

# Ultrasonic Sensor Transceiver

multicomp **PRO**



## Application

This specification covers the water proof type ultrasonic ceramic transducer which are used for receiver and transmitter of ultrasonic waves.

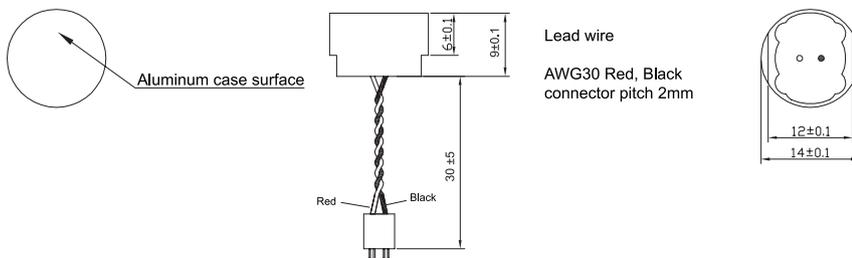
## Features

- Water proof and dual use
- Compact and light weight
- High sensitivity and sound pressure
- Less power consumption
- High reliability

## Specifications

Construction	: Water Proof
Using Method	: Dual Use
Centre Frequency	: $48 \pm 1$ kHz
Sound Pressure Level (dB)	: $\geq 90$ (30cm/10V rms)
Sensitivity (dB)	: $\geq -90$ dB/V/ $\mu$ bar
Beam pattern	: $110 \times 50^\circ$
Capacitance (pF)	: $2,500 \pm 25\%$ at 1kHz
Operating Temperature Range	: $-40^\circ\text{C}$ to $+85^\circ\text{C}$
Storage Temperature Range	: $-40^\circ\text{C}$ to $+85^\circ\text{C}$
Allowable Input Voltage (Vp-p)	: 160Vp-p
Housing Material	: Aluminium

## Diagram



Dimensions : Millimetres

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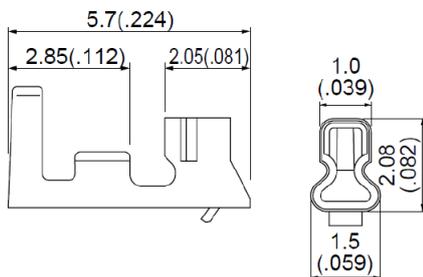
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## Crimp Information

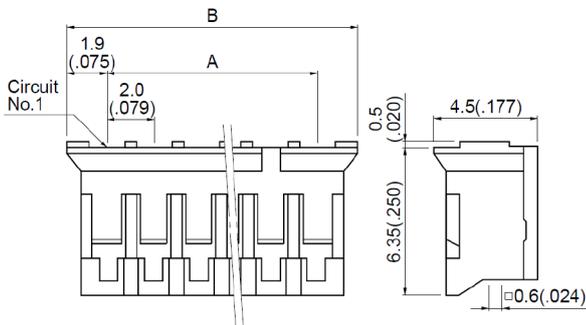


## Contact



Part Number	Applicable Wire		
	mm <sup>2</sup>	AWG	Insulation O.D (mm)
SPH-002T-P0.5S	0.05 to 0.22	30 to 24	0.9 to 1.5
Material and Finish			
Phosphor Bronze, Tin-Plated			

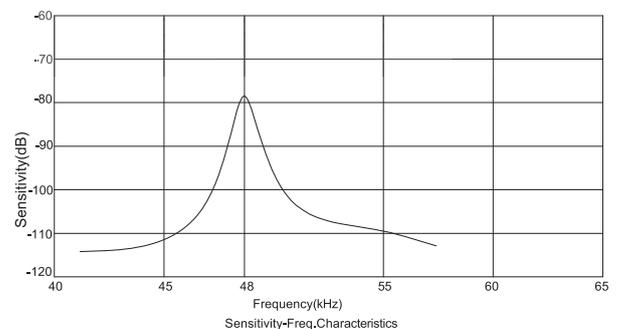
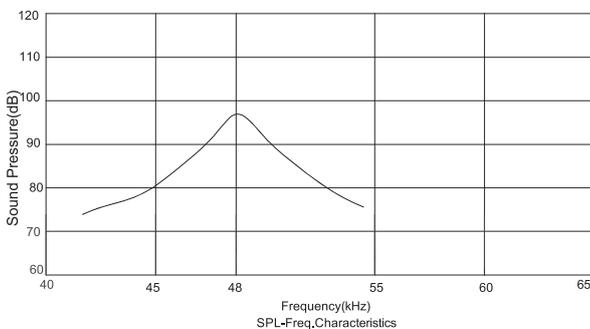
## Housing



Circuits	Dimension (mm)	
	A	B
2	2	5.8
Material and Finish		
Nylon 66, UL94V-0, Natural (white)		

Dimensions : Millimetres

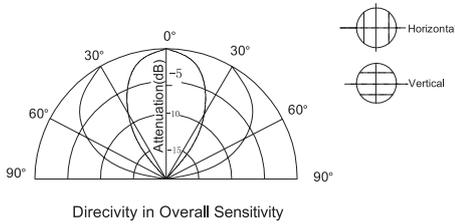
## Beam Pattern:



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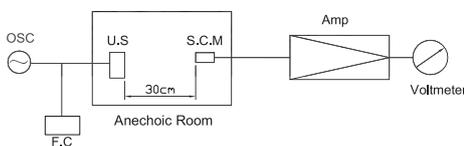
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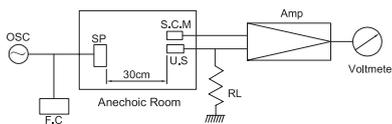
## Test Circuit:

S.P.L test circuit



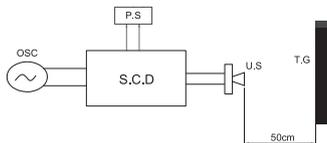
- OSC. : Oscillator
- F.C : Frequency Counter
- U.S : Ultrasonic Sensor
- S.C.M : Standard Capacitor Microphone
- Amp. : Amplifier

sensitivity test circuit



- OSC. : Oscillator
- F.C : Frequency Counter
- U.S : Ultrasonic Sensor
- S.C.M : Standard Capacitor Microphone
- Amp. : Amplifier
- SP : Tweeter
- RL : 3.9kΩ

Echo&Rest.Resonant Time test circuit



- OSC : Oscillator
- P.S : Power supply
- S.C.D : Special circuit diagram
- U.S : Ultrasonic Sensor
- T.G : Target

## Part Number Table

Description	Part Number
Transceiver, 48kHz, 14mm, Metal	MCUSD14A48S09RS-30C

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