



敏思传感技术有限公司

MinSi (Henan) Sensing Technology Co., Ltd.

产品承认书

SPECIFICATION

客户名称 CUSTOMER	
产品名称 PRODUCTION	超声波传感器
产品型号 MODEL	MS-US-18BSD
版本号 VERSION NO	A2.0

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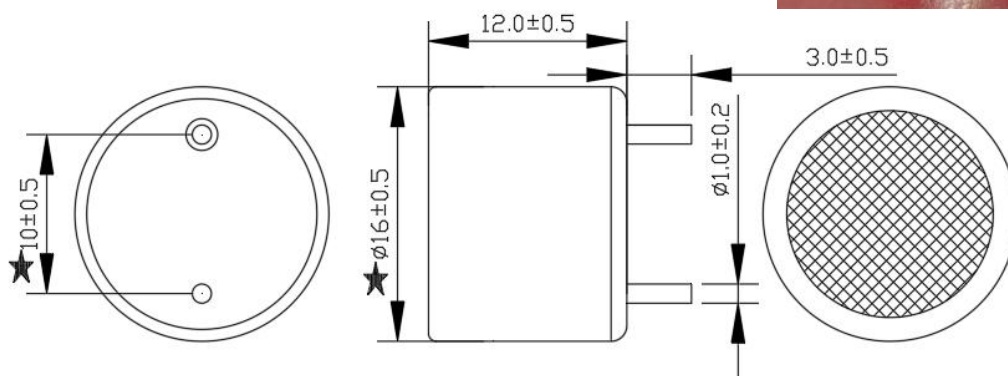
A. SCOPE

This specification applies Ultrasonic Sensor MS-US-18BSD

B. SPECIFICATION

No.	Item	Unit	Specification
1	Construction		Open
2	Using method		Transmitter 发射
3	Nominal Frequency	Hz	25.0±1K
4	Transmitting Sensitivity	dB	Min.115at 25.0kHz/10Vms/30cm/0dB=20uPa
5	Directivity	deg	(80°, -6 dB)
6	Capacitance	pF	2800±25% @1KHz
7	Allowable input voltage	Vrms	80 @25KHz
8	Operating Temperature	°C	-20 ~ +80
9	Storage Temperature	°C	-30 ~ +80
10	Housing material		Auminium
11	Leading Pin		Tin Plated Brass(Sn) See appearance drawing
12	Environmental Protection Regulation		RoHS
13	Weight (MAX)	g	2.5

C. APPEARANCE DRAWING



Tol : ± 0.5

Unit: mm



D.TESTING METHOD

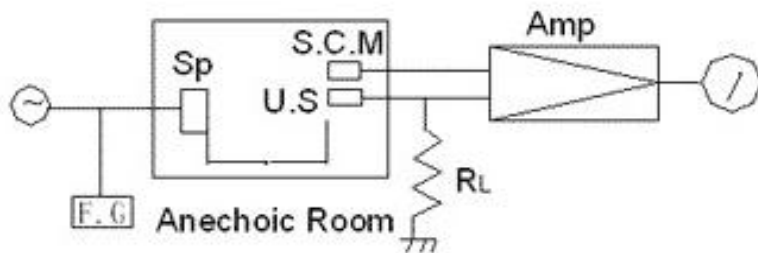
Standard Measurement conditions

Temperature: $25 \pm 2^\circ\text{C}$ Humidity: 45-65%

Acoustic Characteristics:

The oscillation frequency, current consumption and sound pressure are measured by the measuring instruments shown below

Receiver



RL: $3.9\text{K}\Omega$

U.S :Ultrasonic Sensor

S.C.M:Standard Cappacitor Microphone

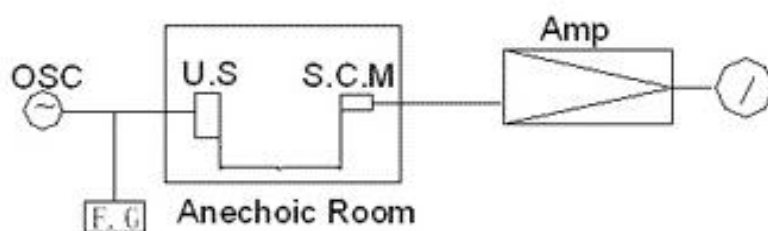
Amp. :Amplifier

OSC. :Oscillator

Sp :Tweeter

F.C :Frequency Counter

Transmitter



U.S :Ultrasonic Sensor

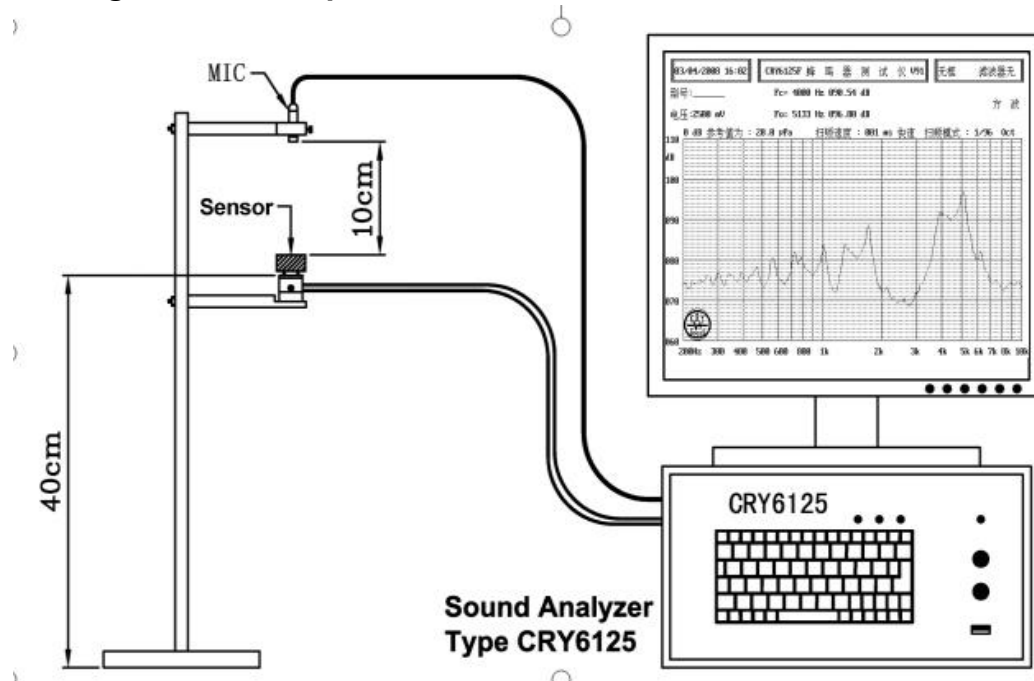
S.C.M:Standard Cappacitor Microphone

Amp. :Amplifier

Input voltage: 10Vrms

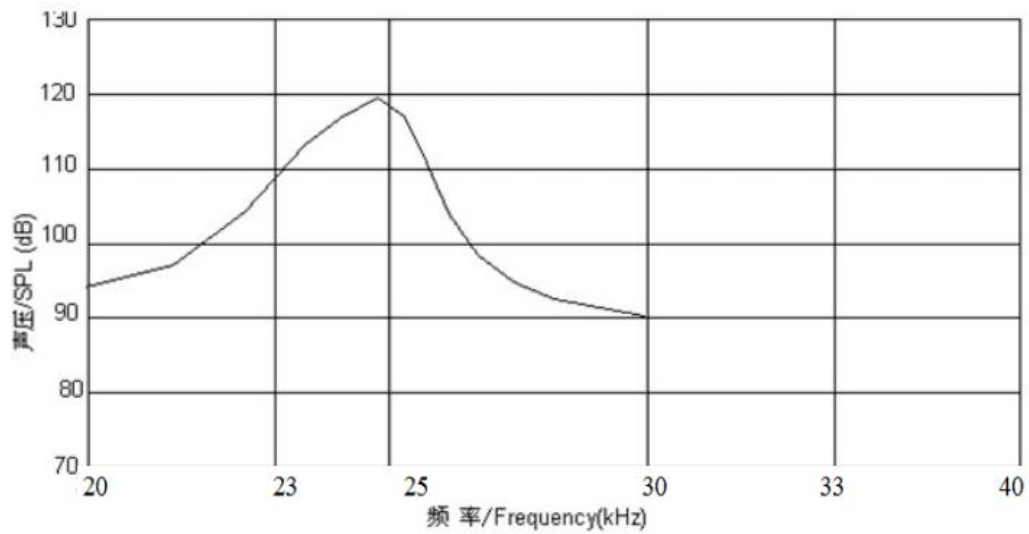
F.C :Frequency Counter

In the measuring test, buzzer is placed as follows:

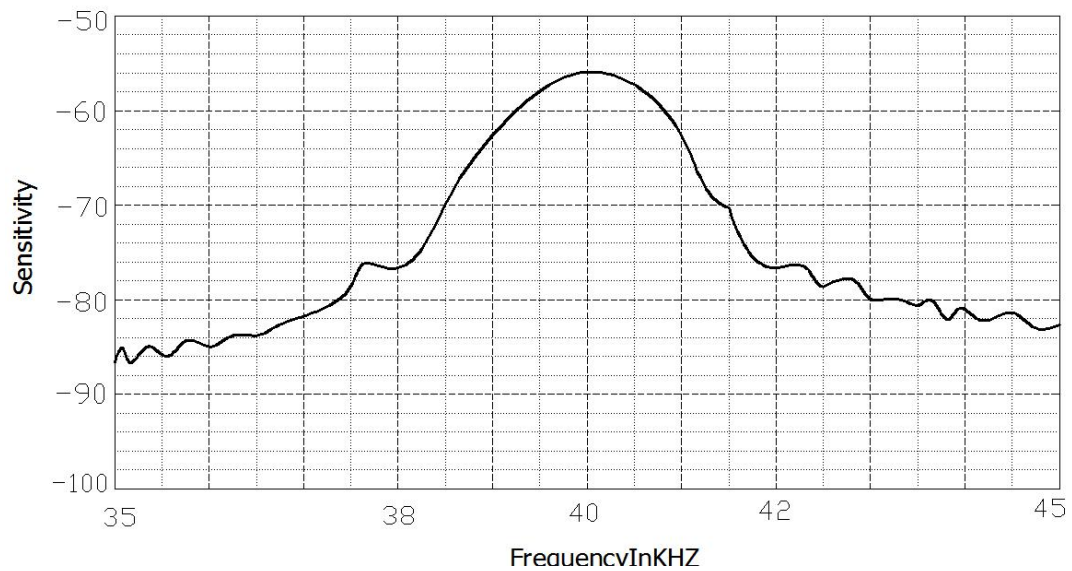




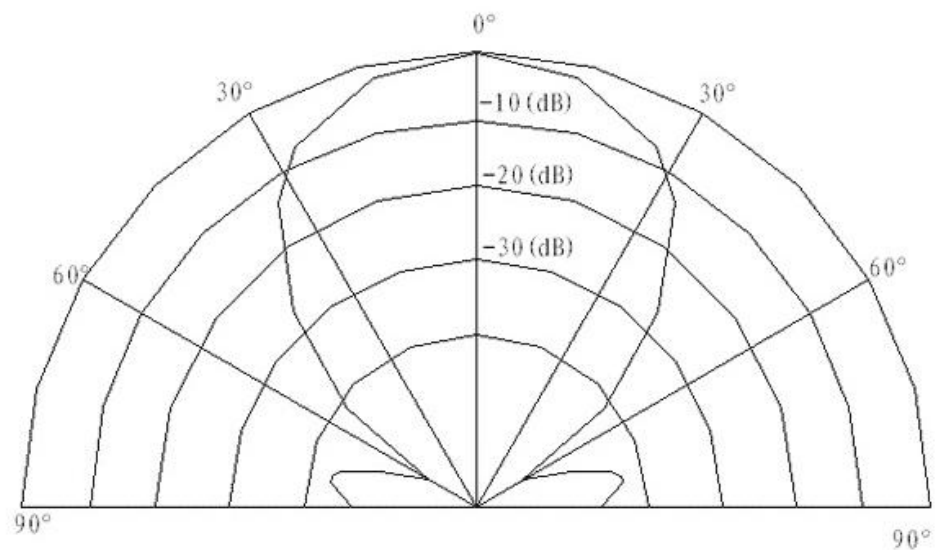
E. Typical Frequency Response Curve



声压-频率特性图/SPL-Frequency Characteristics



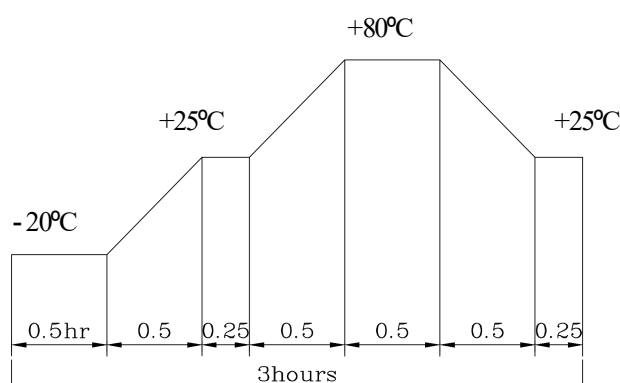
指向性示意图



Directivity in Overall Sensitivity



F. RELIABILITY TEST

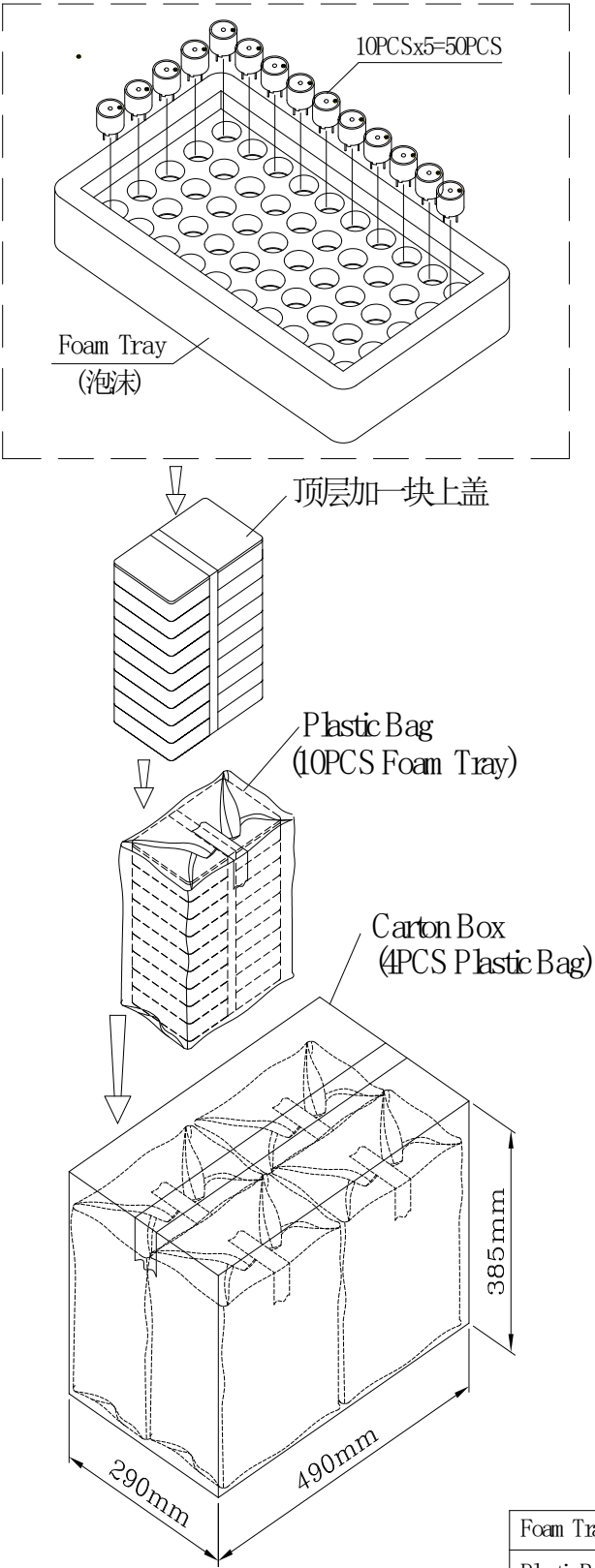
NO.	ITEM	TEST CONDITION AND REQUIREMENT
1	High Temperature Test (Storage)	After being placed in a chamber with 80 ± 2 for 96 hours and then being placed in normal condition for 2 hours. Allowable variation of SPL after test: $\pm 10\text{dB}$.
2	Low Temperature Test (Storage)	After being Placed in a chamber with -20 ± 2 for 96 hours and then being placed in normal condition for 2 hours. Allowable variation of SPL after test: $\pm 10\text{dB}$.
3	Humidity Test	After being Placed in a chamber with 90-95% R.H. at 40 ± 2 for 96 hours and then being placed in normal condition for 2 hours. Allowable variation of SPL after test: $\pm 10\text{dB}$.
4	Temperature Cycle Test	The part shall be subjected to 5 cycles. One cycle shall be consist of:  Allowable variation of SPL after test: $\pm 10\text{dB}$.
5	Drop Test	Drop on a hard wood board of 4cm thick, any directions ,6 times, at the height of 75cm . Allowable variation of SPL after test: $\pm 10\text{dB}$.
6	Vibration Test	After being applied vibration of amplitude of 1.5mm with 10 to 55 Hz band of vibration frequency to each of 3 perpendicular directions for 2 hours . Allowable variation of SPL after test: $\pm 10\text{dB}$.
7	Solderability Test	Lead terminals are immersed in rosin for 5 seconds and then immersed in solder bath of $+300 \pm 5$ for 3 1 seconds . 90% min. lead terminals shall be wet with solder (Except the edge of terminals).
8	Terminal Strength Pulling Test	The force of 9.8N(1.0kg) is applied to each terminal in axial direction for 10 seconds. No visible damage and cutting off.

TEST CONDITION.

Standard Test Condition	:	a) Temperature : $+5 \sim +35^{\circ}\text{C}$	b) Humidity : 45-85%	c) Pressure : 860-1060mbar
一般测试条件	:	a) 温度 : $+5 \sim +35^{\circ}\text{C}$	b) 湿度 : 45-85%	c) 气压 : 860-1060mbar
Judgment Test Condition	:	a) Temperature : $+25 \pm 2^{\circ}\text{C}$	b) Humidity : 60-70%	c) Pressure : 860-1060mbar
争议时测试条件	:	a) 温度 : $+25 \pm 2^{\circ}\text{C}$	b) 湿度 : 60-70%	c) 气压 : 860-1060mbar



G. PACKING STANDARD



Foam Tray	230mm x 135mm x 35mm	1x50PCS=50PCS
Plastic Bag		10x50PCS=500PCS
Carton Box	490mm x 290mm x 385mm	4x500PCS=2000PCS