



YI J I N ELECTRONI CS CO. , LTD

## 产品承认书

'Rt qf wev'cempqy rfg i o gpv

Client客户:

\_\_\_\_\_

Product产品:

声表面谐振器

Model型号:

R315M 5\*3.5mm

Tabulation 制表:

Production

'Date日期:

2011-5-1

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				

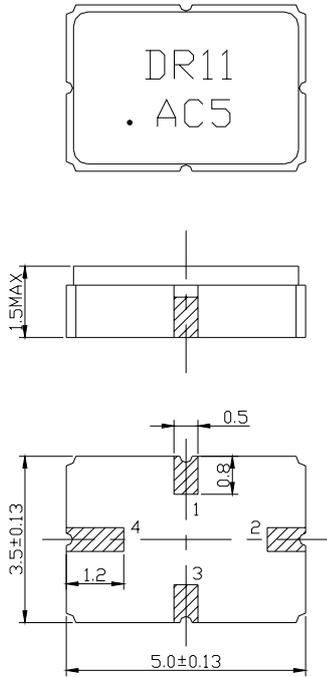
审核: \_\_\_\_\_

(请盖公章)

### 1.Package Dimension

(S53)

Unit: mm



Pin No.	Function
1	Input
3	Output
2, 4	Case Ground

### 2. Marking

DR11  
• AC5

- (1) Ink marking or laser marking
- (2) DR: Manufacture's logo
- (3) 11: Model code
- (4) • : Pin 1 Identifier
- (5) A: Tolerance code (+/-75KHz)
- (6) C5: Date code

C  
Month code

5  
Last figure of year

Month	1	2	3	4	5	6	7	8	9	10	11	12
Month code	A	B	C	D	E	F	G	H	I	J	K	L

e.g.: "C5" means March of 2005

### 3. Performance

#### 3.1 Application

One-port SAW Resonator for Wireless Remote Controller.

Center frequency: 315.000MHz

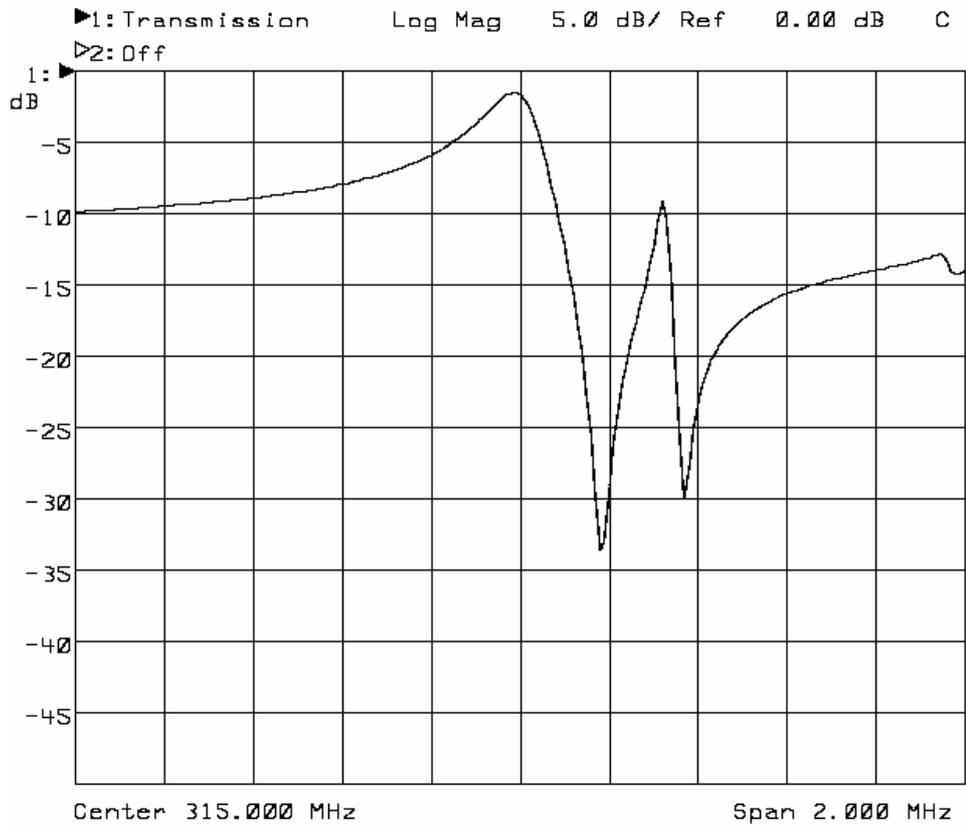
#### 3.2 Maximum Rating

DC Voltage $V_{DC}$	10V
AC Voltage $V_{PP}$	10V (50Hz/60Hz)
Operation Temperature Range	-40°C to +85°C
Storage Temperature Range	-45°C to +85°C
RF Power Dissipation	0 dBm

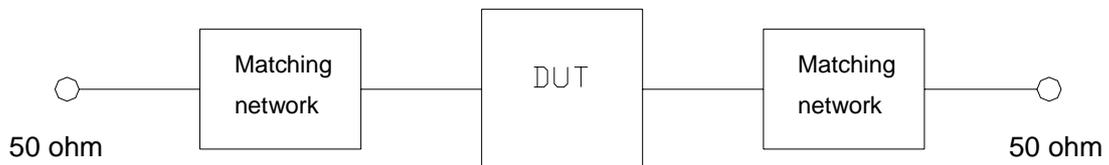
#### 3.3 Electronic Characteristics

Item		Units	Minimum	Typical	Maximum
Center Frequency ( $f_0$ )		MHz	314.925	315.000	315.075
Insertion Loss		dB	—	1.7	2.4
Quality Factor	Unloaded Q	—	—	12,200	—
	50 $\Omega$ Loaded Q	—	—	1,500	—
Temperature	Turnover Temperature	°C	—	25	—
Stability	Turnover Frequency	KHz	—	$f_0$	—
	Freq. Temp. Coefficient	ppm/°C <sup>2</sup>	—	0.032	—
Frequency Aging		ppm/yr	—	< $\pm$ 10	—
DC Insulation Resistance		M $\Omega$	1.0	—	—
RF Equivalent	Motional Resistance $R_1$	$\Omega$	—	14	25
	Motional Inductance $L_1$	$\mu$ H	—	86	—
RLC Model	Motional Capacitance $C_1$	fF	—	2.95	—
	Shunt Static Capacitance $C_0$	pF	2.1	2.4	2.7

### 3.4 Frequency Characteristics



### 3.5 Test Circuit



## 4 Reliability

- 4.1 Mechanical Shock: The components shall remain within the electrical specifications after three one-half sine shock pulses(3000g's for 0.3 ms) in each direct ion(for six total) along each of the three mutually perpendicular axes for a total of 18 shocks.
- 4.2 Vibration Fatigue: The components shall remain within the electrical specifications after loaded vibration at 20~55Hz, amplitude 1.5mm, X,Y,Z, direction, for 2 hours.
- 4.3 Leak Test
  - 4.3.1 Gross Leak Test: Submerge samples into at +85°C water for at least 1 minute. Carefully observe the samples. No bubbles should be seen.
  - 4.3.2 Fine Leak Test: Expose samples for testing to 60 PSIG Helium gas for 2 hours. Then transfer the same samples to another chamber and draw a vacuum. Measure the leak rate. Failure is defined if the leak rate exceeds  $5 \times 10^{-8}$  atm cc/sec Helium.
- 4.4 High Temperature Storage: The components shall remain within the electrical specifications after being kept at the  $85^{\circ}\text{C} \pm 2^{\circ}\text{C}$  for 960 hours, then kept at room temperature for 2 hours.
- 4.5 Low Temperature Storage: The components shall remain within the electrical specifications after being kept at the  $-40^{\circ}\text{C} \pm 2^{\circ}\text{C}$  for 960 hours, then kept at room temperature for 2 hours.
- 4.6 Temperature Cycle: The components shall remain within the electrical specification after 32 cycles of high and low temperature testing (one cycle:  $80^{\circ}\text{C}$  for 30 minutes  $\rightarrow$   $25^{\circ}\text{C}$  for 20 seconds  $\rightarrow$   $-40^{\circ}\text{C}$  for 30 minutes) than kept at room temperature for 2 hours.
- 4.7 Humidity Test: The components shall remain within the electrical specifications after being kept at the condition of ambient temperature  $70^{\circ}\text{C}$ , and 90~95% RH for 240 hours, then kept at room temperature and normal humidity for 4 hours.
- 4.8 Solder-heat Resistance: The components shall remain within the electrical specifications after dipped in the solder at  $260^{\circ}\text{C} \pm 5^{\circ}\text{C}$  for 10 to 11 seconds, then kept at room temperature for 10 minutes.
- 4.9 Solderability: Solderability of terminal shall be kept at more than 80% after dipped in the solder flux at  $230^{\circ}\text{C} \pm 5^{\circ}\text{C}$  for  $5 \pm 1$  seconds.
- 4.10 Storage: The components shall meet the electrical and mechanical specifications after 5 years storage, if stored within the temperature range of  $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$  and in the humidity of 20 to 60% r.h.

## 5 Remarks

- 5.1 Static voltage

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

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

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

## 6 Packing

### 6.1 Dimensions

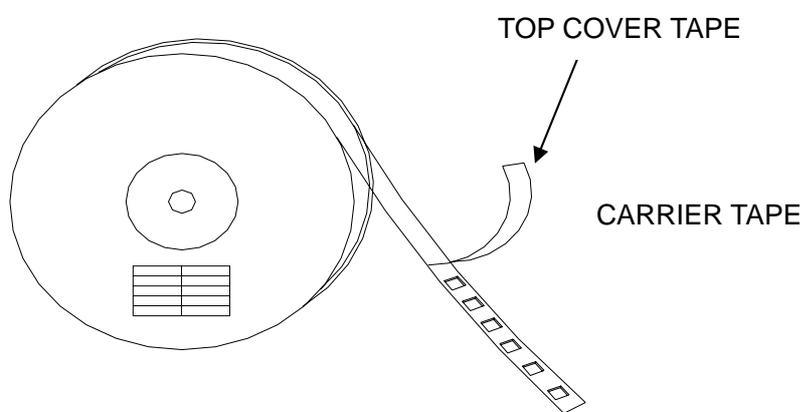
- (1) Carrier Tape: Figure 1
- (2) Reel: Figure 2
- (3) The product shall be packed properly not to be damaged during transportation and storage.

### 6.2 Reeling Quantity

1,000 pcs/reel

### 6.3 Taping Structure

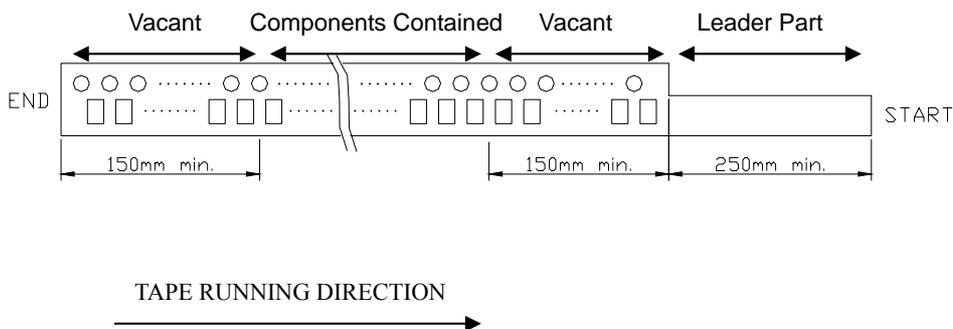
- (1) The tape shall be wound around the reel in the direction shown below.



- (2) Label

Dev ice Name	
Ty pe	
Quan tity	
Lot No.	

- (3) Leader part and vacant position specifications.

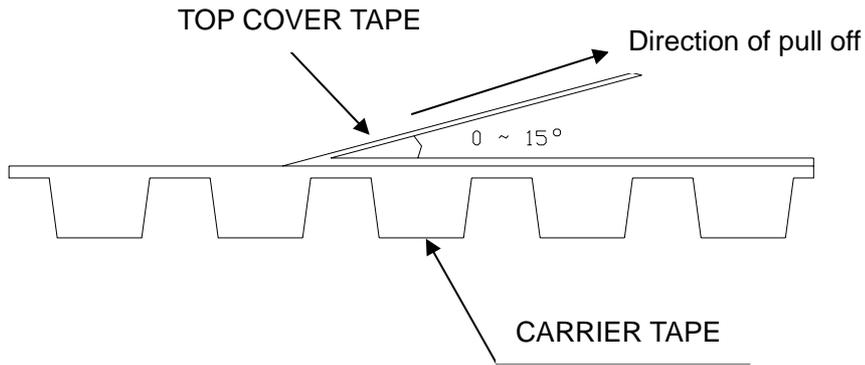


### 7 Tape Specifications

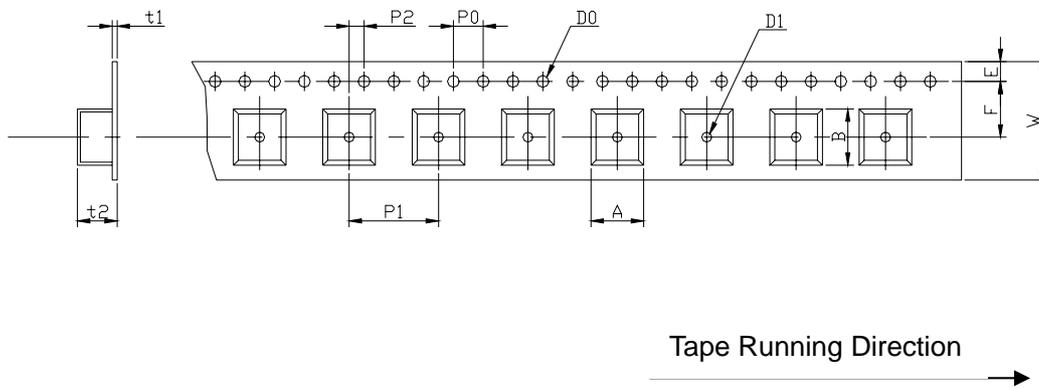
7.1 Tensile Strength of Carrier Tape: 4.4N/mm width

7.2 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

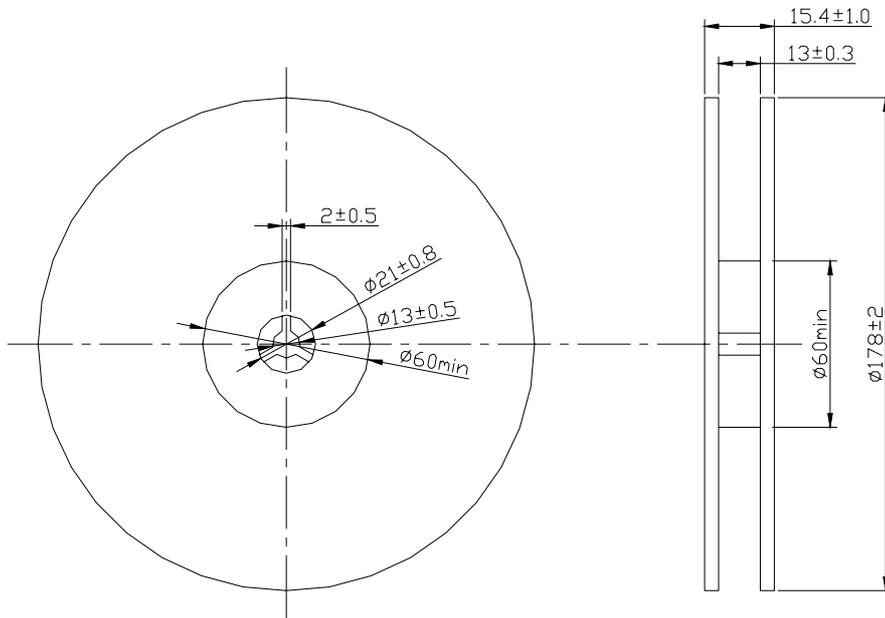


[Unit: mm]

W	F	E	P0	P1	P2	D0	D1	t1	t2	A	B
12.0	5.5	1.75	4.0	8.0	2.0	Φ 1.5	Φ 1.5	0.31	1.95	3.8	5.3
±0.3	±0.1	±0.1	±0.2	±0.1	±0.2	±0.1	±0.25	max.	max.	max.	max.

[Figure 2] Reel Dimensions

[Unit: mm]



[Figure 3] Part Direction

