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History Record

Date	Part No.	Version No.	Modify Content	Remark

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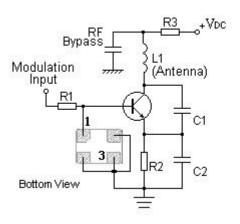
Features

- 1-port Resonator
- Ceramic Package for Surface Mounted Technology (SMT)
- **RoHS** compatible
- Package size 3.20x2.50x0.70mm³
- Electrostatic Sensitive Device(ESD)

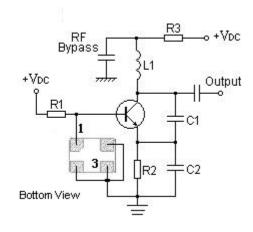


Application

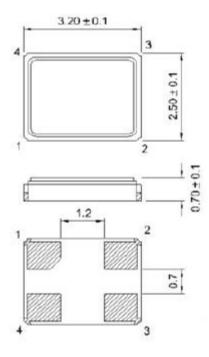
Typical Low-Power Transmitter Application



Typical Local Oscillator Application



Package Dimensions (DCC4C)



Pin Configuration

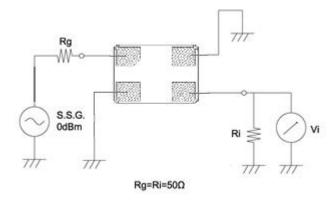
1	Input/ Output	
3	Output/ Input	
2,4	Ground	

Marki

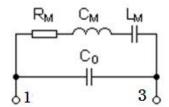


SF	Trademark	
R	SAW Resonator	
315K	Part number	

Test Circuit



Equivalent LC Model



Performance

Maximum Rating

ltem		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

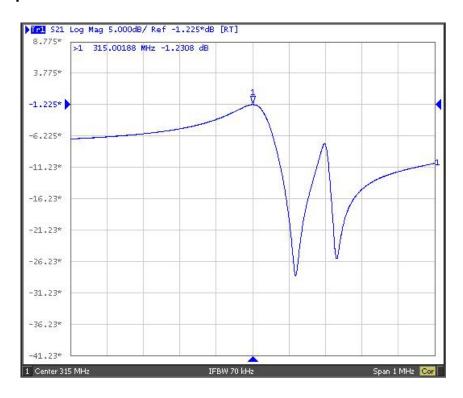
Electronic Characteristics

Test Temperature: 25°C±2°C

Terminating source impedance: 50Ω Terminating load impedance: 50Ω

	ltem		Minimum	Typical	Maximum	Unit
Center	Absolute Frequency	fc		315.00		MHz
Frequency	Tolerance from 315.00MHz	$\triangle f_c$		±75		KHz
Insertion Loss(r	nin)	IL		1.3	2.0	dB
Quality Factor	Unloaded Q	Qυ		21571		
Quality Factor	50Ω Loaded Q	Q_L		3559		
Frequency Aging	' Ansolute value during the First Year			≤10		ppm/yr
DC Insulation Resistance between Any Two Pins			1.0			ΜΩ
RF Equivalent RLC Model	Motional Resistance	R _M		19.7	22.0	Ω
	Motional Inductance	L _M		215.5		μН
	Motional Capacitance	См		1.18		fF
	Static Capacitance	C ₀	1.80	2.08	2.4	pF

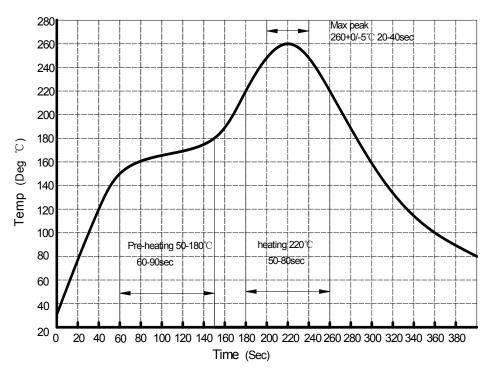
Frequency Response



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

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: 10~55Hz 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°C±5°C Duration: 3.0s5.0s Depth: 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		

Recommended Reflow Soldering Diagram



SAW Resonator SFR315K 315.00MHz

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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