



深圳市康华尔电子有限公司

SHENZHEN KONUAER ELECTRONICS CO.,LTD

## 樣品承認書

### SAMPLE APPROVAL SHEET

CUSTOMER: \_\_\_\_\_

SIZE UP : 声表面谐振器

Volume: R433.92M

NUMBER: SMD3030mm

DATE: \_\_\_\_\_

承認後請寄回一份

PLS SEND BACK ONE COPY TO US AFTER YOUR APPROVAL

承認結果 CONCLUSION	客戶簽名 SIGNATURE	客戶承認章 STAMP	日期 DATE	備注 REMARK
合格 ACCEPT				
不合格 REJECT				

制表: JACK LIU/ \_\_\_\_\_

审核: \_\_\_\_\_

(公章)

尊敬的客户: 请您抽出一点时间, 在7-10个工作日内将承认书回签, 若未回签, 以视默认. 谢谢合作!

### 1. Scope

This specification shall cover the characteristics of 1-port SAW resonator with R433.92 used for remote-control security.

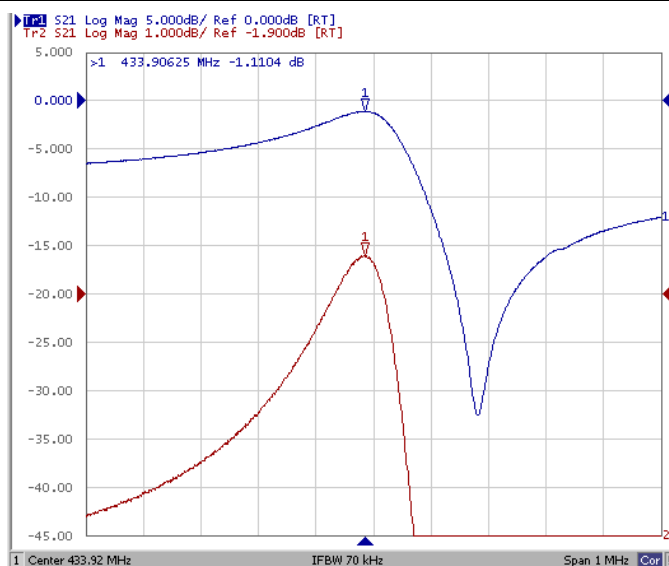
### 2. Electrical Specification

#### 2.1 Maximum Rating

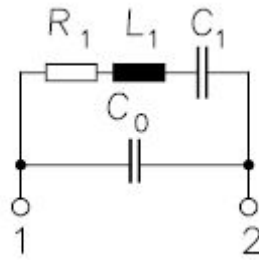
DC Voltage VDC	10V
AC Voltage Vpp	10V 50Hz/60Hz
Operation temperature	-40°C to +85°C
Storage temperature	-45°C to +85°C
Source Power	0dBm

#### 2.2 Electronic Characteristics

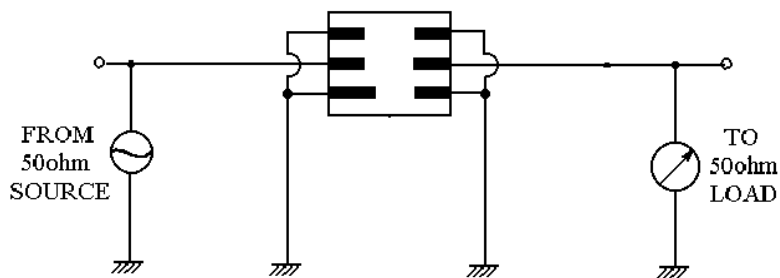
Item	Unites	Minimum	Typical	Maximum
Center Frequency	MHz	433.845	433.92	433.995
Insertion Loss	dB		1.4	1.9
Quality Factor	Unload Q	8000	12800	
	50Ω Loaded Q	1000	2000	
Temperature Stability	Turnover Temperature	°C	10	25
	Freq.temp.Coefficient	ppm/°C	0.032	
Frequency Aging		ppm/yr	<±10	
DC. Insulation Resistance	MΩ	1.0		
RF Equivalent RLC Model	Motional Resistance R1	Ω	17	26
	Motional Inductance L1	μH	70.743	
	Motional Capacitance C1	fF	1.9018	
Transducer Static Capacitance C0	pF		2.0	



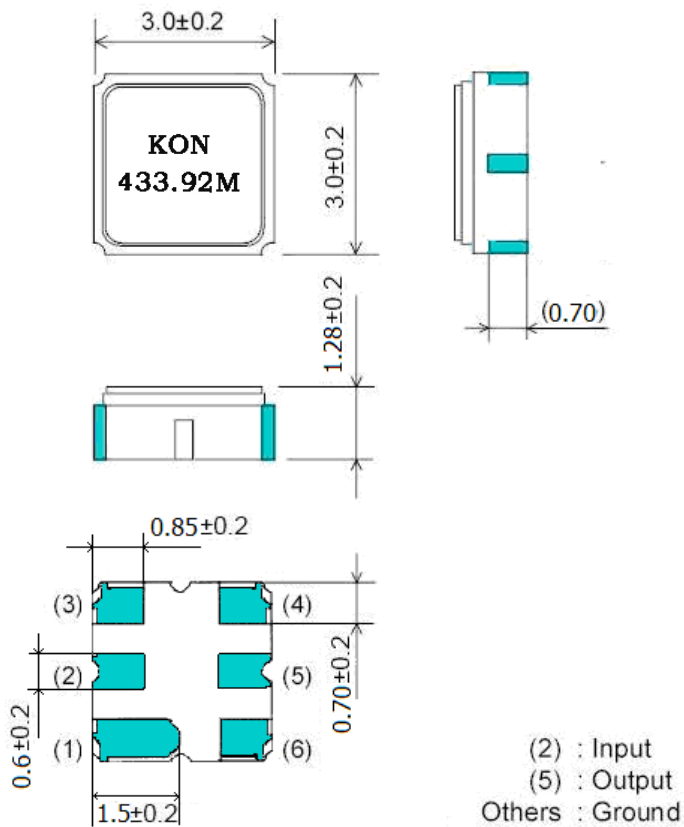
2.3 Equivalent LC Model



**3. Test Circuit**



**4. Dimension**



- 1. KON: Manufacture's logo
- 2. 433.92: Model code

- (2) : Input
- (5) : Output
- Others : Ground

Unit : mm

## **5. Environment Characteristic**

### 5-1 Thermal Shock:

The components shall remain within the electrical specifications after being kept at the condition of heat cycle conditions: TA=-40°C±3°C, TB=85°C±2°C, t1=t2=30min, switch time≤3min& cycle time : 100 times, recovery time: 2h±0.5h.

### 5-2 Resistance to solder heat

Submerge the device terminals into the solder bath at 260°C ±5°C for 10±1 sec. Then release the device into the room conditions for 4 hours. It shall meet the specifications in 2.2.

### 5-3 Solder ability

Submerge the device terminals into the solder bath at 245°C ±5°C for 5s, More than 95% area of the soldering pad must be covered with new solder. It shall meet the specifications in 2.2

### 5-4 The Temperature Storage:

5.3.1 High Temperature Storage: The components shall remain within the electrical specifications after being kept at the 85°C±2°C for 96h±4h, recovery time : 2h±0.5h.

5.3.2 Low Temperature Storage: The components shall remain within the electrical specifications after being kept at the -40°C±3°C for 96h±4h, recovery time : 2h±0.5h.

### 5-5 Humidity test:

The components shall remain within the electrical specifications after being kept at the condition of ambient temperature 60°C±2°C, and 90~96% RH for 96h±4h.

### 5-6 Mechanical shock

Drop the device randomly onto the concrete floor from the height of 1m for 3 times. The resonator shall fulfill the specifications in 2.2.

### 5-7 Vibration

Subject the device to the vibration for 2 hour each in X, Y and Z axes with the amplitude of 1.5 mm at 10 to 55 Hz. The resonator shall fulfill the specifications in 2.2.

## **6. Remark**

### 6.1 Static voltage

Static voltage between signal load & ground may cause deterioration & destruction of the component. Please avoid static voltage.

### 6.2 Ultrasonic cleaning

Ultrasonic vibration may cause deterioration & destruction of the component. Please avoid ultrasonic cleaning

6.3 Soldering

Only leads of component may be soldered. Please avoid soldering another part of component.

**7. Packing**

7.1 Dimensions

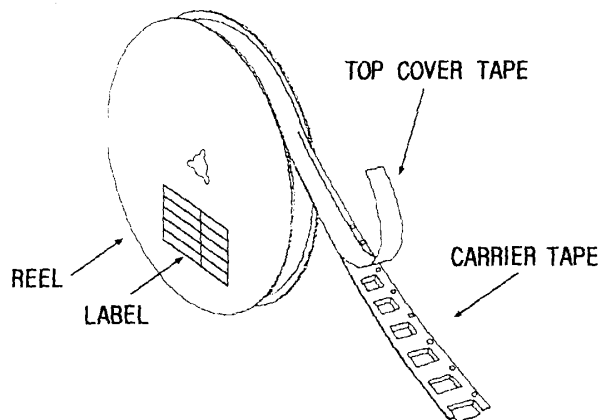
- (1) Carrier Tape: Figure 1
- (2) Reel: Figure 2
- (3) The product shall be packed properly not to be damaged during transportation and storage.

7.2 Reeling Quantity

- 1000 pcs/reel 7"
- 3000 pcs/reel 13"

7.3 Taping Structure

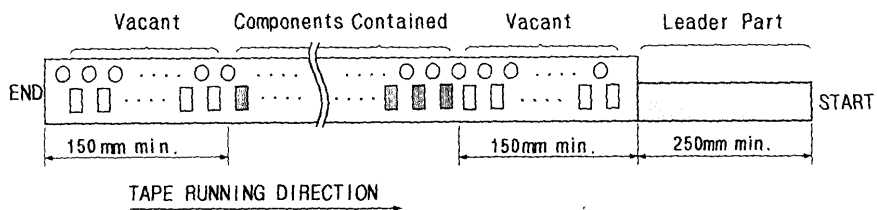
- (1) The tape shall be wound around the reel in the direction shown below.



- (2) Label

Device Name	
User Product Name	
Quantity	
Lot No.	

- (3) Leader part and vacant position specifications.

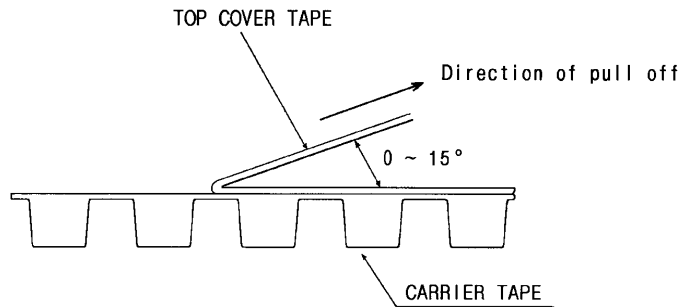


**8. Tape Specifications**

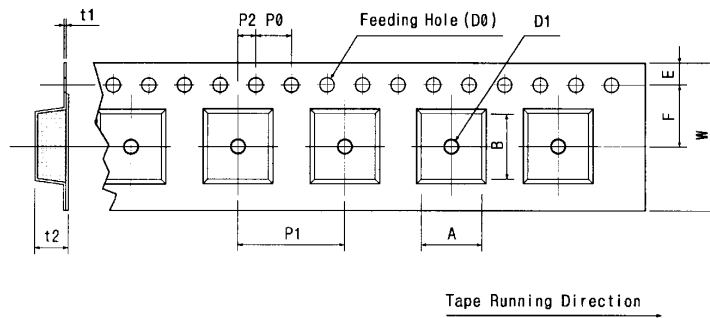
8.1 Tensile Strength of Carrier Tape: 4.4N/mm width

8.2 Top Cover Tape Adhesion (See the below figure)

- (1) pull off angle: 0~15°
- (2) speed: 300mm/min.
- (3) force: 20~70g



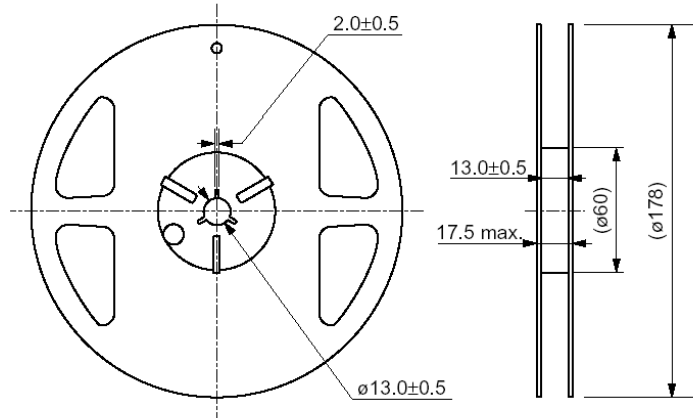
[Figure 1] Carrier Tape Dimensions



[Unit: mm]

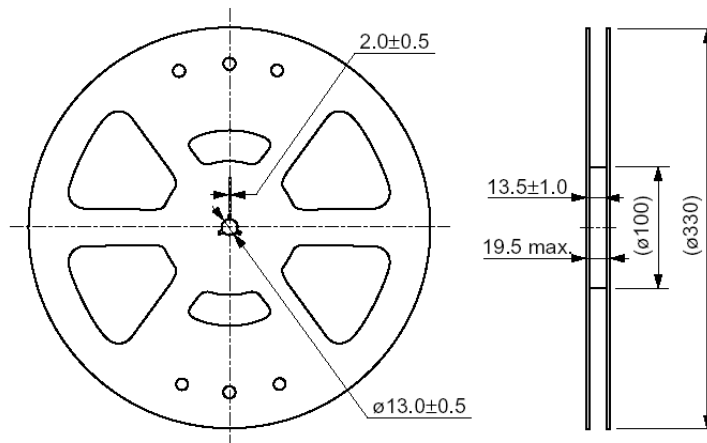
W	F	E	P0	P1	P2	D0	D1	t1	t2	A	B
12.0	5.5	1.75	4.0	4.0	2.0	Ø1.5	Ø1.0	0.3	1.25	3.3±	3.3±
±0.3	±0.05	±0.1	±0.1	±0.1	±0.05	±0.1	±0.25	±0.05	±0.1	0.1	0.1

[Figure 2] Reel Dimensions



ø178 Reel Dimension

(in mm)



ø330 Reel Dimension

(in mm)