SAW Resonator Unit

AW 3.2*2.5*1.2mm Series

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SPECIFICATION

P/N: SJK-AW433920000F9A75UB

深圳市晶科鑫实业有限公司

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Features

- 1-port Resonator
- Ceramic Package for **S**urface **M**ounted **T**echnology (**SMT**)
- **RoHS** compatible
- Package size 3.20x2.50x1.2mm

Performance

1-1. Maximum Ratings

Rating		Value	Unit
RF Power Dissipation	P	25	dBm
DC Voltage	V_{DC}	30	V
Operable Temperature Range	T_A	-40~ +85	℃
Storage Temperature Range	T_{stg}	-40 ~ +85	℃

1-2 Electronic Characteristics

Test Temperature: 25℃±2℃ /Terminating source impedance: 50Ω/Terminating load impedance: 50Ω

Item			Minimum	Typical	Maximum	Unit
Center Frequency	Absolute Frequency	f_c	433.845	433.920	433.995	MHz
	Tolerance from 433.920MHz	$\triangle f_c$		±75		KHz
Insertion Loss(min)		IL		1.6	2.0	dB
Quality Factor	Unloaded Q	Q_U		13959		
	50Ω Loaded Q	Q_L		1871		
Frequency Aging	Absolute Value during the First Year	$\|f_A\|$		≤10		ppm/yr
DC Insulation Resistance between Any Two Pins			1.0			MΩ
RF Equivalent RLC Model	Motional Resistance	R_M		15.5	20	Ω
	Motional Inductance	L_M		79.3		μH
	Motional Capacitance	C_M		1.7		fF
	Static Capacitance	C_0		3.1		pF

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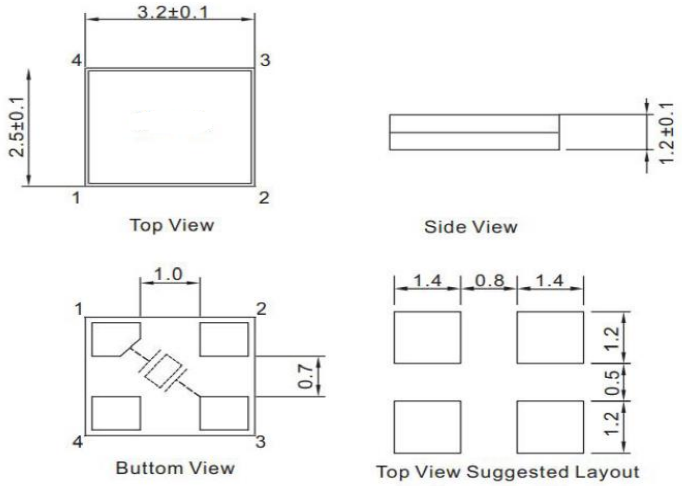
Package Dimensions (3225)

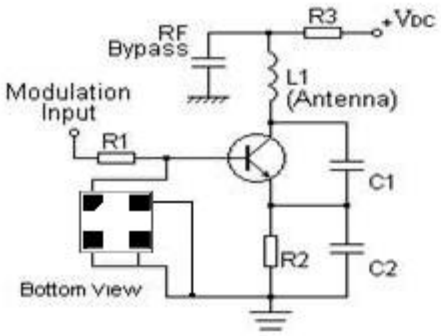


Pin Configuration

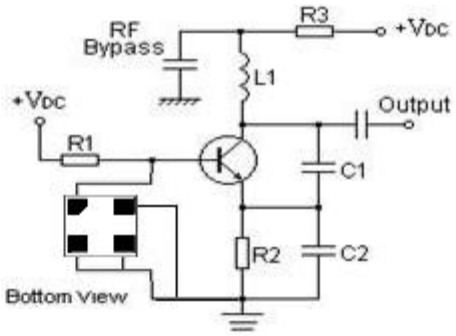
1	Input/Output
3	Output/Input
2/4	Case Ground

Application

Typical Low-Power Transmitter Application



Typical Local Oscillator Application



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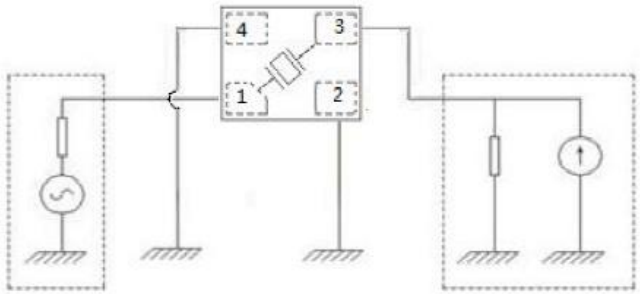
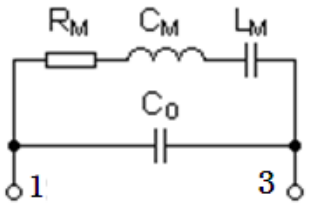
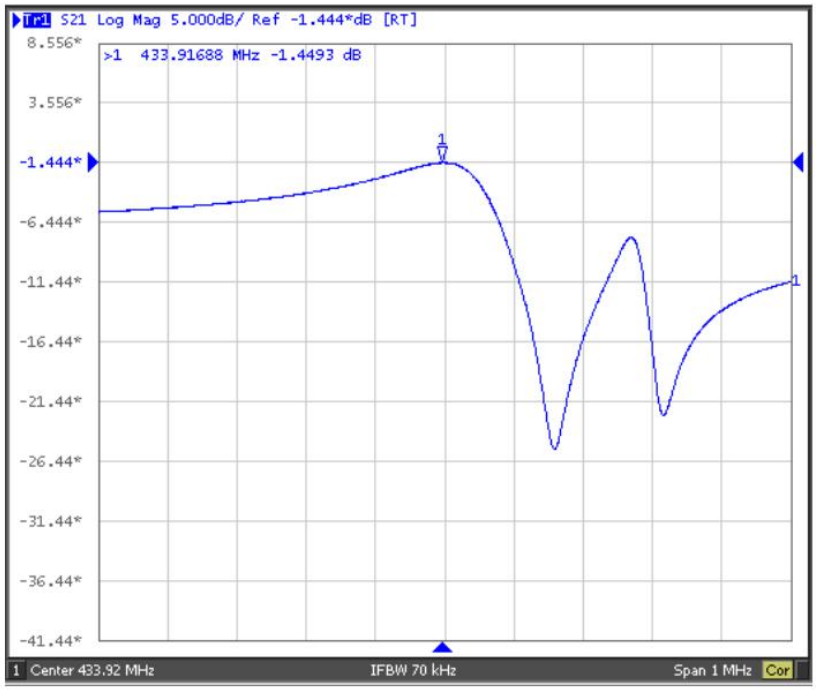
Test Circuit



Equivalent LC Model



Frequency Response



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Reliability
The SAW components shall remain electrical performance after tests

No.	Test item	Test condition
1	Temperature Storage	Temperature: 85℃±2℃ , Duration: 250h , Recovery time: 2h±0.5h Temperature: –40℃±3℃ , Duration: 250h ,Recovery time: 2h±0.5h
2	Humidity Test	Conditions: 60℃±2℃ , 90~95% RH Duration: 250h
3	Thermal Shock	Heat cycle conditions: TA=-40℃±3℃, TB=85℃±2℃, t1=t2=30min, Switch time: ≤ 3min , Cycle time: 100 times , Recovery time : 2h±0.5h.
4	Vibration Fatigue	Frequency of vibration: 10~55Hz Amplitude:1.5mm Directions: X,Y and Z Duration: 2h
5	Drop Test	Cycle time: 10 times Height: 1.0m
6	Solder Ability Test	Temperature: 245℃±5℃ Duration: 3.0s--5.0s Depth: DIP--2/3 , SMD--1/5
7	Resistance to Soldering Heat	(1)Thickness of PCB:1mm , Solder condition: 260 ℃ ± 5 ℃ , Duration: 10 ± 1s (2)Temperature of Soldering Iron: 350℃±10℃ , Duration: 3~4s ,Recovery time : 2 ± 0.5h

Notes

1. As a result of the particularity of inner structure of SAW products, it easy to be breakdown by electrostatic, so we should pay attention to **ESD protect** in the test.
2. **Static voltage** between signal load and ground may cause deterioration and destruction of the component. Please avoid static voltage.
3. **Ultrasonic cleaning** may cause deterioration and destruction of the component. Please avoid ultrasonic cleaning.
4. Only leads of component may **be soldered**. Please avoid soldering another part of component.
5. There is a close relationship between the device's performance and **matching network**. The specifications of this device are based on the test circuit shown above. L and C values may change depending on board layout. Values shown are intended as a guide only.

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