

## 1. SCOPE

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

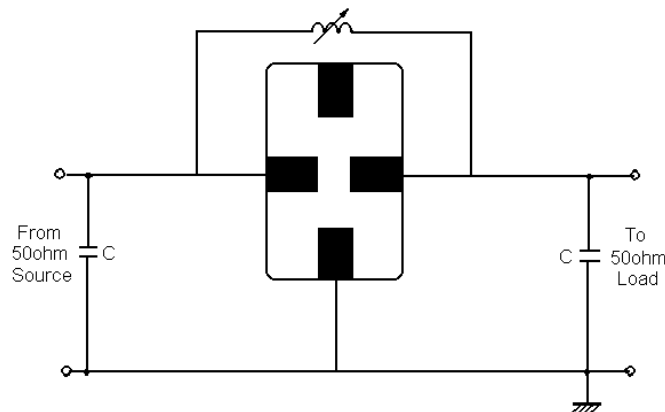
## 2. ELECTRICAL SPECIFICATION

DC Voltage VDC	10V
AC Voltage Vpp	10V50Hz/60Hz
Operation temperature	-20 to +85
Storage temperature	-45 to +85
RF Power Dissipation	0dBm

### Electronic Characteristics

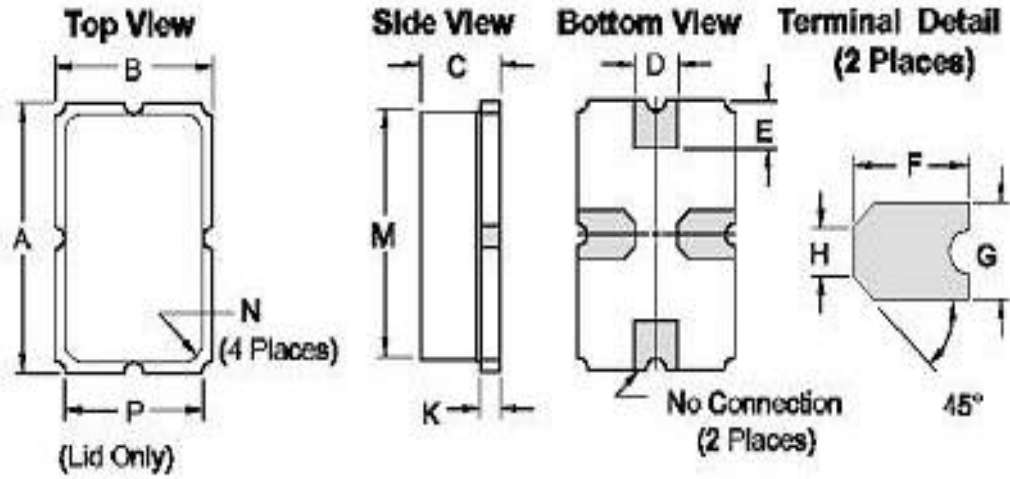
Item	Unites	Minimum	Typical	Maximum
Center Frequency	MHz	314.925	315.000	315.075
Insertion Loss	dB		1.5	2.5
Quality Factor Unload Q			12,800	
50 Loaded Q			2,000	
Temperature	Turnover Temperature	10	25	40
Stability	Turnover Frequency	KHz	fo	
	Freq.temp.Coefficient	ppm/ 2	0.032	
Frequency Aging	ppm/yr		<± 10	
DC. Insulation Resistance	M	1.0		
RF Equivalent RLC Model	Motional Resistance R1		18	26
	Motional Inductance L1	μ H	86	
	Motional Capacitance C1	pF	1.5	
Pin 1 to Pin 2 Staic Capacitance	pF	1.7	2.0	2.3
Transducer Static Capacitance	pF		1.9	

## 3. TEST CIRCUIT



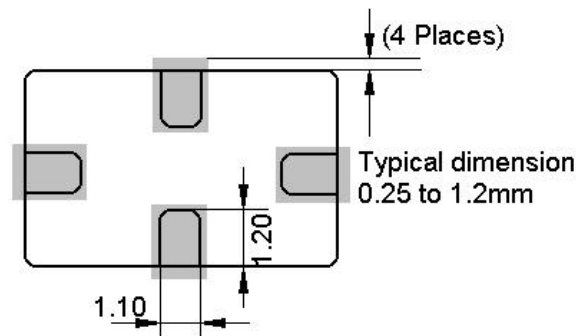
## 4. DIMENSION

### 4-1 Typical dimension(unit:mm)



Dimensions	Millimeters		Inches	
	Min	Max	Min	Max
A		5.97		0.235
B		3.94		0.155
C		2.16		0.085
D	0.94	1.10	0.037	0.043
E	0.83	1.20	0.033	0.047
F	1.16	1.53	0.046	0.060
G	0.94	1.10	0.037	0.043
H	0.43	0.59	0.017	0.023
K	0.43	0.59	0.17	0.023
M		5.31		0.209
N	0.38	0.64	0.015	0.025
P		3.28		0.129

### 4-2 Typical circuit board land patter



## 5. ENVIRONMENTAL CHARACTERISTICS

### 5-1 Temperature cycling

Subject the device to a low temperature of  $-40$  for 30 minutes. Following by a high temperature of  $+25$  for 5 Minutes and a higher temperature of  $+85$  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 table 1.

### 5-2 Resistance to solder heat

Submerge the device terminals into the solder bath at  $240 \pm 5$  for  $10 \pm 1$  sec. Then release the device into the room conditions for 4 hours. It shall meet the specifications in table 1.

### 5-3 Solderability

Submerge the device terminals into the solder bath at  $245 \pm 5$  for 5s, More than 95% area of the soldering pad must be covered with new solder. It shall meet the specifications in table 1.

### 5-4 Mechanical shock

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

### 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 filter shall fulfill the specifications in table 1.

## 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

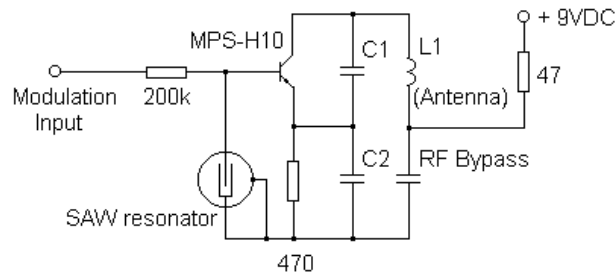
### 6.3 Soldering

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

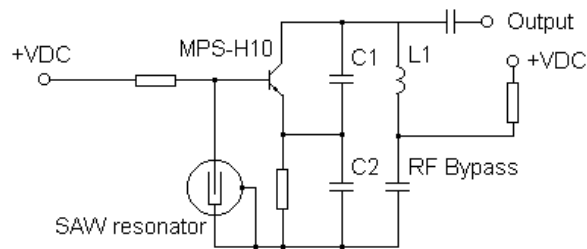
part of component.

## 7. Typical Application Circuit

### Typical low-power Transmitter Application



### Typical Local Oscillator Application



## 8. Packing

### 8.1 Dimensions

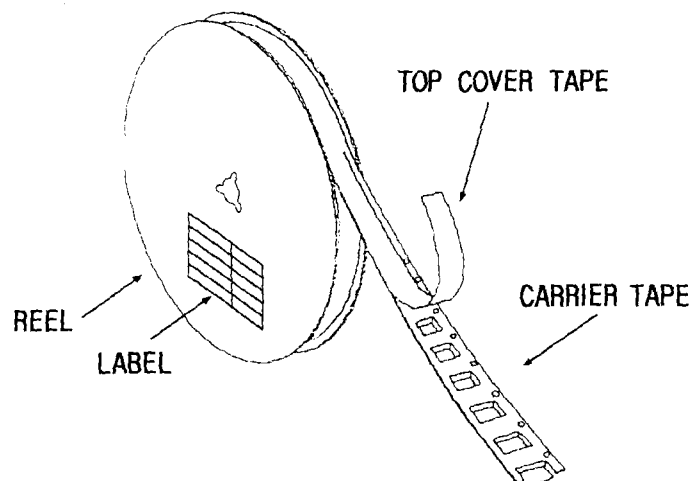
- (1) Carrier Tape: Figure 1
- (2) Reel: Figure 2
- (3) The product shall be packed properly not to be damaged during transportation and storage.

### 8.2 Reeling Quantity

3000 pcs/reel (13'') or 1000 pcs/reel (7'').

### 8.3 Taping Structure

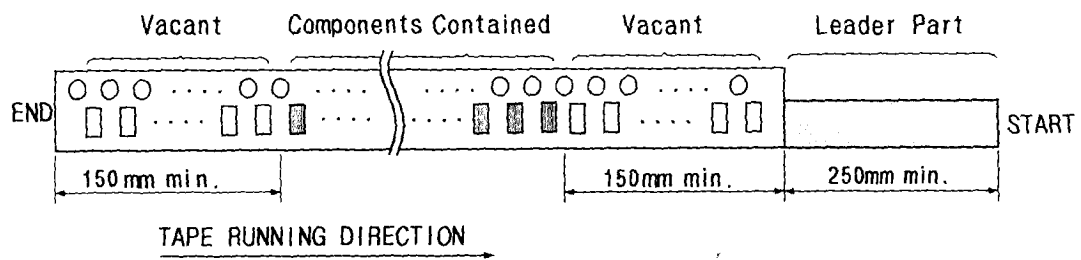
- (1) The tape shall be wound around the reel in the direction shown below.



(2) Label

Device Name	
User Product Name	
Quantity	
Lot No.	

(3) Leader part and vacant position specifications.

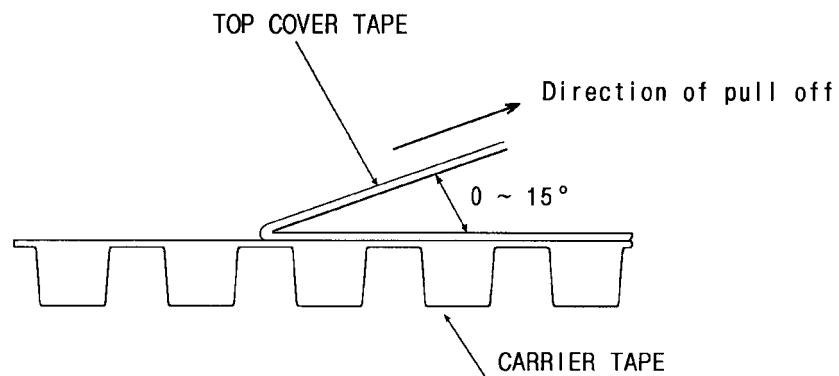


## 9. TAPE SPECIFICATIONS

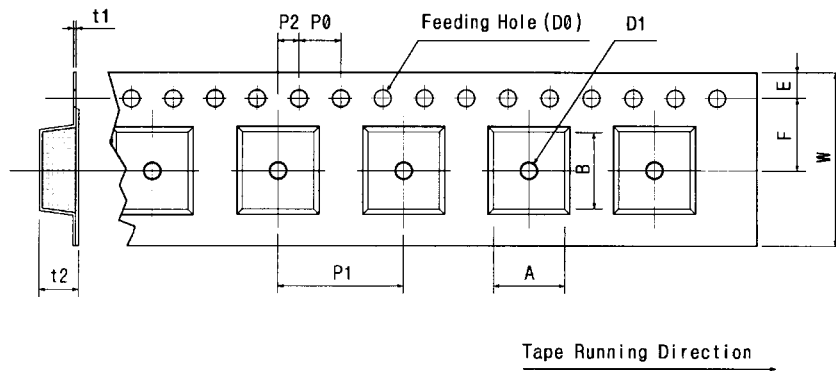
9.1 Tensile Strength of Carrier Tape: 4.4N/mm width

9.2 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

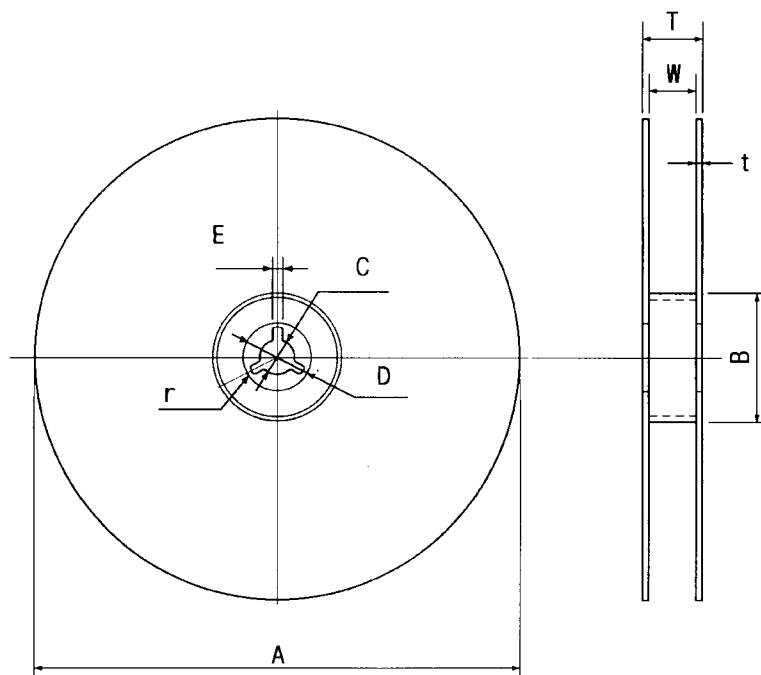


[Unit:mm]

W	F	E	P0	P1	P2	D0	D1	t1	t2	A	B
12.0 ± 0.3	5.5 ± 0.05	1.75 ± 0.1	4.0 ± 0.1	8.0 ± 0.1	2.0 ± 0.05	∅1.5 ± 0.1	∅1.0 ± 0.25	0.3 ± 0.05	2.10 ± 0.1	6.40 ± 0.1	5.20 ± 0.1

[Figure 2]

[Unit:mm]



A	B	C	D	E	W	t	r
∅330 ± 1.0	∅100 ± 0.5	∅13 ± 0.5	∅21 ± 0.8	2 ± 0.5	13 ± 0.3	3 max.	1.0 max.