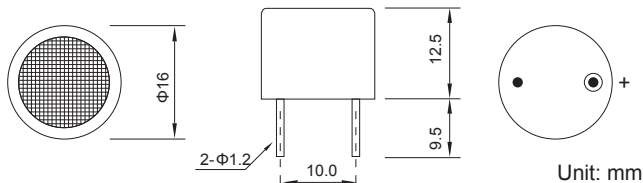


## Appearance



## Dimensions

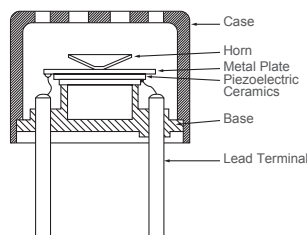


## Specification

- MA40A16T:** Transmitter
- MA40A16R:** Receiver
- MA40A16B:** Dual Type(Transmitter+Receiver)
- Operating Frequency: 40kHz  $\pm$  2%
- Transmitting Sensitivity: 117dB Min.  
(0dB = 20uBar, 10Vpp, 10Bursts, 30cm)
- Echo Sensitivity: -66dB  
(0dB = 10V/Pa, 10Vpp, 10Bursts, 30cm)
- Capacitance at 1 kHz: 2400 pF  $\pm$  20%
- Typical Sensing Range: 0.3 ~ 10m
- Directivity: 60°  $\pm$  10°
- Max. Driving Voltage: 80 Vpp  
(2% Duty Cycle Tone Burst)
- Operating Temperature: -30°C to 80°C
- Storage Temperature: -40°C to 90°C
- Housing Material: Plastic
- Color: Black

\*All above parameters were measured at 25°C.  
\*Actual properties are depending on drive circuit.

## Construction Structure



## Applications

- Specially use in transmitting function.
- Use for generate high ultrasonic sound pressure.
- Use for dog, mouse or insert repler device.
- Use for long distance detection.

## Applications

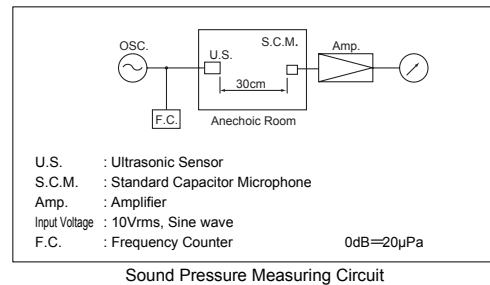
- 336 pcs/inner box, 12 boxes/carton box.

## Sound Pressure Characteristics

Sound pressure level (S.P.L.) is unit indicating the volume of sound and is expressed by the following formula.

$$S.P.L. = 20 \log \frac{P}{P_0} \text{ (dB)}$$

where "P" is Sensor sound pressure (Pa) and "Po" is reference sound pressure (20μPa). Follow graph shows a sound pressure measuring circuit.

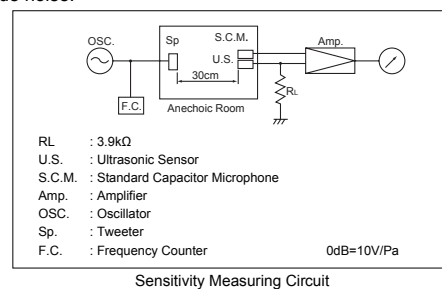


## Sensitivity Characteristics

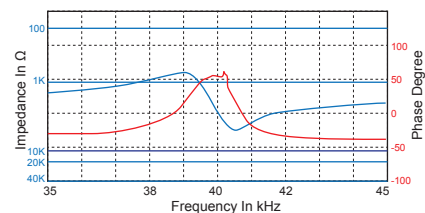
Sensitivity is the unit indicating the sound receiving level and is expressed by the following formula.

$$\text{Sensitivity} = 20 \log \frac{S}{S_0} \text{ (dB)}$$

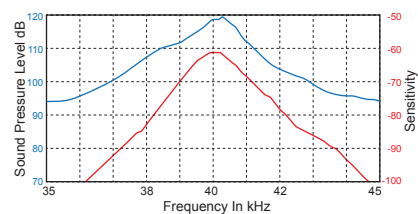
where "S" is Sensor voltage (V) and "So" is reference sound pressure (V/Pa). The follow graph shows a sensitivity measuring circuit. The 3.9kΩ resistor connected with the electrode terminal of the sensor is used to avoid the influence of outside noise.



## Impedance & Phase



## Sound Press & Sensitivity



## Directivity

