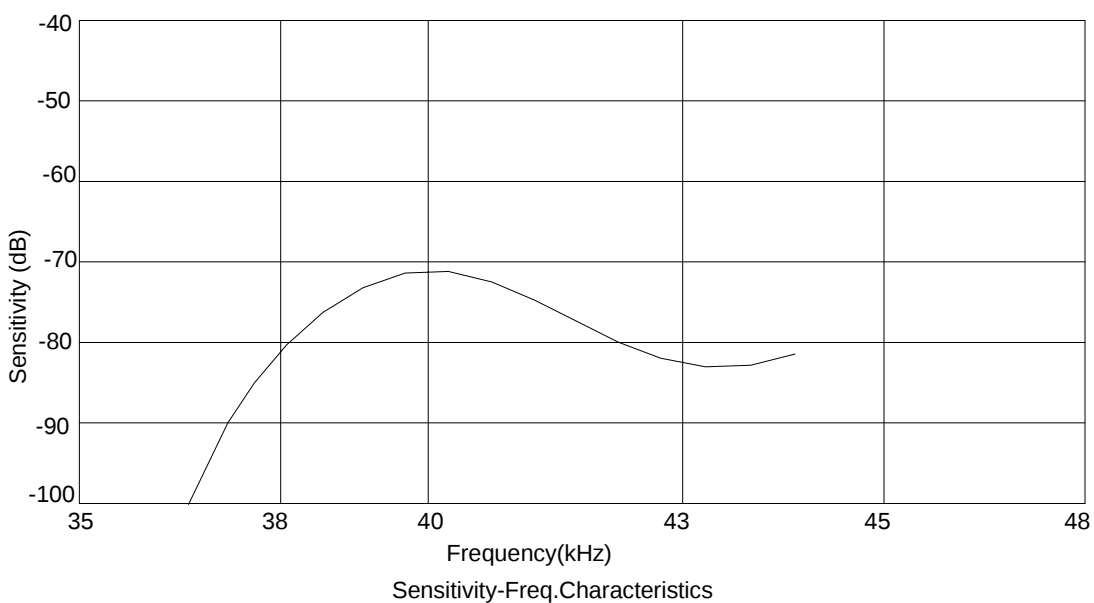
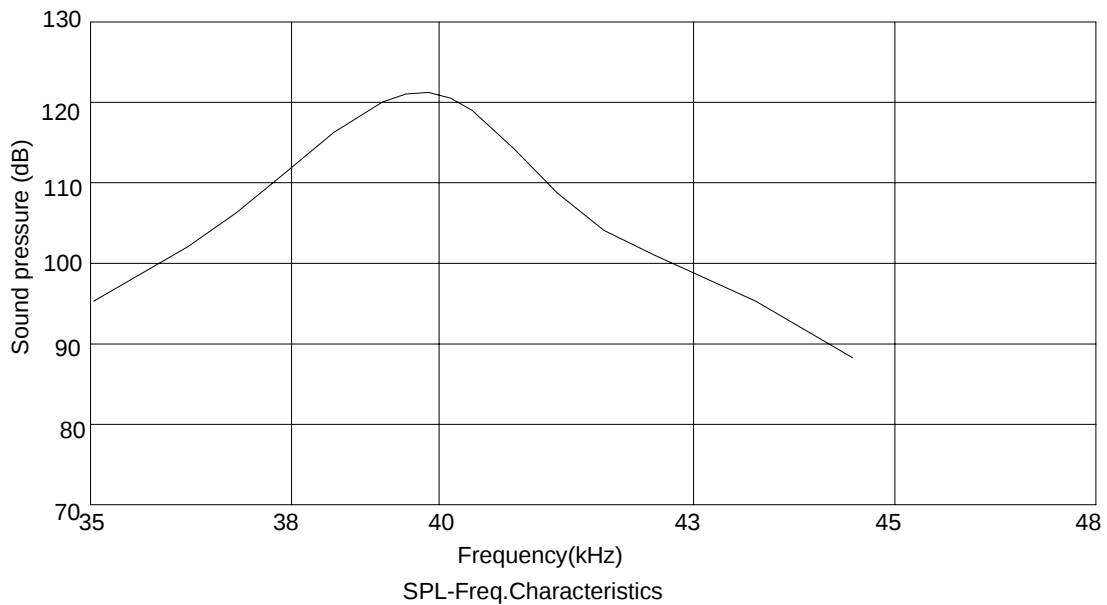
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5. Beam Pattern

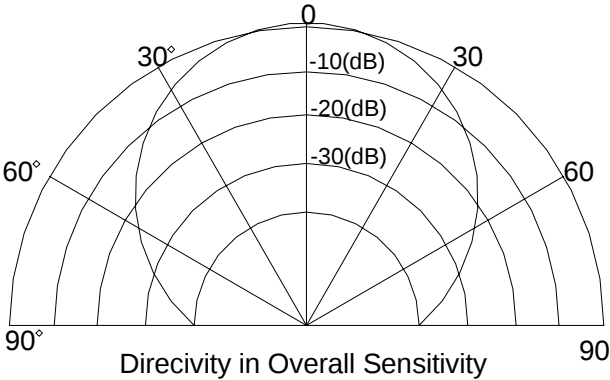


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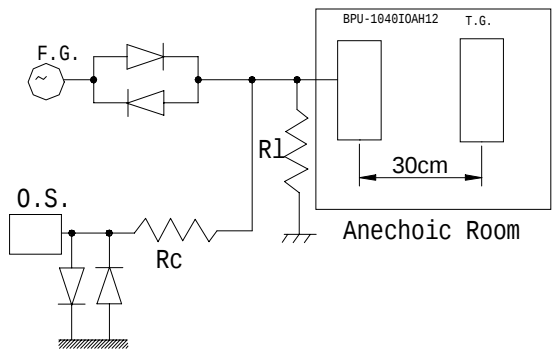


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6.Test circuit



R1: 3.9K Ω Rc=1k Ω

T.G. :Target
F.G. :Function Generator
O.S. :Oscilloscope

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7. Reliability Test

7.1 High temp.life test

Temperature +85° C
Duration 200hrs

7.2 Low temp.life test

Temperature -40° C
Duration 200hrs

7.3 Heat Cycle Test

Temperature +85± 3° C 1hour
-40± 3° C 1hour
Cycles 100cycles

7.4 Humidity Test

Temperature +65° C
Relative Humidity 90~95%
Duration 200hrs

Tests above should be measured after leaving normal temperature for 24hrs.

7.5 Vibration Test

Vibration Frequency 10~200Hz
Sweep Period 15min
Acceleration 43.12m/s²
Direction 3(x.y&z)
Time 96hours/direction

*7.6 Life test in normal temperature(25° C reference)

Power supply 10V (40KHz ,square wave)
Duration 4hours

7.7 Shock test

Acceleration sine 980 m/s²
Direction 3directions
Shock time 3 time/directions

7.8 Drop test

Height 1m
(Dropped to 20mm thick hardwood board without packing.)
Times 10times

Notice:

The variation of the S.P.L at 40KHz is within 3dB compared with initial figures at 25° C after above test condition
after 7.6 test conditions, repeat test 20 times or more, the product must be have request distance response .

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