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-18BTI
版本号 VERSION NO	A2.0

敏思传感技术有限公司

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声明

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请妥善保管本说明书， 以便在您日后需要时能及时查阅并获得帮助。

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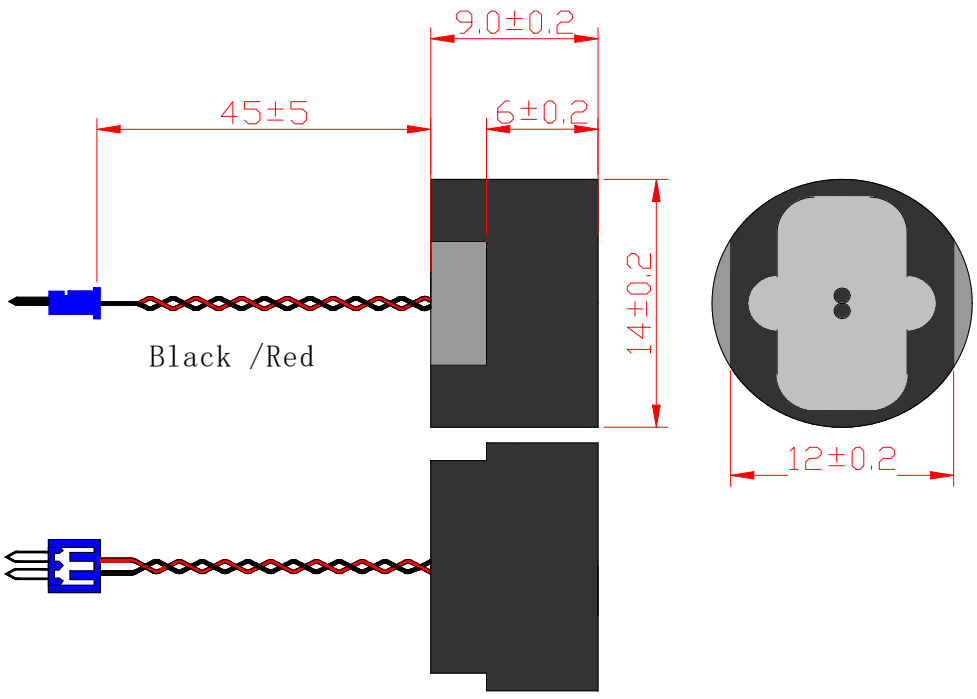
A. SCOPE

This specification applies Ultrasonic Sensor MS-US-18BTI

B. SPECIFICATION

	Items	Specification	Note
1	Maximum Input Voltage	160Vp-p	Pulse number: 20 pulses or less Interval: 20msec or more. Do not apply D.C. voltage.
2	Operating temperature range	-40 to +85 deg C	
3	Storage temperature range	-40 to +85 deg C	
4	Resonant frequency	40± 1.5 kHz	
5	Overall Sensitivity	More than 1 000mVo-p	With Circuit for 40kHz
6	Decay time	Less than 1.6ms for 1Vop crossing time	
7	Beam pattern	90±15 X-axis	6dB down angle of overall sensitivity
		45±10 Y-axis	
8	Capacitance	2000pF ± 20%	at 1kHz
9	Insulation Resistance	100 Mohm min.	at 100V D.C

C. APPEARANCE DRAWING

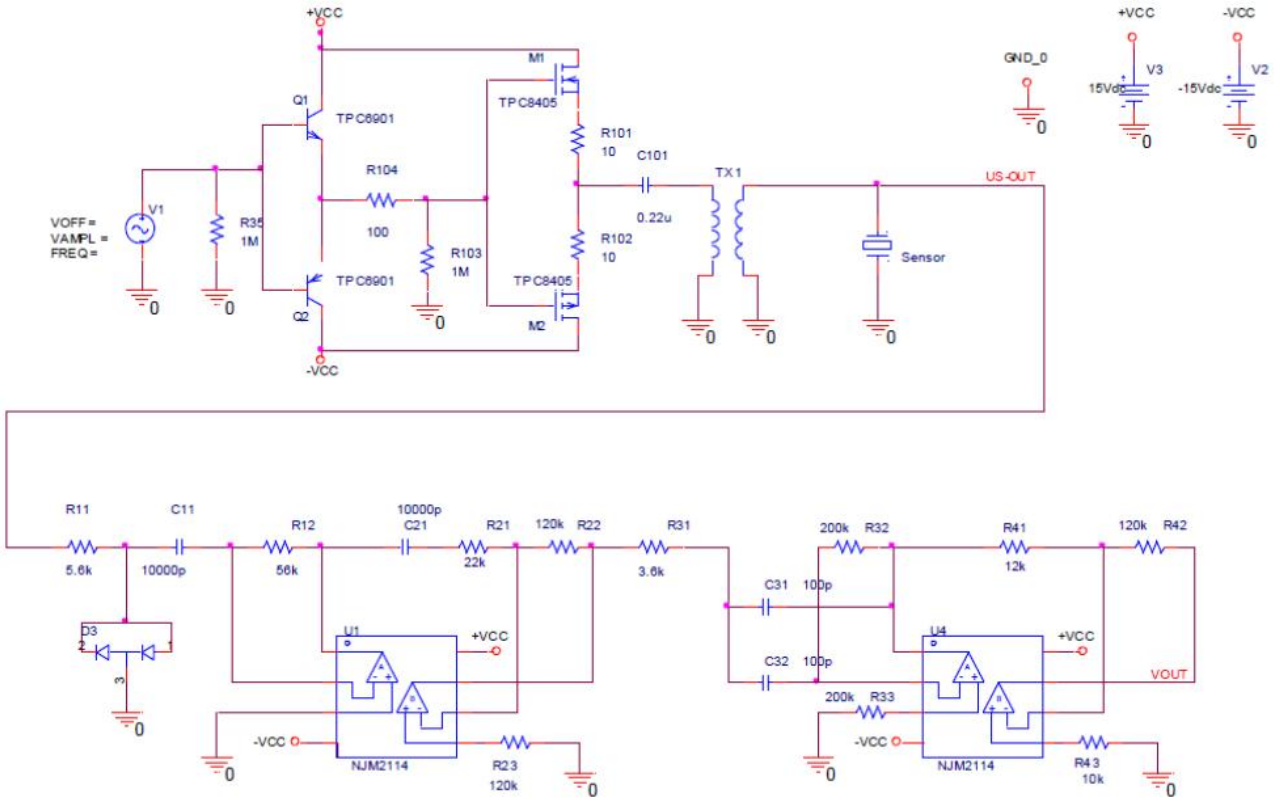


Tol : ± 0.5 **Unit: mm**

D.TESTING METHOD

Standard Measurement conditions

Temperature:25±2℃ Humidity:45-65%



Circuit condition

Input Voltage: Vcc=15V, －Vcc= -15V

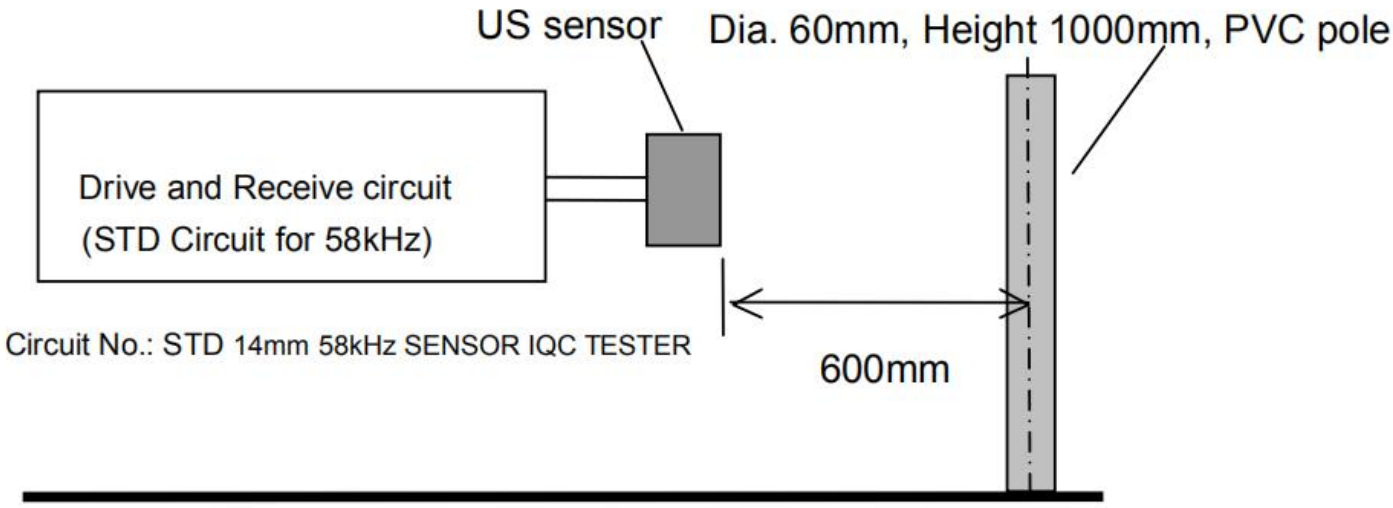
Input signal V1: burst waveform (58kHz, 8pulses), 7.5Vpp

Amplifier gain: 83dB

Trance: Primary inductance: 68μH

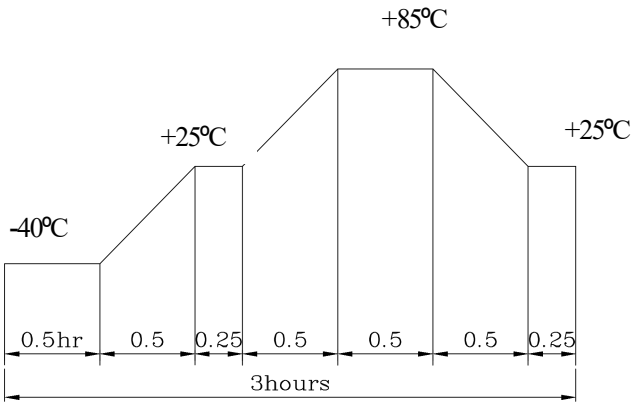
Secondary inductance: typ. 5.8mH

Q value is more than 75 at 252 kHz



Circuit No.: STD 14mm 58kHz SENSOR IQC TESTER

E . RELIABILITY TEST

NO.	ITEM	TEST CONDITION AND REQUIREMENT
1	High Temperature Test (Storage)	After being placed in a chamber with 85±2°C for 96 hours and then being placed in normal condition for 2 hours.
2	Low Temperature Test (Storage)	After being Placed in a chamber with -40±2°C for 96 hours and then being placed in normal condition for 2 hours.
3	Humidity Test	After being Placed in a chamber with 90-95% R.H. at 40±2°C for 96 hours and then being placed in normal condition for 2 hours.
4	Temperature Cycle Test	The part shall be subjected to 5 cycles. One cycle shall be consist of: 
5	Drop Test	Drop on a hard wood board of 4cm thick, any directions ,6 times, at the height of 75cm .
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 .
7	Solderability Test	Lead terminals are immersed in rosin for 5 seconds and then immersed in solder bath of +300±5°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 ~ +35℃	b) Humidity : 45-85%	c) Pressure : 860-1060mbar
一般测试条件	:	a) 温度 : +5 ~ +35℃	b) 湿度 : 45-85%	c) 气压 : 860-1060mbar
Judgment Test Condition	:	a) Temperature : +25 ± 2℃	b) Humidity : 60-70%	c) Pressure : 860-1060mbar
争议时测试条件	:	a) 温度 : +25 ± 2℃	b) 湿度 : 60-70%	c) 气压 : 860-1060mbar

F. PACKING STANDARD

Each minimum package unit of products shall be in a carton box and it shall be clearly marked with Part Number, quantity and outgoing inspection number. There shall be no mechanical damage on products during transportation and/or in storage.

SAMPLES TEST REPORT
样品测试报告

Item	Fs	CT	Echo sensitivity	Decay time
序号	频率	电容	灵敏度	余振
Unit	40±1.5KHz	2±15%nF	Min. 1000MV	≤1.8ms
1	40.2	1.86	1250	1.48
2	40.5	1.82	1256	1.52
3	40.9	1.86	1325	1.56
4	40.5	1.54	1326	1.54
5	39.7	1.85	1350	1.52
6	39.8	1.95	1450	1.54
7	39.5	1.91	1320	1.56
8	39.8	1.85	1450	1.54
9	39.5	1.86	1325	1.52
10	39.7	1.85	1320	1.54
11	39.5	1.86	1250	1.62
12	39.6	1.85	1360	1.58
13	40.5	1.84	1380	1.54
14	40.2	1.85	1450	1.52
15	40.3	1.86	1460	1.54
16	40.5	1.83	1475	1.52
17	40.9	1.97	1460	1.52
18	41.5	1.86	1482	1.54
19	40.2	1.82	1450	1.52
20	40.6	1.85	1460	1.54
MAX	41.5	1.97	1482	1.62
MIN	39.5	1.54	1250	1.48
AVG	40.24	1.85	1380	1.54

Change item	Before change	After change	Date	Personnel	assessor