

承认书

SPECIFICATION FOR APPROVAL

客户 (CUSTOMER): _____

客户料号 (CUST P/N): _____

产品物料编号: (PART.NO): 135118000731

奥迪威产品名称 (DESCRIPTION): TC0062-005

奥迪威产品型号 (P/N): T/R58-14K279Z-L12-02

规格书编号 (SPECIFICATION.NO): K2-WSP-TC-00352

规格书版本 (VERSION): A1

■ 规格书状态 (Specs Type):

☐ 样件 (Sample Specs)

■ 量产 (Standard Specs)

样件规格书 (Sample Specs):

适用于产品的小批量试制. (Apply to trial order.)

量产规格书 (Standard Specs):

适用于产品的批量生产. (Apply to mass production.)

客户承认 CUSTOMER APPROVAL	签名 SIGNATURE.	承认章 COMPANY CHOP.

编制 DWN.	审核 CHK.	批准 APPD.

■ 产品规格书仅供参考, 在产品量产之前, 需要确认最新版本的量产规格书, 并得到客户的签名承认.

(Specifications are for reference only, and it is required to be approved by customers before mass production.)

注: 承认书一式两份, 请返回一份. (Note: Specs are in duplicate, please send one copy back.)



PIEZO ULTRASONIC SENSOR SPECIFICATIONS

■ **MODEL:** T/R58-14K279Z-L12-02

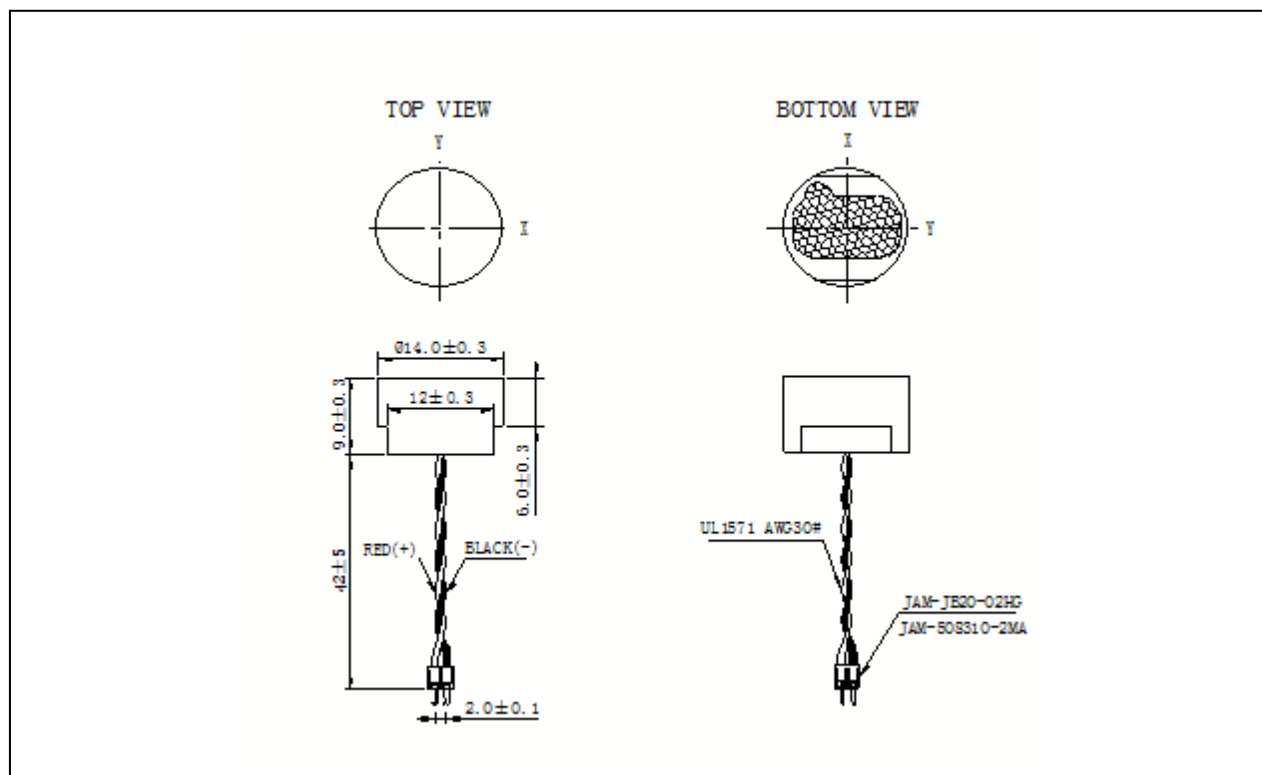
■ **ELECTRICAL SPECIFICATION:**

1	Center frequency (KHz)	58 ± 1
2	Echo Sensitivity (Vp-p)	3.0 ± 1.0 (FIG1 SIMULATION TEST CIRCUIT)
3	Decay Time (mS)	≤ 1.80 (FIG1 SIMULATION TEST CIRCUIT)
4	Directivity (deg) X-axis	90 ± 15 (-6dB angle of overall sensitivity)
5	Directivity (deg) Y-axis	45 ± 10 (-6dB angle of overall sensitivity)
6	Capacitance (pF)	$2000 \pm 15\%$ (at 25°C, 1KHz)
7	Allowable Maximum Input Voltage (Vp-p)	140 (58KHz) Pulse width 0.35ms, interval 20ms
8	Mean Time To Failure (h)	50000
9	Operating Temperature (°C)	-40~+85
10	Storage temperature (°C)	-40~+85

■ **MECHANICAL CHARACTERISTICS:**

LEAD STRENGTH: To pull longitudinally 1.0kgf min

■ **APPEARANCE AND DIMENSIONS**



NOTE: All materials are ROHS, But Piezo is releas.

■ SIMULATION TEST CIRCUIT

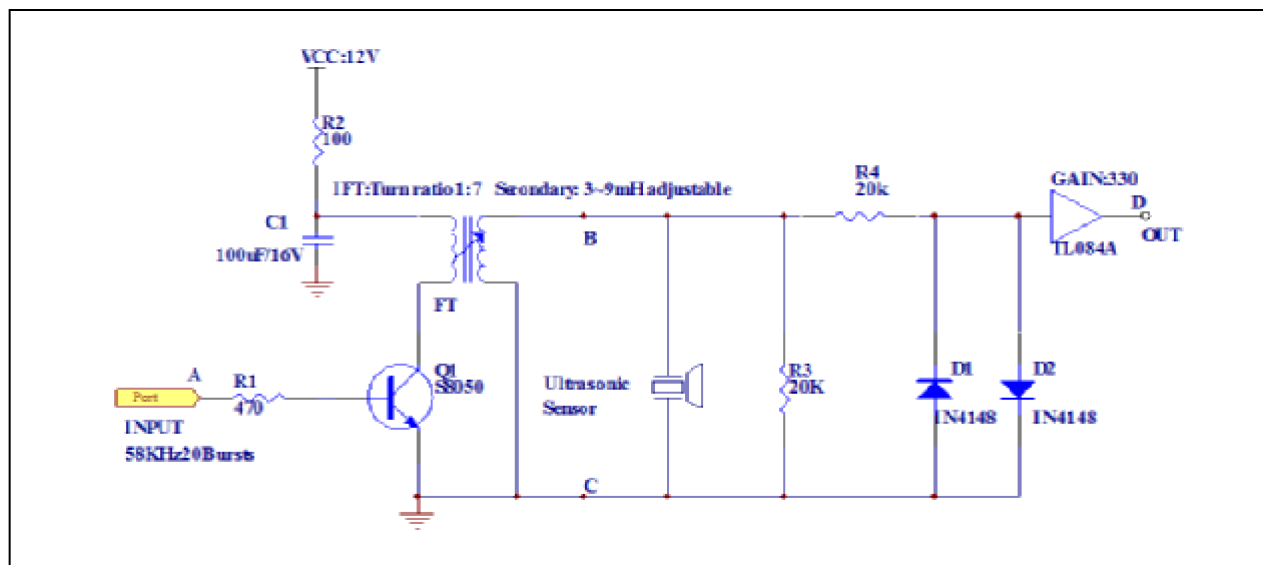


FIG.1

■ DIRECTIVITY TEST

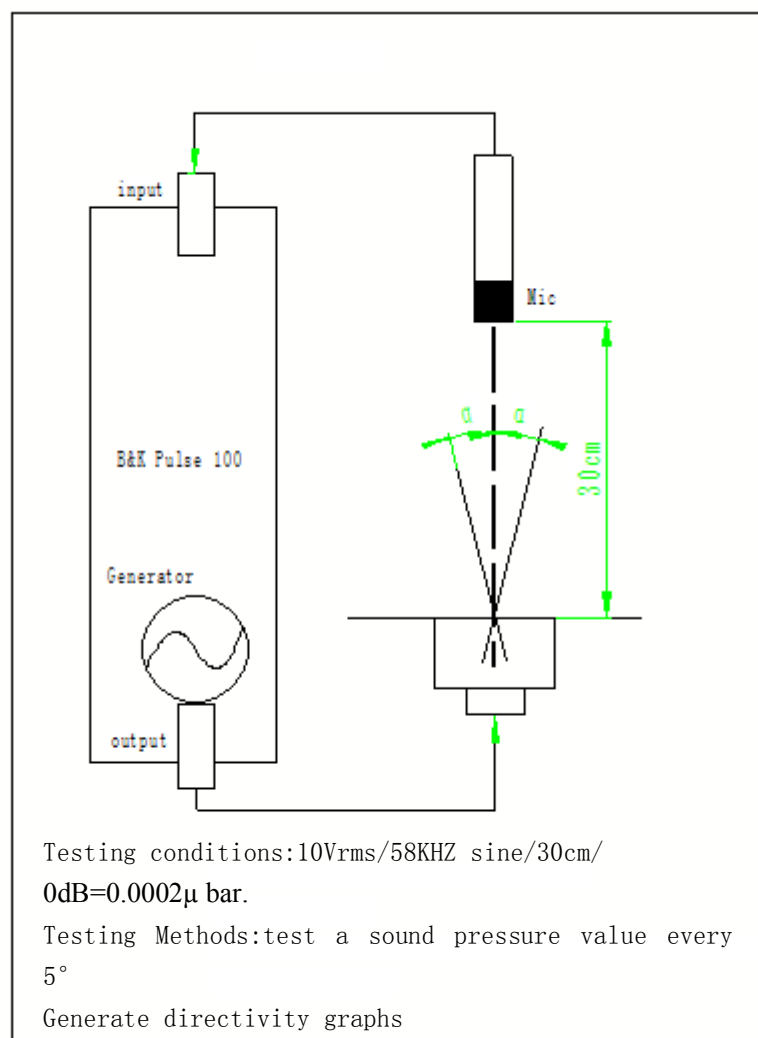


FIG. 2

■ ENVIRONMENT CHARACTERISTICS

Testing items	Testing Equipment/Methods/Conditions	Criteria
Shock Test	Acceleration:980m/s2(100G);Direction:3directions; Shock time:3times/directions	The variation of the echo sensitivity at 58kHz within 30% compared with initial figures at 25degC
Drop Test	Height:1meter onto concrete floor;Times:10times	
Vibration Test	Vibration frequency:10Hz to 55Hz;Amplitude1.5mm ; SweepPeriod: 1 minute; Direction:3directions;Time:3hous/direction	
High-temp. storage	Temperature:+85±3℃;time: 96h & followed normalization period at 25℃ for 24h	
Low-temp. storage	Temperature: -40±3℃;time: 96h, & followed by a normalization period at 25℃for 24h	
Humidity resistance	Temperature: +85±3℃, Humidity:85% R.H;time:96h, & followed by a normalization period at 25℃for 24h	
Temp. shock	Temperature: -40℃±3℃ for 0.5h, within 5 min up to +85℃ ± 3 for 0.5h, cycles:200 cycless & followed by a normalization period at 25℃for 24h	
Pull strength	Force 10N	There should be no substantial damage
NOTES: Standard Test Condition:T=25±3℃, H=45~65%R.H. And every test must be more than 5 pcs for test.		

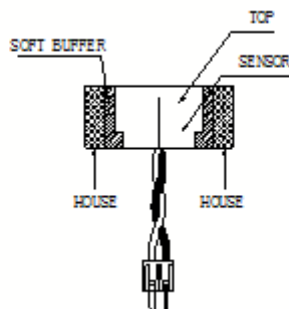
■ TESTING INSTRUMENT AND CONDITION LIST

No.	Testing item	Testing Equipment/Methods	Testing conditions
1	Resonant Frequency	Piezoelectric Transducer Resistance Testing System	Testing Environment temperature
2	Echo Sensitivity	According to Fig. 1 Test Circuit	Distance to obstacle: 1 meter , Obstacle: $\Phi 63 * 1000$ PVC pipe 1.The inductance :8mH, Q m Value: 60-80, Pulse : 20 2.The Minimum detect distance ≥ 35 cm 3.The acoustic system without coupling
3	Decay Time	According to Fig. 1 Test Circuit	The sensor surface is covered by 100mm thickness of sponge 1.The inductance :8mH, Qm Value: 60-80, Max Pulse ≤ 20 2.The Minimum detect distance ≥ 35 cm 3.The acoustic system without coupling
4	Directivity	B&KPLUSE100	-6dB angle of overall sensitivity
5	Capacitance	Digital LC	Testing temperature : $25 \pm 3^{\circ}$ C
6	Maximum Input Voltage (V p-p)	According to Fig.1 Test Circuit Oscillograph: Tektronix TDS1002	Pulse Width: 0.345mS, Interval :20mS
7	Mean Time to Failure	Aging Equipment AWHY001	Normal room temperature
8	Operating Temperature($^{\circ}$ C)	High-Low alternating temperature Cabinet	In normal room temperature, according to the Fig. 1 test circuit
9	Storage Temperature($^{\circ}$ C)	High-Low alternating temperature Cabinet	In normal room temperature, according to the Fig. 1 test circuit

■ NOTE:

1、 DESIGN RESTRICTION/PRECAUTIONS

- This sensor is designed for use in air environment. Do not use it in liquid.
- In the case where secondary accidents due to operation failure or malfunctions can be anticipated, add a fail safe function to the design.
- In the case where this sensor is to be hold in housing, use soft buffer between sensor and housing. The front convex part of this sensor vibrates in large extension. If this part is hold, its characteristics will vary. The top must be free to vibrate.



2、 USAGE RESTRICTION/PRECAUTIONS

- To prevent sensor malfunctions, operational failure or any deterioration of its characteristics, do not use this sensor in the following, or similar conditions.
 - a) In strong shock or vibration.
 - b) In high temperature and humidity for a long time.
 - c) In corrosive gases or sea breeze.
 - d) In an atmosphere of organic solvents.
 - e) In dirty and dusty environments that may contaminate the sensor front.
 - f) Over specified allowable input voltage(V_{p-p})
 - Do not solder adding stress on outer lead, also do not apply stress like spin or pressure just after soldering.
- In case you form the leads, support the root firmly.

■ Revision history

文件修订记录 File revision history			
修订时间 Revision time	修订版本 Version of revision	内部 ECR 编号 The number of ECR	修订内容 Contents of revision
2018/05/24	A1	——	——

