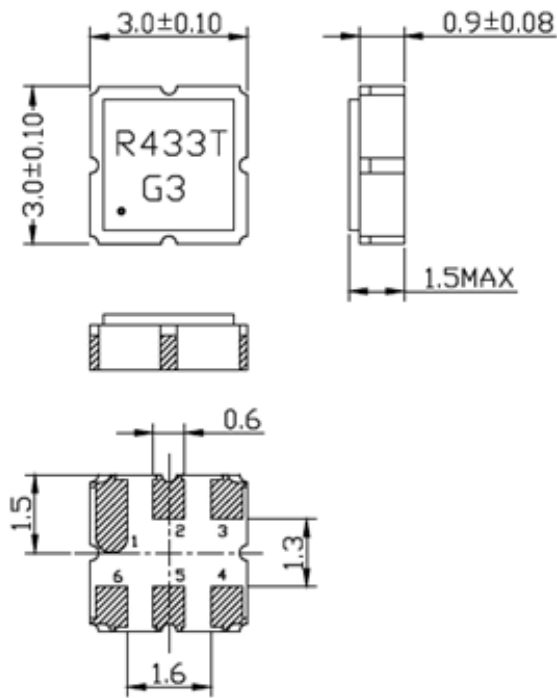


# IS SR DCC6C

## 1. Package Dimension



Unit: mm



Pin No.	Function
2	Input
5	Output
Others	GND

## 2. Marking

IS SR	Item code
433M92	Frequency

### 3. Performance

#### 3.1 Application

One-port SAW Resonator for Wireless Remote Controller.

Center frequency: 433.92MHz

#### 3.2 Maximum Rating

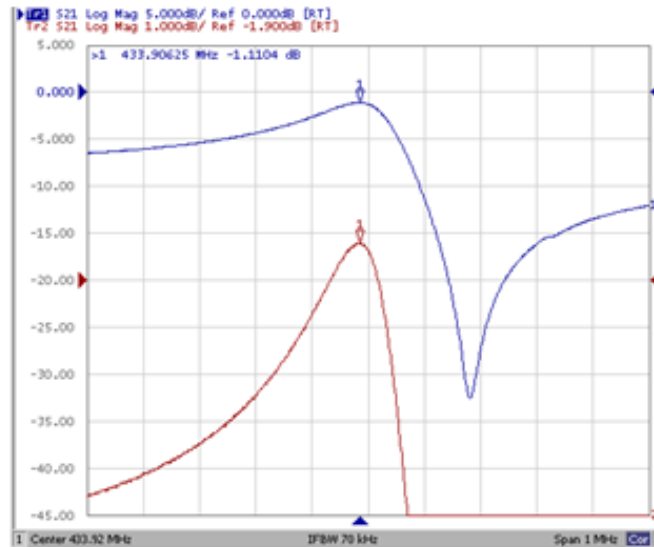
Rating		Value	Unit
Operating Temperature Range	$T_A$	-40 ~ +85	°C
Storage Temperature Range	$T_{stg}$	-45 ~ +85	°C
DC Voltage (between any Terminals)	$V_{DC}$	10	V
RF Power (in BW)	$P$	0	dBm
ESD Voltage (HB)	$V_{ESD}$	150	V

Electrostatic Sensitive Device (ESD)

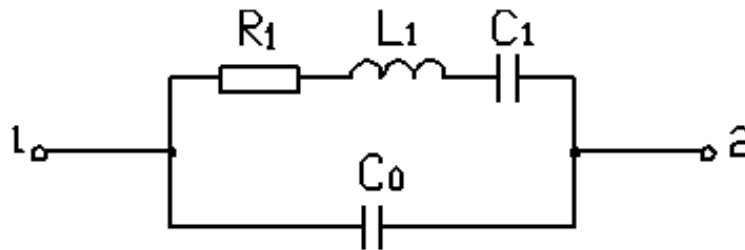
#### 3.3 Electronic Characteristics

Item	Unit	Minimum	Typical	Maximum
Center Frequency ( $f_0$ )	MHz	433.845	433.920	433.995
Insertion Loss	dB	—	1.4	1.9
Quality Factor	—	—	—	—
Unloaded Q	—	8,000	12,800	—
50Ω Loaded Q	—	1,000	2,000	—
Temperature Stability	—	—	—	—
Turnover Temperature	□	10	25	40
Turnover Frequency	KHz	—	$f_0 \pm 1.3$	—
Frequency Temperature Coefficient	ppm/□2	—	0.032	—
Frequency Aging	ppm/yr	—	<±10	—
DC Insulation Resistance	MΩ	1.0	—	—
RF Equivalent RLC Model	—	—	—	—
Motional Resistance $R_1$	Ω	—	17	26
Motional Inductance $L_1$	μH	—	70.743	—
Motional Capacitance $C_1$	fF	—	1.9	—
Pin1 to Pin2 Static Capacitance $C_0$	pF	—	2.0	—

### 3.3 Frequency Characteristics



### 3.4 Equivalent LC Model



## 4. Performance

#### 4.1 Thermal Shock:

The components shall remain within the electrical specifications after being kept at the condition of heat cycle conditions:  $T_A = -40^\circ\text{C} \pm 3^\circ\text{C}$ ,  $T_B = 85^\circ\text{C} \pm 2^\circ\text{C}$ ,  $t_1 = t_2 = 30\text{min}$ , switch time  $\leq 3\text{min}$  & cycle time : 100 times, recovery time:  $2\text{h} \pm 0.5\text{h}$ .

#### 4.2 Resistance to solder heat

Submerge the device terminals into the solder bath at  $260 \pm 5$  for  $10 \pm 1$  sec. Then release the device into the room conditions for 4 hours. It shall meet the specifications in 3.3.

#### 4.3 Solder ability

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 3.3

#### 4.4 The Temperature Storage:

4.3.1 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  $96\text{h} \pm 4\text{h}$ , recovery time :  $2\text{h} \pm 0.5\text{h}$ .

4.3.2 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 :  $2\text{h} \pm 0.5\text{h}$ .

#### 4.5 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 90~96% RH for 96h $\pm$ 4h.

#### 4.6 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 3.3.

#### 4.7 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 3.3.

### 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.

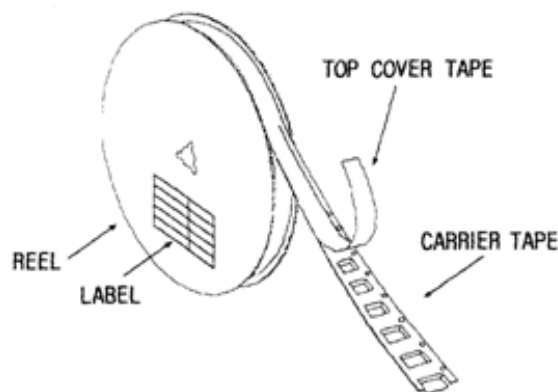
#### 6.2 Reeling Quantity

1000 pcs/reel 7"

3000 pcs/reel 13"

#### 6.3 Taping Structure

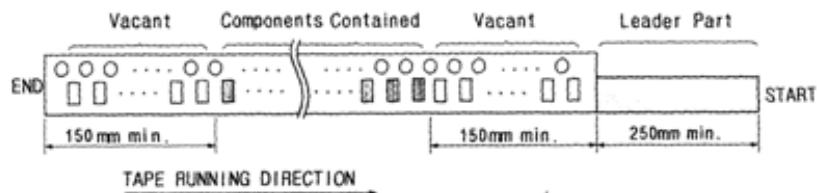
(1) The tape shall be wound around the reel in the direction shown below.



(2) Label

Device Name	
User Product Name	
Quantity	
Lot No.	

(3) Leader part and vacant position specifications.

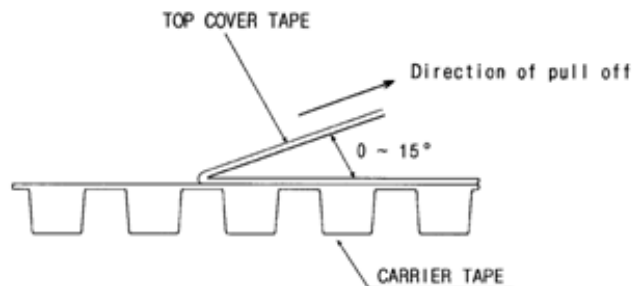


## 7. Tape Specifications

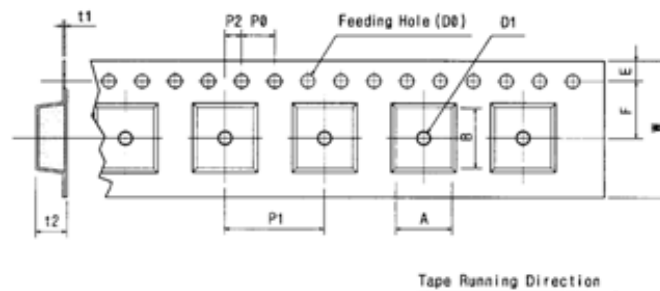
7.1 Tensile Strength of Carrier Tape: 4.4N/mm width

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	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] Reel Dimensions

