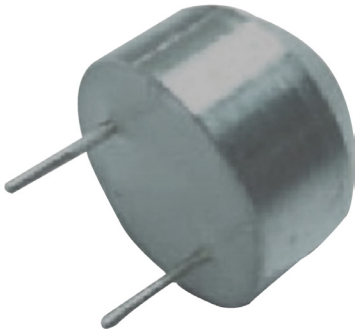


MCUST18A40B12RS

Ultrasonic Sensors



**RoHS
Compliant**



Applications

- Back sonar of automobiles
- Parking meters
- Water level meters

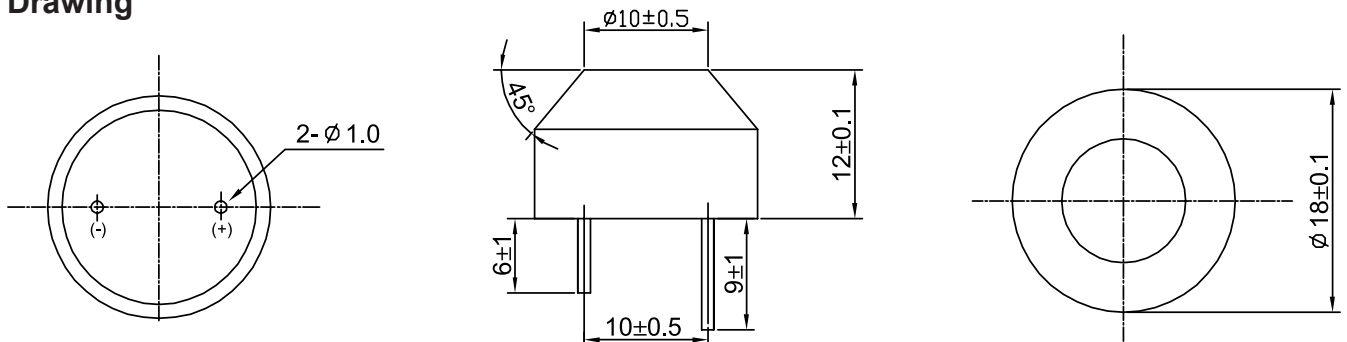
Features

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

Technical Specification

Item	Unit	Specification	
Construction	-	Water Proof	
Using Method	-	Transmitter	Receiver
Frequency	Hz	40 ±1kHz	39 ±1kHz
Sound Pressure Level	dB	min.97dB (10V/30cm)	-
Sensitivity	dB	-	min. -75dB/V/μbar
Echo Pulse Width	us	-	≥360us (at 1.2m)
Capacitance	pF	2,100pF ±25% at 1kHz	
Directivity	°	80°	
Operating Temperature Range	°C	-40°C to +85°C	
Storage Temperature Range	°C	-40°C to +85°C	
Allowable Input Voltage	Vp-p	160Vp-p	
Detectable Range	-	0.1 to 3m	
Housing Material	-	Aluminium	

Drawing



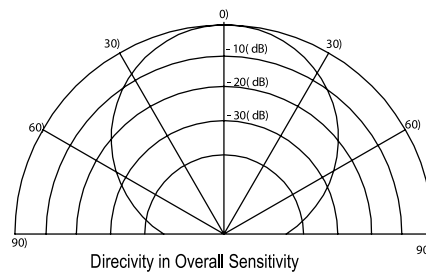
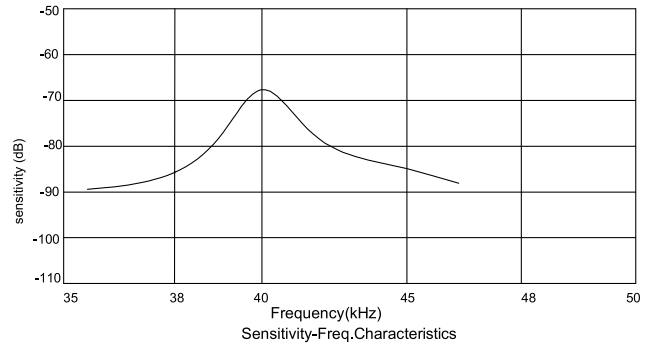
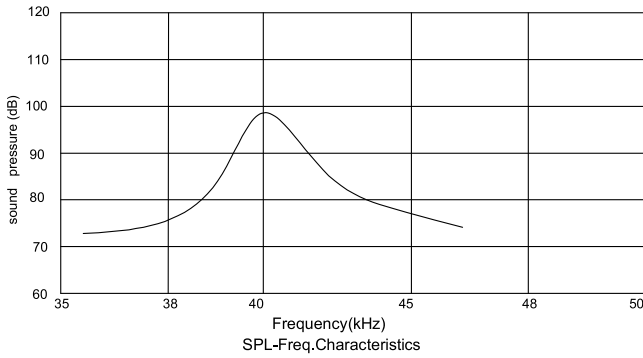
Dimensions : Millimetres

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Ultrasonic Sensors

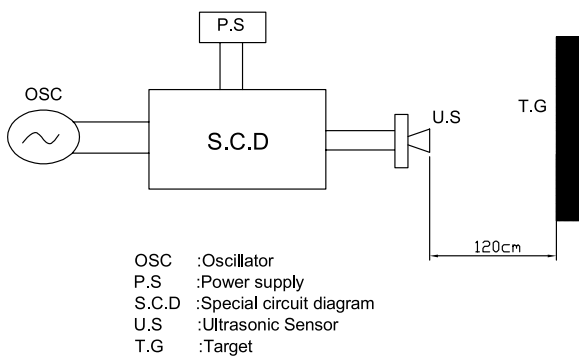


Beam Pattern

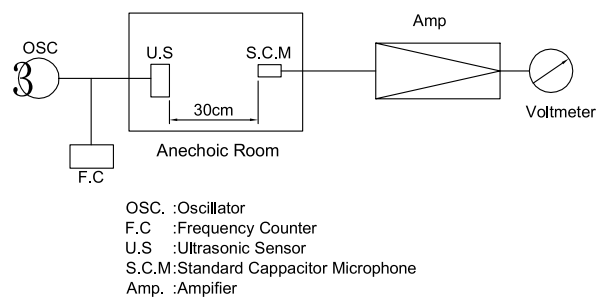


Test circuit

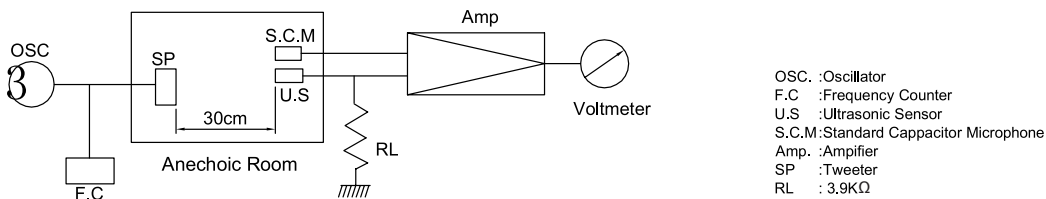
Echo & Rest. Resonant Time test circuit



S.P.L test circuit



Sensitivity test circuit



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Ultrasonic Sensors



Reliability Test

High temp. life test

Temperature : +85 ±3°C

Duration : 500hrs

Low temp. life test

Temperature : -40 ±3°C

Duration : 500hrs

Heat Cycle Test

Temperature : +85 ±3°C 1hour

-40 ±3°C 1hour

Cycles : 100 cycles

Humidity Test

Temperature : +65 ±2°C

Relative Humidity : 90~95%

Duration : 500hrs

Vibration Test

Vibration Frequency : 10~ 200Hz

Sweep Period : 15min

Acceleration : 43.12m/s² (4.4G)

Direction : 3(x.y&z)

Time : 96hours/direction

Shock test

Acceleration : sine 980 m/s²(100G)

Direction : 3directions

Shock time : 3 time/directions

Drop test

Height : 1m onto concrete floor

Times : 10 times

Connector soldering check:

Immersing terminal up to 1mm below base in soldering bath at 260°C 10 seconds

Notice:

The variation of the S.P.L at 40kHz is within 3dB compared with initial figures at 25°C in 24 hours after above test condition.

Part Number Table

Description	Part Number
Transmitter, 40kHz, 18mm, Aluminium	MCUST18A40B12RS

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