





YI J I N ELECTRONI CS CO., LTD

# 产品承认书

## **Product acknowledgment**

Client客户:	
Product产品:	声表面谐振器
Model型号:	R315M 3030mm
Tabulation 制表:	Production
Date日期:	2011-5-1

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

审核:	
, ,,,,	(请盖公章)

#### **YJ315M SMD-3**030mm

This specification shall cover the characteristics of 1-port SAW resonator with R315M used for remote-control security.

## 2. Electrical Specification

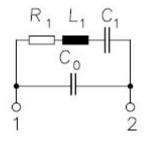
## 2.1 Maximum Rating

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

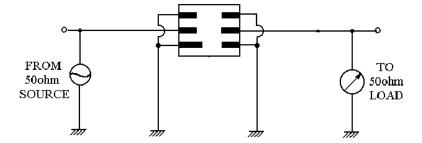
Item		Unites	Minimum	Typical	Maximum	
Center Frequency		MHz	314.925	315.000	315.075	
Insertion Loss		dB		1.4	1.9	
Quality Factor		Unload Q		8000	12800	
		50Ω Loaded Q		1000	2000	
Temperature	Turnover Temperature		$^{\circ}\!\mathbb{C}$	10	25	40
Stability	Freq.temp.Coefficient		ppm/℃		0.032	
Frequency Aging		ppm/yr		<±10		
DC. Insulation Resistance		ΜΩ	1.0			
RF	Motional Resistance R1		Ω		17.6	
Equivalent	Motional Inductance L1		μΗ		118	
RLC Model	Motional Capacitance C1		fF		2.16	
Transducer Static Capacitance C0		pF		2.13		

## 2.3 Equivalent LC Model

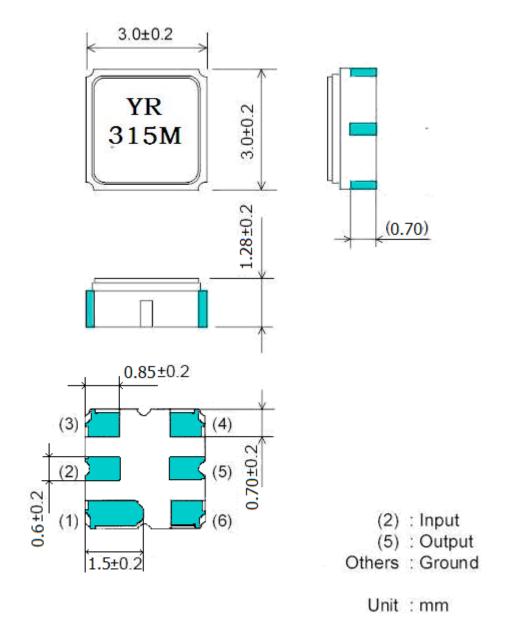


## 3. Test Circuit

## **YJ315M SMD-3**030mm



## 4. Dimension



1. KON: Manufacture's logo

2. R315M: Model code

#### 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 $\leq$ 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  $260^{\circ}\text{C} \pm 5^{\circ}\text{C}$  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 Solder ability

Submerge the device terminals into the solder bath at  $245^{\circ}$ C  $\pm 5^{\circ}$ 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  $-40^{\circ}\text{C} \pm 3^{\circ}\text{C}$  for  $96\text{h} \pm 4\text{h}$ , recovery time :  $2\text{h} \pm 0.5\text{h}$ .

#### 5-5 Humidity test:

The components shall remain within the electrical specifications after being kept at the condition of ambient temperature  $60^{\circ}\text{C} \pm 2^{\circ}\text{C}$ , and  $90 \sim 96\%$  RH for  $96\text{h} \pm 4\text{h}$ .

#### 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

#### **YJ315M SMD-3**030mm

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

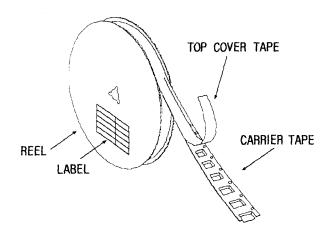
(3) The product shall be packed properly not to be damaged during transportation and storage.

#### 7.2 Reeling Quantity

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

### 7.3 Taping Structure

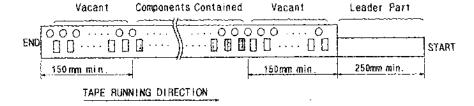
(1) The tape shall be wound around the reel in the direction shown below.



#### (2) Label

Device Name	
User Product Name	
Quantity	
Lot No.	

(3) Leader part and vacant position specifications.

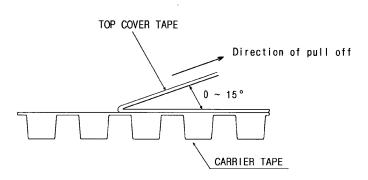


## 8. Tape Specifications

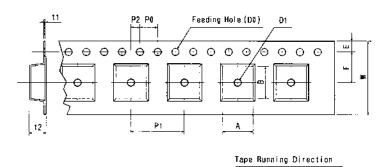
- 8.1 Tensile Strength of Carrier Tape: 4.4N/mm width
- 8.2 Top Cover Tape Adhesion (See the below figure)

(1) pull off angle: 0~15°(2) speed: 300mm/min.

(3) force: 20~70g



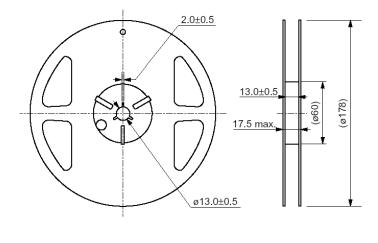
[Figure 1] Carrier Tape Dimensions



[Unit: mm]

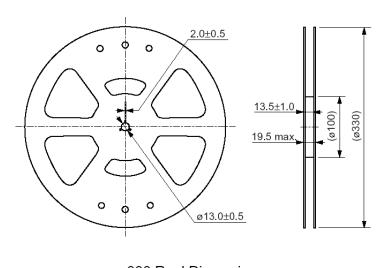
W F E P0 P1 P2 D0D1 t1t2 A В 5.5 1.75 4.0 4.0 Ø1.0 0.3 1.25  $3.3\pm$  $3.3\pm$ 12.0 2.0 Ø1.5  $\pm 0.25$  $\pm 0.3$  $\pm 0.05$  $\pm 0.1$  $\pm 0.1$  $\pm 0.1$  $\pm 0.05$  $\pm 0.1$  $\pm 0.05$  $\pm 0.1$ 0.1 0.1

[Figure 2] Reel Dimensions



ø178 Reel Dimension

(in mm)



ø330 Reel Dimension

(in mm)