

SAW Resonator



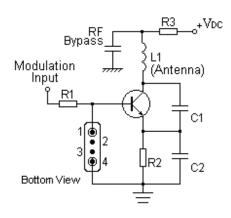
Features

- 1-port Resonator
- Metal Case for SC04-06
- **RoHS** compatible
- Package Code SC04-06
- Electrostatic Sensitive Device(ESD)

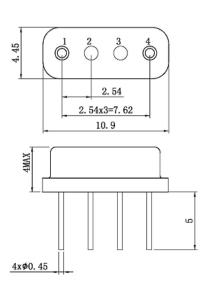


Application

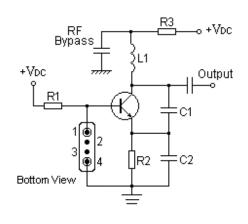
Typical Low-Power Transmitter Application



Package Dimensions (SC04-06)



Typical Local Oscillator Application



Pin Configuration

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

1



SAW Resonator

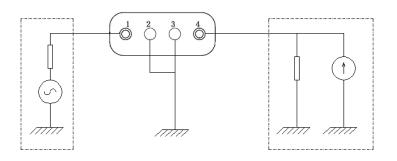


Marking

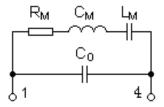


R	SAW Resonator		
433D	Part number		

Test Circuit



Equivalent LC Model



Performance

Maximum Rating

Item		Value	Unit
DC Voltage	V _{DC}	±30	V
Operation Temperature	т	-40 ~ +85	°C
Storage Temperature	T _{stg}	-40 ~ +85	°C
RF Power Dissipation	Р	15	dBm





Electronic Characteristics

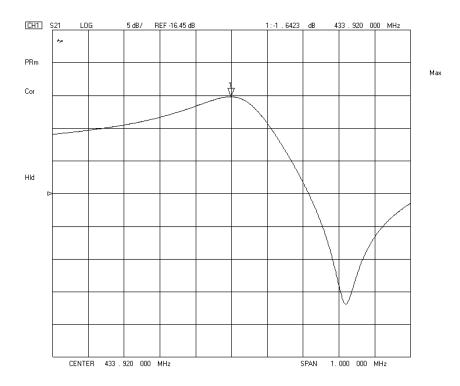
Test Temperature: 25°C±2°C

Terminating source impedance: 50Ω

Terminating load impedance: 50Ω

Item			Minimum	Typical	Maximum	Unit
Center	Absolute Frequency	fc		433.92		MHz
Frequency	Tolerance from 433.92MHz	$ riangle f_{c}$		± 75		KHz
Insertion Loss(min) IL		IL		1.7	2.0	dB
Quality Factor	Unloaded Q	QU		12366		
Quality Factor	⁵⁰ Ω Loaded Q	QL		1642		
Frequency Aging	Absolute Value during the First Year	f _A		<i>≟</i> 10		ppm/yr
DC Insulation Resistance between Any Two Pins			1.0			MΩ
	Motional Resistance	R _M		17	25	Ω
RF Equivalent RLC Model	Motional Inductance	L _M		69.5		μΗ
	Motional Capacitance	См		1.94		fF
	Static Capacitance	C ₀	2.0	2.3	2.6	pF

Frequency Response

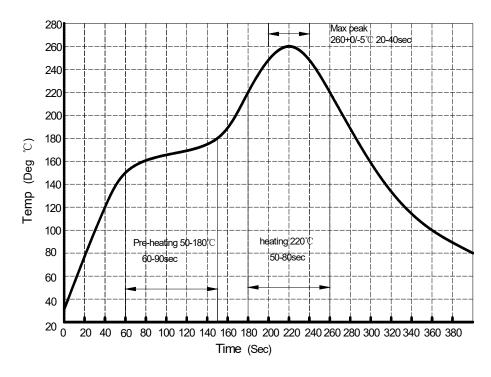




No.	Test item	Test condition	
1	Temperature Storage	 (1) Temperature: 85°C±2°C , Duration: 250h , Recovery time: 2h±0.5h (2) Temperature: -40°C±3°C , Duration: 250h ,Recovery time: 2h±0.5h 	
2	Humidity Test	Conditions: 60°C±2°C , 90~95% RH Duration: 250h	
3	Thermal Shock	Heat cycle conditions: TA=-40°C±3°C, TB=85°C±2°C, t1=t2=30min, Switch time: ≤3min , Cycle time: 100 times , Recovery time : 2h±0.5h.	
4	Vibration Fatigue	Frequency of vibration: 10~55HzAmplitude:1.5mmDirections: X,Y and ZDuration: 2h	
5	Drop Test	Cycle time: 10 times Height: 1.0m	
6	Solder Ability Test	Temperature: 245°C±5°CDuration: 3.0s5.0sDepth: DIP2/3 , SMD1/5	
7	Resistance to Soldering Heat	 (1)Thickness of PCB:1mm , Solder condition: 260°C±5°C , Duration: 10±1s (2)Temperature of Soldering Iron: 350°C±10°C , Duration: 3~4s , Recovery time : 2 ± 0.5h 	

Reliability (The SAW components shall remain electrical performance after tests)

Recommended Reflow Soldering Diagram





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.