



# YSR315S303



## 1. SCOPE

This specification shall cover the characteristics of 1-port SAW resonator with YSR315S303 used for remote-control security.

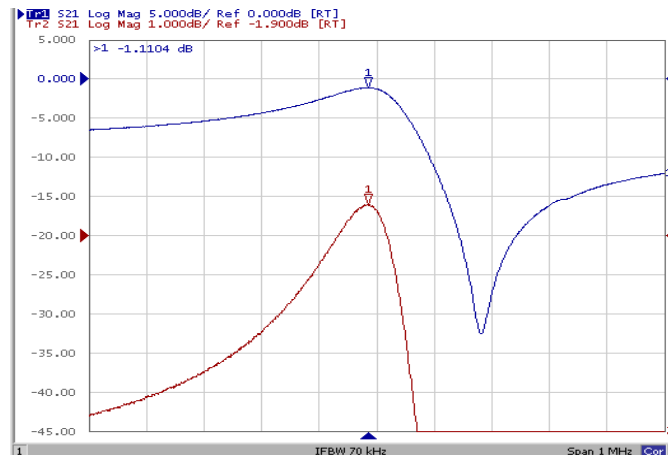
## 2. ELECTRICAL SPECIFICATION

### 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
Max Input Power	10dBm

### 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 Stability	Turnover Temperature	°C	10	25	40
	Freq.temp.Coefficient	ppm/°C <sup>2</sup>		0.032	
Frequency Aging		ppm/yr		< ± 10	
DC. Insulation Resistance	MΩ	1.0			
Transducer Static Capacitance C0	pF		2.13		

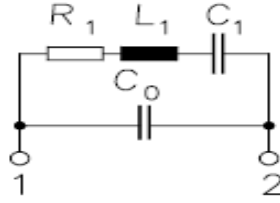




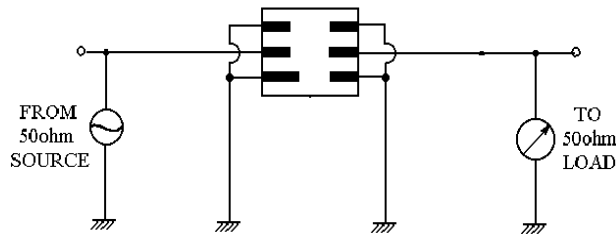
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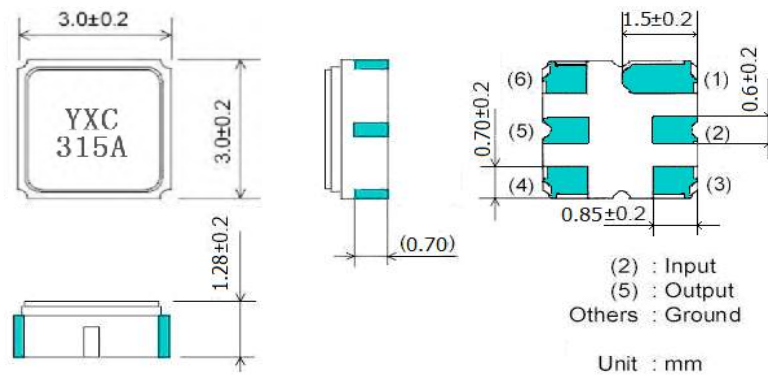
## 2.3 Equivalent LC Model



## 3. TEST CIRCUIT



## 4. DIMENSION





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## 5. ENVIRONMENT CHARACTERISTIC

### 5-1 High temperature exposure

Subject the device to +85°C for 16 hours. Then release the filter into the room conditions for 24 hours prior to the measurement. It shall fulfill the specifications in 2-2.

### 5-2 Low temperature exposure

Subject the device to -40°C for 16 hours. Then release the device into the room conditions for 24 hours prior to the measurement. It shall meet the specifications in 2-2.

### 5-3 Temperature cycling

Subject the device to a low temperature of -40°C for 30 minutes. Following by a high temperature of +85°C for 30 Minutes. Then release the device into the room conditions for 24 hours prior to the measurement. It shall meet the specifications in 2-2.

### 5-4 Resistance to solder heat

Dip the device terminals no closer than 1.5mm into the solder bath at 260°C ±10°C for 10 ±1 sec. Then release the device into the room conditions for 4 hours. The device shall meet the specifications in 2-2.

### 5-5 Solderability

Subject the device terminals into the solder bath at 245°C ±5°C for 5s. More than 95% area of the terminals must be covered with new solder. It shall meet the specifications in 2-2.

### 5-6 Mechanical shock

Drop the device randomly onto the concrete floor from the height of 1m 3 times. the device shall fulfill the specifications in 2-2.

### 5-7 Vibration

Subject the device to the vibration for 1 hour each in x, y and z axes with the the amplitude of 1.5 mm at 10 to 55Hz. The device 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.



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## 7. PACKING

### 7.1 Dimensions

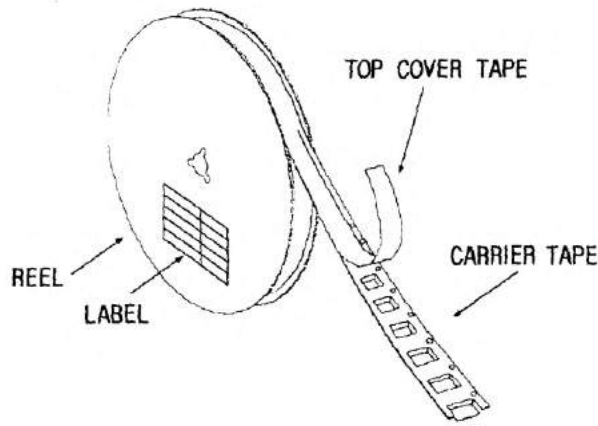
- (1) Carrier Tape: Figure 1
- (2) Reel: Figure 2
- (3) The product shall be packed properly not to be damaged during transportation and storage.

### 7.2 Reeling Quantity

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

### 7.3 Taping Structure

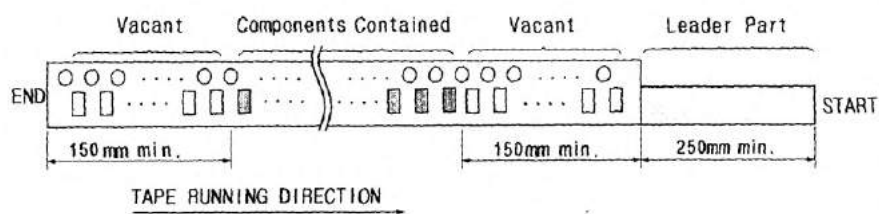
- (1) The tape shall be wound around the reel in the direction shown below.



### (2) Label

Device Name	
User Product Name	
Quantity	
Lot No.	

### (3) Leader Part and vacant position specifications.





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## 8. TAPE SPECIFICATIONS

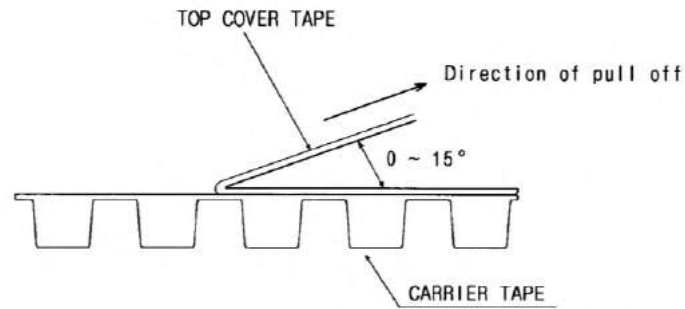
8.1 Tensile Strength of Carrier Tape: 4.4N/mm width

8.2 Top Cover Tape Adhesion (see the below figure)

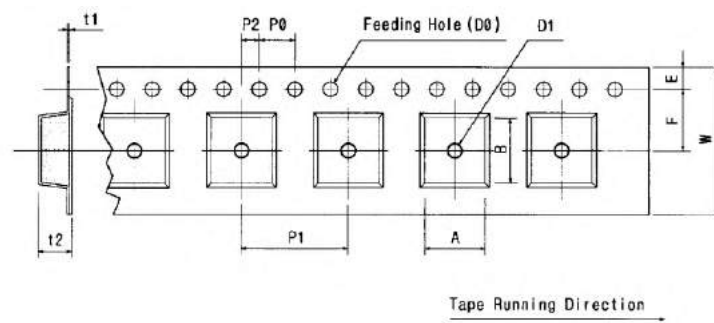
(1) pull off angle: 0~15°

(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 ± 0.1	3.3 ± 0.1



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[Figure 2] Reel Dimensions

