



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-18BSF
版本号 VERSION NO	A2.0

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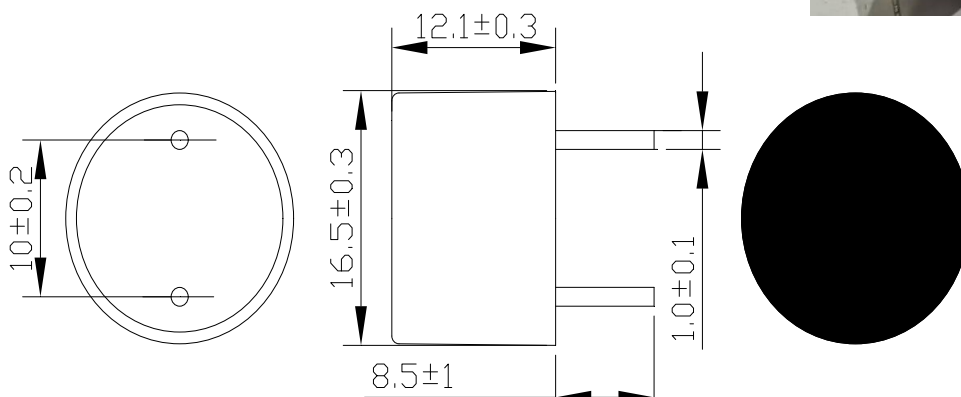
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A. SCOPE

This specification applies Ultrasonic Sensor MS-US-18BSF

B. SPECIFICATION

No.	Item	Unit	Specification	Condition
1	Construction		Open	Plastic
3	Nominal Frequency	Hz	40.0±1.0K	
4	S P L	dB	≥115	40KHz/10Vrms/30cm/sine wave 0dB=0.0002ubar
5	Sensitivity	dB	≥-67	40KHz 0dB=10v/Pa
6	Directivity	deg	40° +/-5	-6dB
7	Capacitance	pF	2400±20%	@1KHz
8	Max. input voltage	VP-P	60	40KHz
9	Detectable range	m	0.3-15	
10	Bandwidth	Hz	6.0KHz	≥103
			6.0KHz	≥-71
11	Operating Temperature	°C	-30~ +70	
12	Storage Temperature	°C	-40 ~ +80	
13	Housing material		Plastic	
14	Leading Pin		Tin Plated Brass(Sn)	See appearance drawing
15	Environmental Protection Regulation		RoHS	

C. APPEARANCE DRAWINGTol: ± 0.5 Unit: mm

D.TESTING METHOD

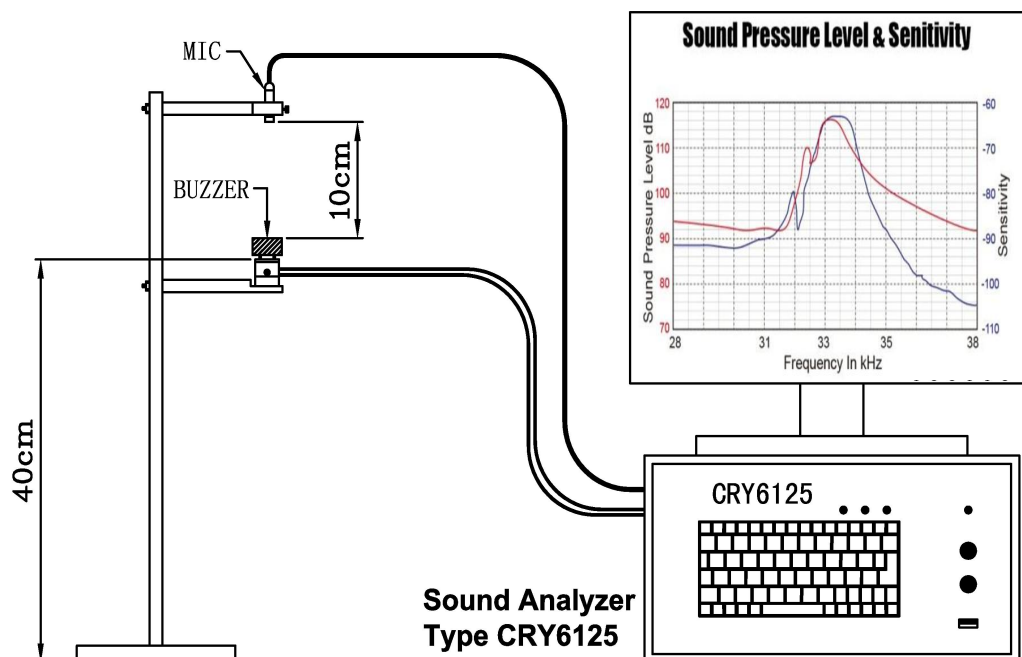
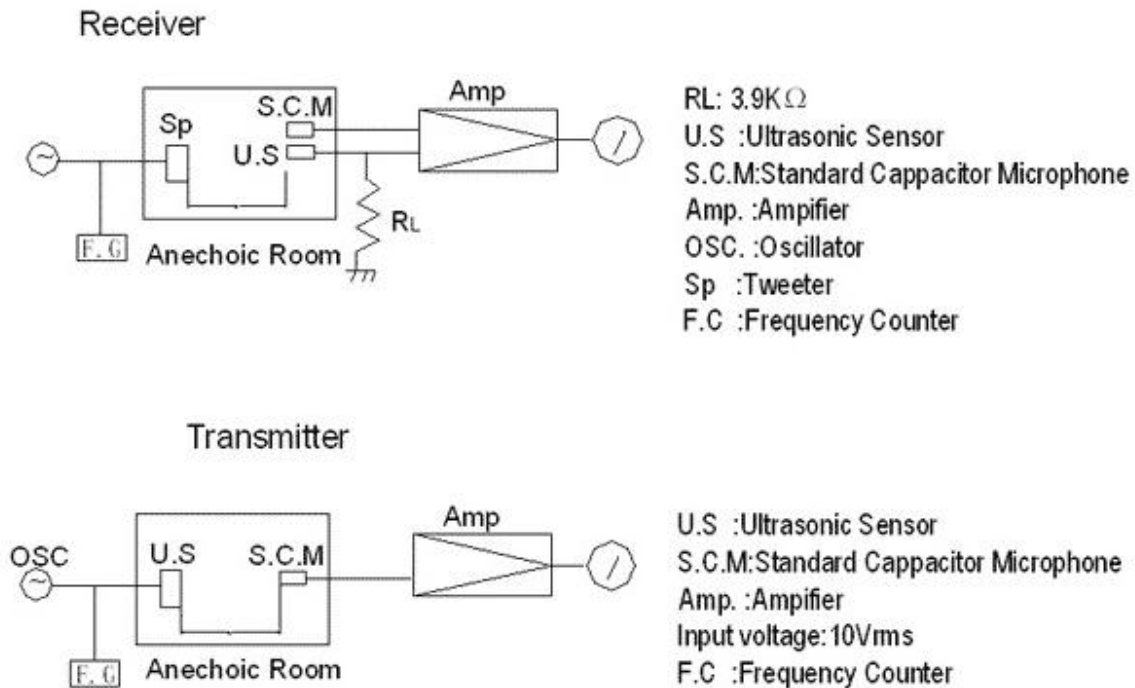
Standard Measurement conditions

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

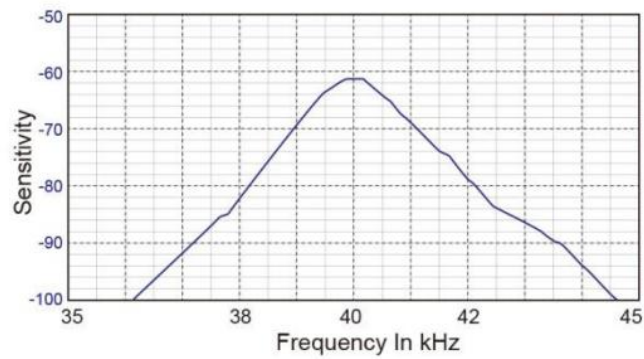
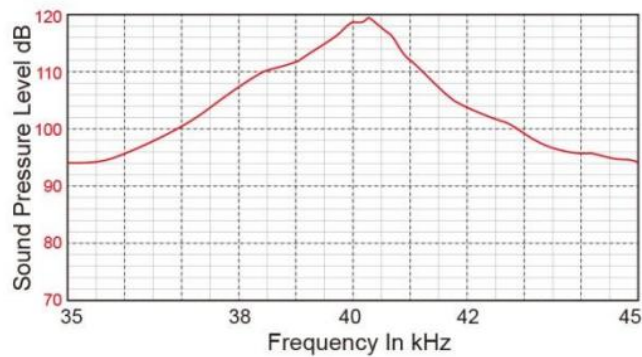
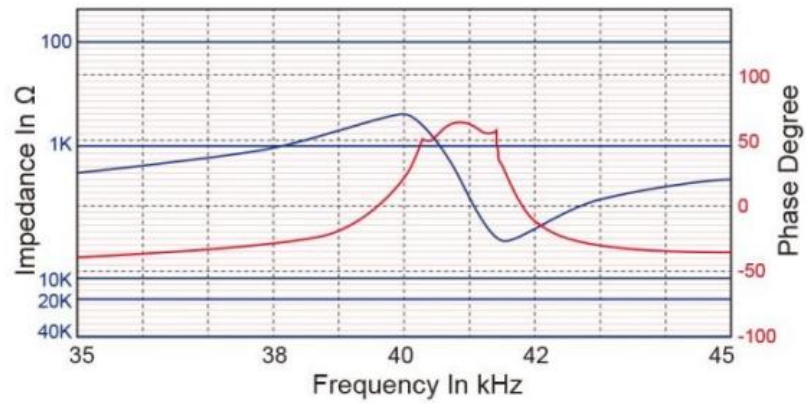
Acoustic Characteristics:

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

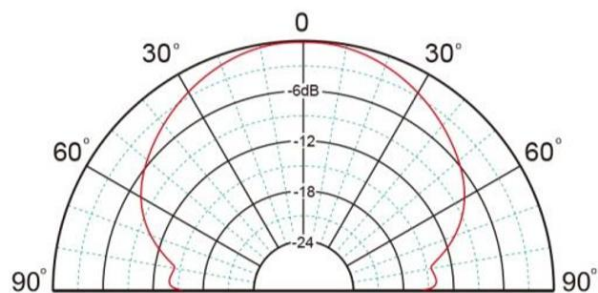
In the measuring test, buzzer is placed as follows:



E. Typical Frequency Response Curve



Directivity





F. RELIABILITY TEST

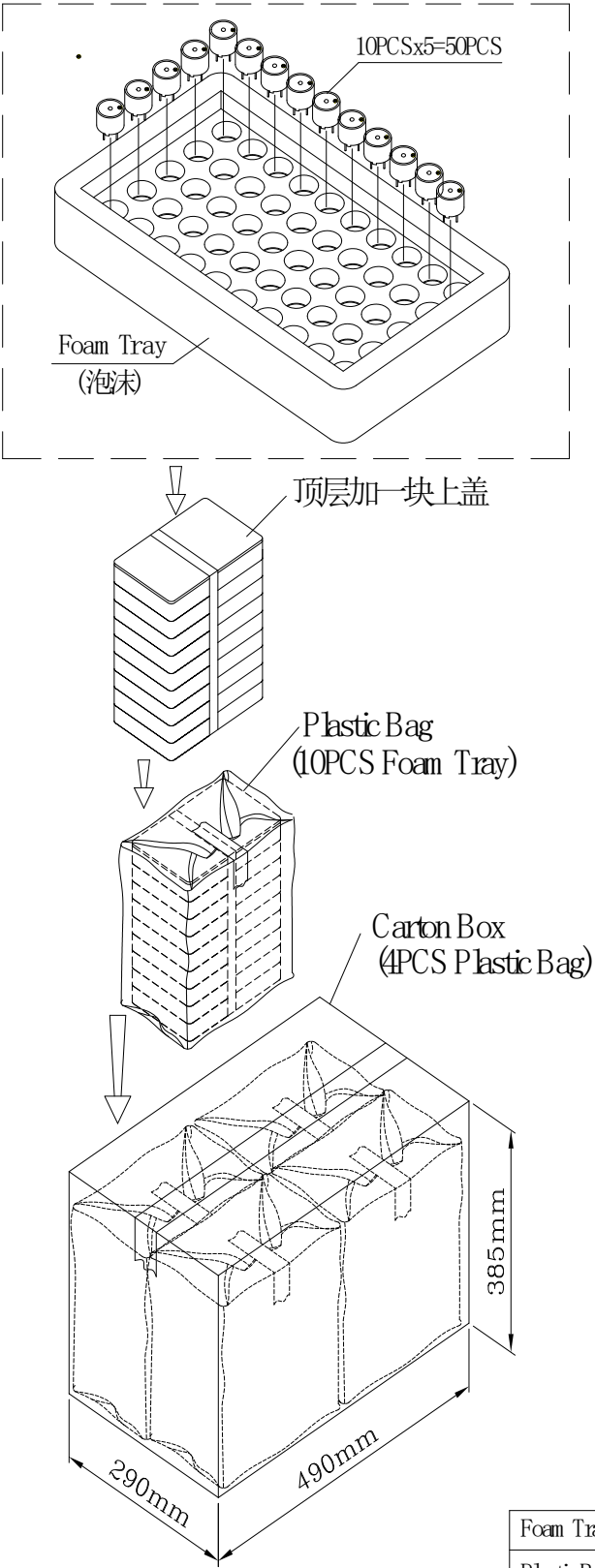
NO.	ITEM	TEST CONDITION AND REQUIREMENT
1	High Temperature Test (Storage)	After being placed in a chamber with $85\pm 2^{\circ}\text{C}$ for 96 hours and then being placed in normal condition for 2 hours. Allowable variation of SPL after test: $\pm 10\text{dB}$.
2	Low Temperature Test (Storage)	After being Placed in a chamber with $-40\pm 2^{\circ}\text{C}$ for 96 hours and then being placed in normal condition for 2 hours. Allowable variation of SPL after test: 10dB .
3	Humidity Test	After being Placed in a chamber with 90-95% R.H. at $40 \pm 2^{\circ}\text{C}$ 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: 10dB.
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 $+300\pm 5^{\circ}\text{C}$ 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