



APPROVAL SHEET

Approval Specification	Customer's Approval Certificate
TO:	Please return this copy as a certification of your approval
Part No.:	Checked & Approved by:
Customer's Part No.:	Date:

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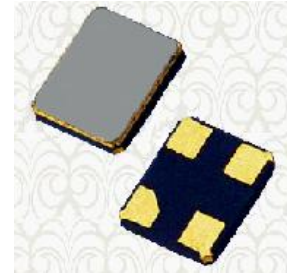


Part No.	:	SFR315K
Pages	:	6
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Revision	:	1.0

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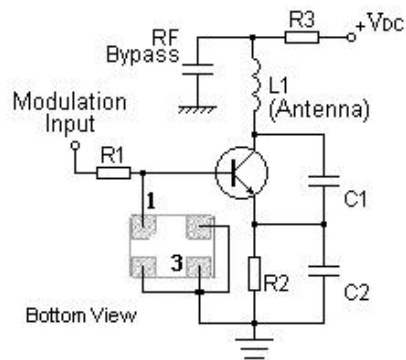
Features

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

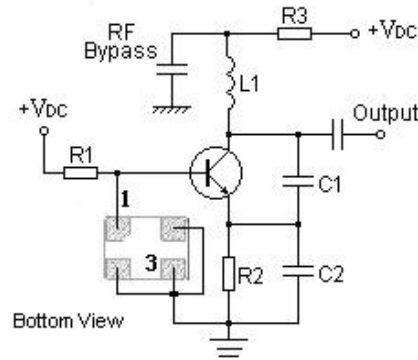


Application

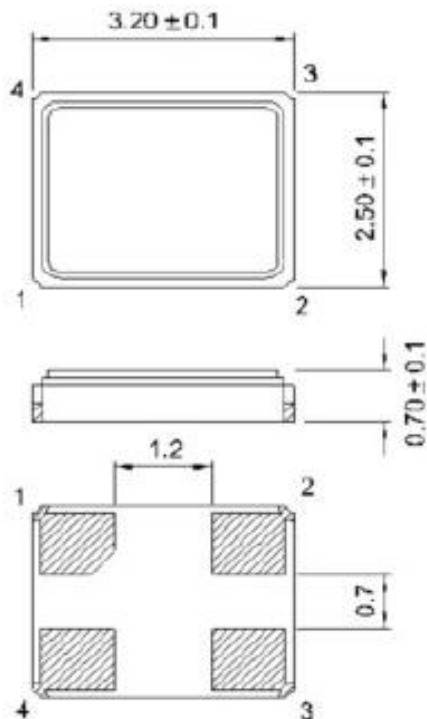
Typical Low-Power Transmitter Application



Typical Local Oscillator Application



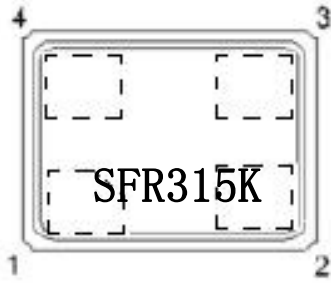
Package Dimensions (DCC4C)



Pin Configuration

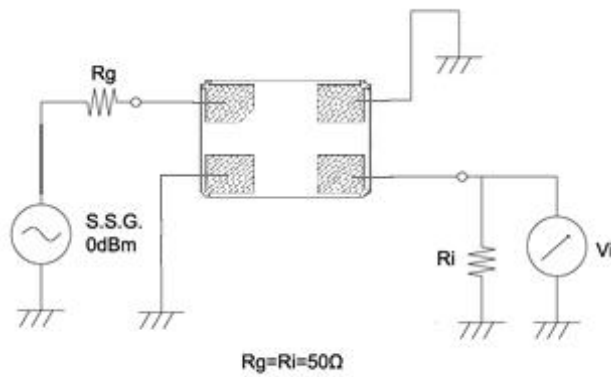
1	Input/ Output
3	Output/ Input
2,4	Ground

Marking

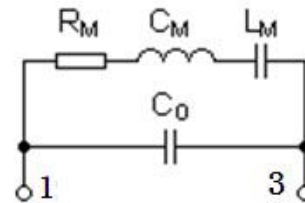


SF	Trademark
R	SAW Resonator
315K	Part number

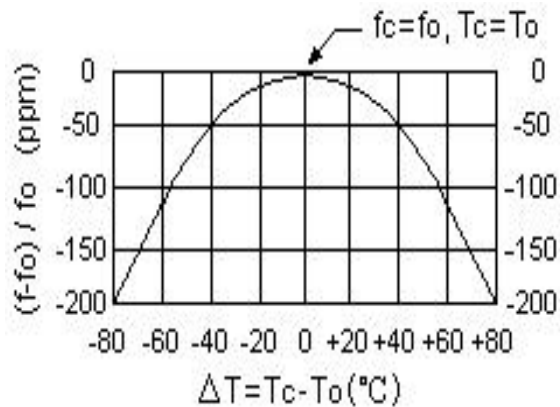
Test Circuit



Equivalent LC Model



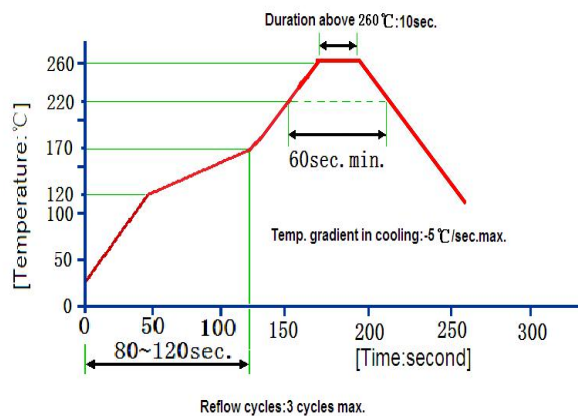
Temperature Characteristics



The curve shown above accounts for resonator

Please read notes at the end of this document.

Recommended Reflow Soldering Diagram



Performance

Maximum Rating

Item		Value	Unit
DC Voltage	V_{DC}	10	V
Operation Temperature	T	-40 ~ +85	°C
Storage Temperature	T_{stg}	-55 ~ +125	°C
RF Power Dissipation	P	10	dBm

Electronic Characteristics

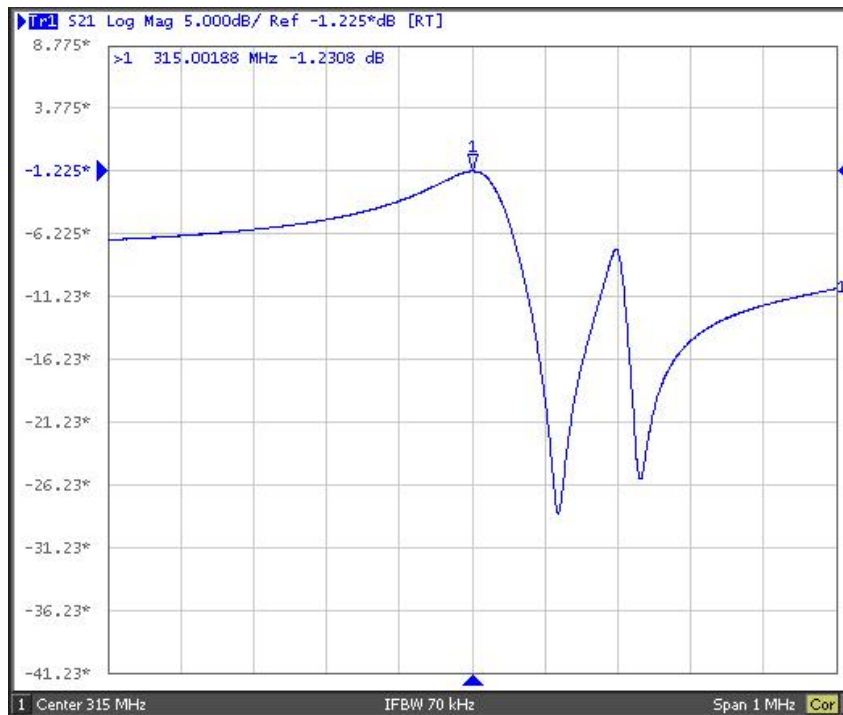
Test Temperature: $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$

Terminating source impedance: 50Ω

Terminating load impedance: 50Ω

Item		Minimum	Typical	Maximum	Unit	
Center Frequency	Absolute Frequency	f_c	315.00		MHz	
	Tolerance from 315.00MHz	Δf_c	± 75		KHz	
Insertion Loss(min)		IL	1.3	2.0	dB	
Quality Factor	Unloaded Q	Q_U	21571			
	50Ω Loaded Q	Q_L	3559			
Temperature Stability	Turnover Temperature	T_0	25	40	55	°C
	Frequency Temperature Coefficient	FTC		0.032		ppm/°C
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	19.7	22.0	Ω	
	Motional Inductance	L_M	215.5		μH	
	Motional Capacitance	C_M	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: -55°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 Directions: X, Y and Z Amplitude: 1.5mm Duration: 2h
5	Drop Test	Cycle time: 10 times Height: 1.0m
6	Solder Ability Test	Temperature: 245°C±5°C 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°C±5°C, Duration: 10±1s (2) Temperature of Soldering Iron: 350°C±10°C, 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.