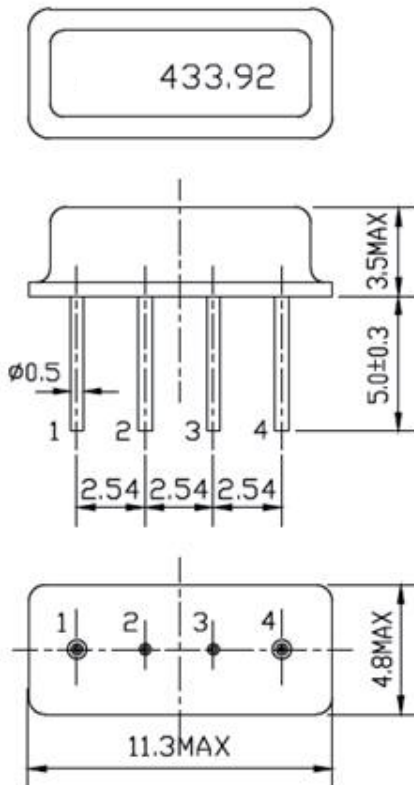


# IS SR F11

## 1. Package Dimension

Unit: mm



Package Material	
CAP	Cu plating Ni
BASE	Cu plating Ni

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

## 2. Marking

ITC	LOGO
433.92	Frequency

### 3. Performance

#### 3.1 Application

One-port SAW Resonator for Wireless Remote Controller.

Center frequency: 433.92MHz

#### 3.2 Maximum Rating

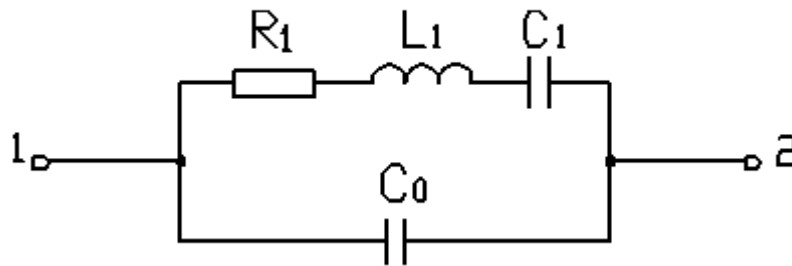
Rating		Value	Unit
Operating Temperature Range	$T_A$	-40 ~ +85	°C
Storage Temperature Range	$T_{stg}$	-45 ~ +85	°C
DC Voltage (between any Terminals)	$V_{DC}$	10	V
RF Power (in BW)	$P$	0	dBm
ESD Voltage (HB)	$V_{ESD}$	150	V

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	—	1.5	2.5
Quality Factor	—	—	—	—
Unloaded Q	—	—	12,800	—
50Ω Loaded Q	—	—	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	—	18	26
Motional Inductance $L_1$	μH	—	75	—
Motional Capacitance $C_1$	fF	—	1.8	—
Pin1 to Pin2 Static Capacitance $C_0$	pF	1.7	2.0	2.3
Transducer Static Capacitance $C_0$	pF	—	2.3	—

### 3.3 Equivalent LC Model



## 4. Performance

### 4.1 Mechanical Shock:

The components shall remain within the electrical specifications after 1000 shocks, acceleration  $392 \text{ m/s}^2$ , duration 6 milliseconds.

### 4.2 Vibration Fatigue:

The components shall remain within the electrical specifications after loaded vibration at 20 Hz, amplitude 1.5 mm, for 2 hours.

### 4.3 Terminal Strength:

The components shall remain within the electrical specifications after pulled 2 kgs weight for 10 seconds towards an axis of each terminal.

### 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 16 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  $-20^\circ\text{C} \pm 2^\circ\text{C}$  for 16 hours, then kept at room temperature for 2 hours.

### 4.6 Temperature Cycle:

The components shall remain within the electrical specifications after 5 cycles of high and low temperature testing (one cycle:  $80^\circ\text{C}$  for 30 minutes  $\rightarrow$   $25^\circ\text{C}$  for 5 minutes  $\rightarrow$   $-40^\circ\text{C}$  for 30 minutes) then 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  $40 \pm 2^\circ\text{C}$ , and 90~95% RH for 48 hours, then kept at room temperature and normal humidity for 2 hours.

### 4.8 Solder-heat Resistance:

The components shall remain within the electrical specifications after dipped in the solder at  $260^\circ\text{C}$  for  $10 \pm 1$  seconds, then kept at room temperature for 2 hours. (Terminal must be dipped leaving 1.5 mm from the case).

### 4.9 Solderability:

Solderability of terminal shall be kept at more than 80% after dipped in the solder flux at  $245^\circ\text{C} \pm 5^\circ\text{C}$  for  $5 \pm 1$  seconds.

## 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.

