

规格书编号

SPEC NO :

# 产品规格书

# SPECIFICATION

CUSTOMER 客户: \_\_\_\_\_

PRODUCT 产品: \_\_\_\_\_ SAW RESONATOR

MODEL NO 型号: \_\_\_\_\_ HDR433M SMD-6

MARKING 印字: \_\_\_\_\_ HD6401

PREPARED 编制: \_\_\_\_\_ CHECKED 审核: \_\_\_\_\_

APPROVED 批准: \_\_\_\_\_ D A T E 日期: \_\_\_\_\_ 2006-5-11

客户确认 CUSTOMER RECEIVED:		
审核 CHECKED	批准 APPROVED	日期 DATE

无锡市好达电子有限公司  
Shoulder Electronics Limited



# 更改历史记录

## History Record

更改日期 Date	规格书编号 Spec. No.	产品型号 Part No.	客户产品型号 Customer No.	更改内容描述 Modify Content	备注 Remark

## 1. SCOPE

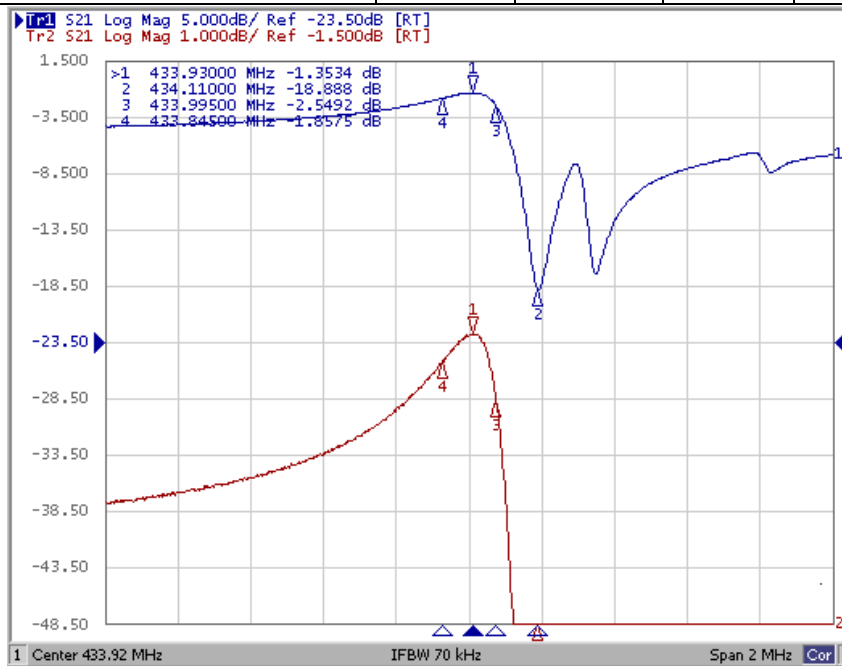
This specification shall cover the characteristics of 1-port SAW resonator with 433.92M used for remote-control security.

## 2. ELECTRICAL SPECIFICATION

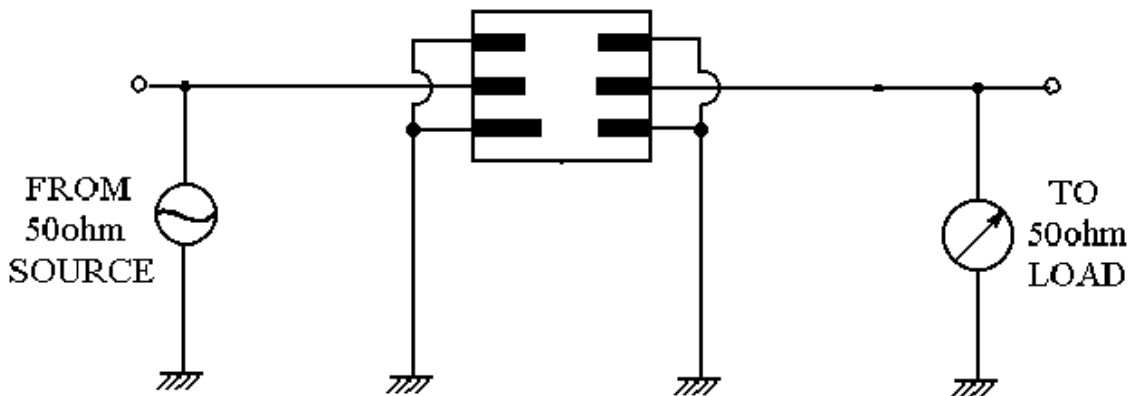
DC Voltage VDC	10V
AC Voltage Vpp	10V50Hz/60Hz
Operation temperature	-40°C to +85°C
Storage temperature	-45°C to +85°C
RF Power Dissipation	0dBm

### 2.2 Electronic Characteristics

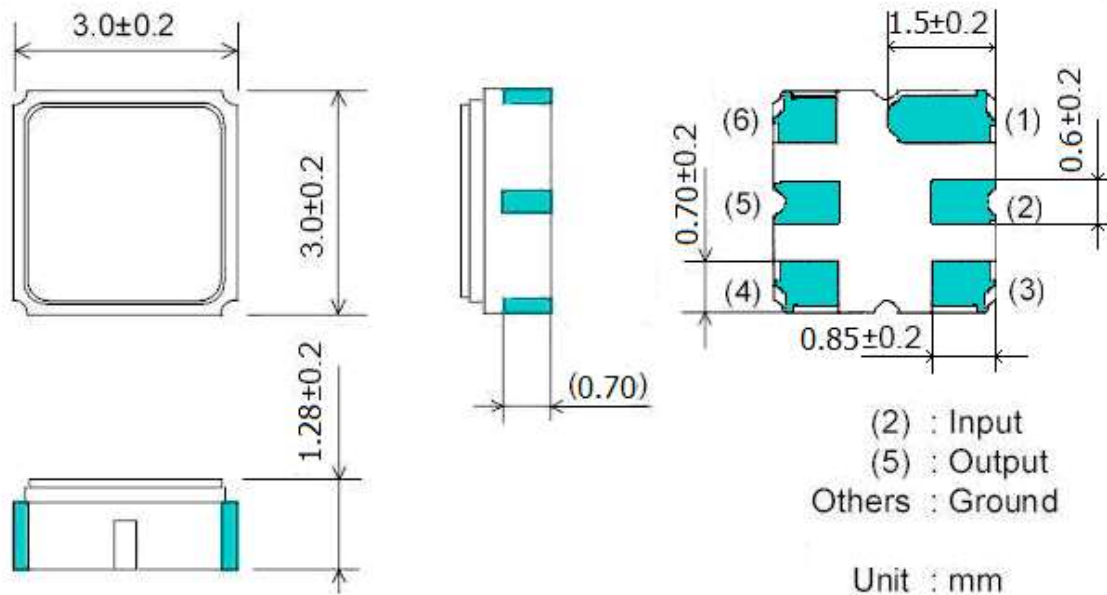
Item	Unites	Minimum	Typical	Maximum	
Center Frequency	MHz	433.820	433.920	434.020	
Insertion Loss	dB		1.25	2.0	
Quality Factor Unload Q		12000	14000		
50 Ω Loaded Q		1000	2000		
Temperature	Turnover Temperature	°C	10	25	40
Stability	Freq.temp.Coefficient	ppm/°C <sup>2</sup>	0.032		
Frequency Aging	ppm/yr		<± 10		
DC. Insulation Resistance	MΩ	1.0			
RF Equivalent RLC Model	Motional Resistance R1	Ω	16	26	
	Motional Inductance L1	μ H	98.501		
	Motional Capacitance C1	fF	1.3658		
Transducer Static Capacitance	pF		1.5		



### 3. TEST CIRCUIT



### 4. DIMENSION



### 5. ENVIRONMENTAL CHARACTERISTICS

#### 5-1 Temperature cycling

Subject the device to a low temperature of  $-40^{\circ}\text{C}$  for 30 minutes. Following by a high temperature of  $+25^{\circ}\text{C}$  for 5 Minutes and a higher temperature of  $+85^{\circ}\text{C}$  for 30 Minutes. Then release the device into the room conditions for 1 to 2 hours prior to the measurement. It shall meet the specifications in 2.2.

#### 5-2 Resistance to solder heat

Submerge the device terminals into the solder bath at  $260^{\circ}\text{C} \pm 5^{\circ}\text{C}$  for  $10 \pm 1$  sec. Then release the device into the room conditions for 4 hours. It shall meet the specifications in 2.2.

#### 5-3 Solderability

Submerge the device terminals into the solder bath at  $245^{\circ}\text{C} \pm 5^{\circ}\text{C}$  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 Mechanical shock

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

#### 5-5 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.

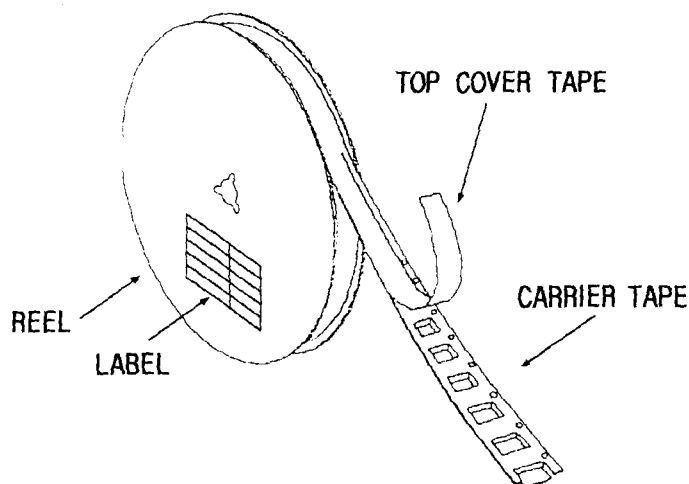
### 7.2 Reeling Quantity

1000 pcs/reel 7"

3000 pcs/reel 13"

### 7.3 Taping Structure

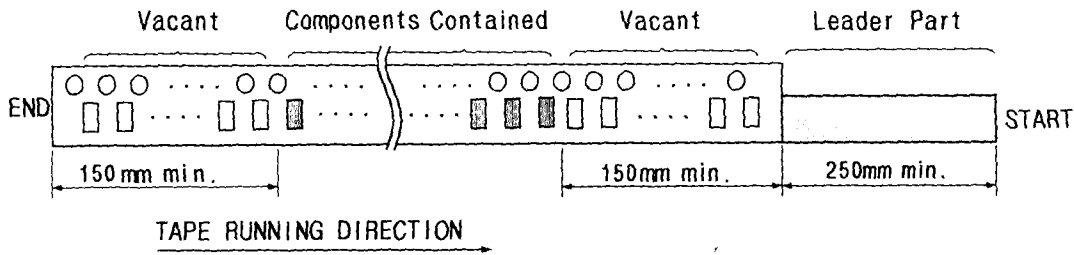
(1) The tape shall be wound around the reel in the direction shown below.



(2) Label

Device Name	
User Product Name	
Quantity	
Lot No.	

(3) Leader part and vacant position specifications.

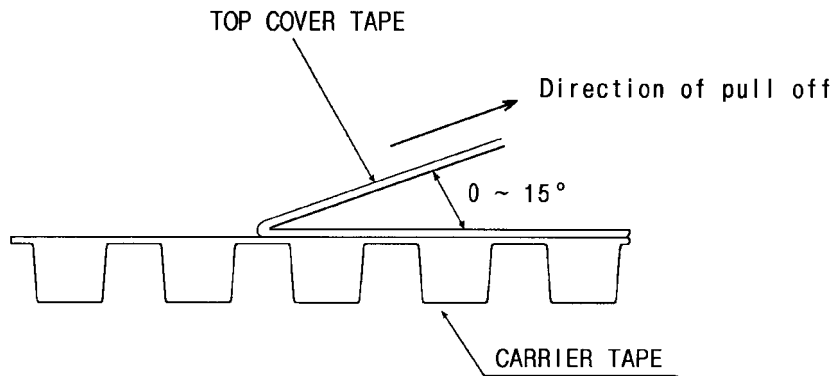


## 8. TAPE SPECIFICATIONS

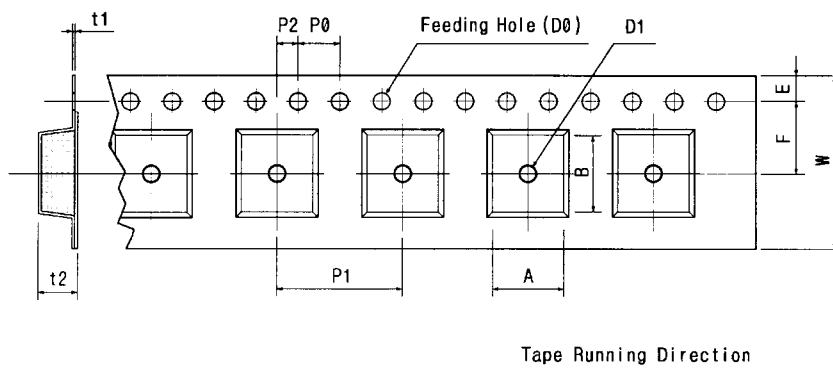
8.1 Tensile Strength of Carrier Tape: 4.4N/mm width

8.2 Top Cover Tape Adhesion (See the below figure)

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



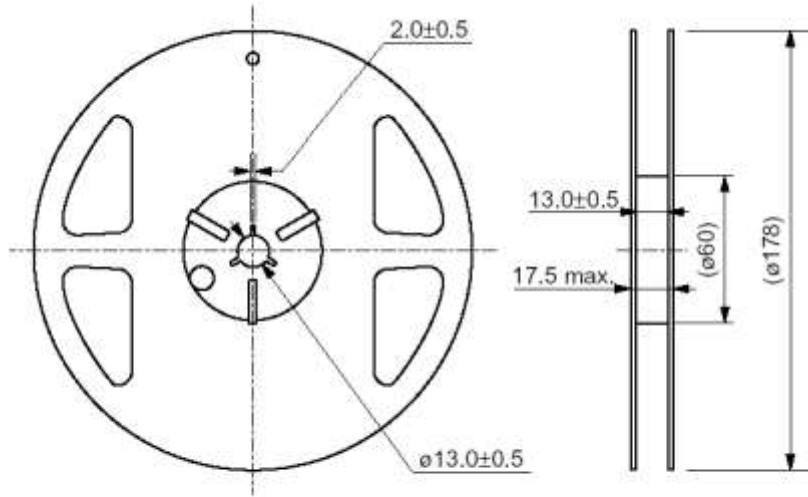
[Figure 1] Carrier Tape Dimensions



[Unit:mm]

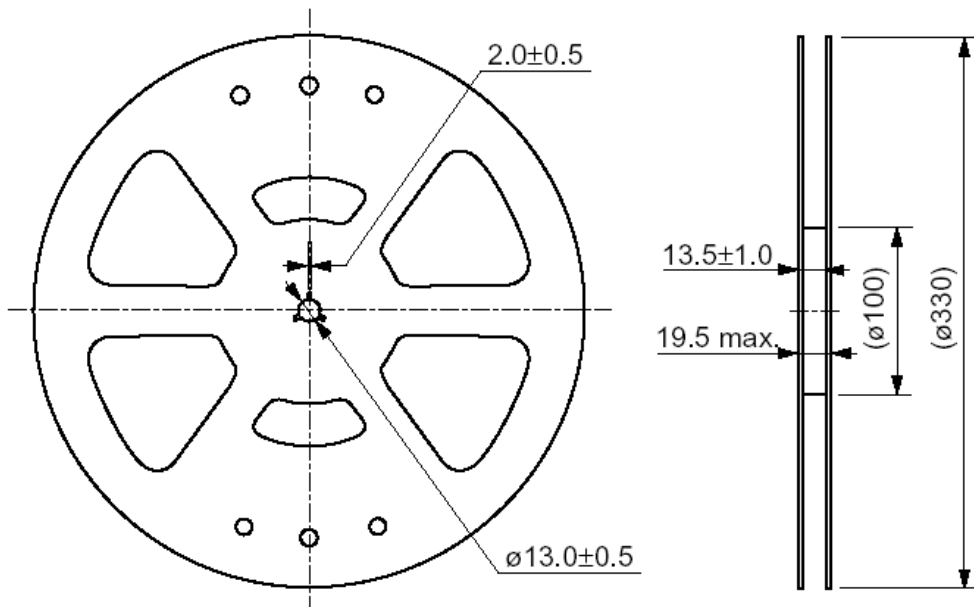
W	F	E	P0	P1	P2	D0	D1	t1	t2	A	B
12.0	5.5	1.75	4.0	4.0	2.0	Ø1.5	Ø1.0	0.3	1.25	3.3±	3.3±
±0.3	±0.05	±0.1	±0.1	±0.1	±0.05	±0.1	±0.25	±0.05	±0.1	0.1	0.1

[Figure 2]



Ø178 Reel Dimension

(in mm)



Ø330 Reel Dimension

(in mm)