

SAW Resonator Unit

SERIES AW 3.2*2.5*0.7mm



Approved by: 黄灏东

Checked by: 杨霞

Issued by: 玉静霞

SPECIFICATION

SJK P/N: SJK3225433.92MJ

深圳市晶科鑫实业有限公司
SHENZHEN CRYSTAL TECHNOLOGY INDUSTRIAL CO., LTD.

Add: RM#1805, East Wing, TianAn Hi-tech Plaza Phase2, TianAn Cyber Park, Shenzhen, China
Tel: (86) 755 88352809 88352810 Fax: (86) 755 88353718 88352499
E-mail: jolly@q-crystal.com HTTP://www.q-crystal.com

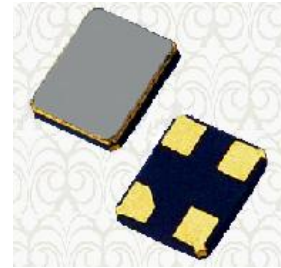
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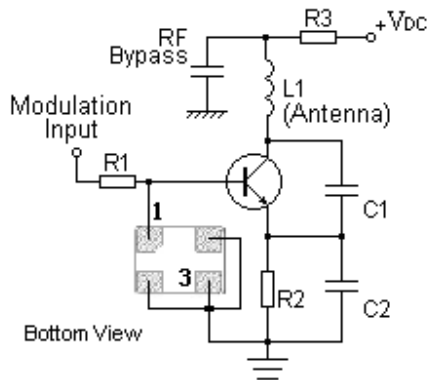
Features

- n 1-port Resonator
- n Ceramic Package for **Surface Mounted Technology (SMT)**
- n **RoHS** compatible
- n Package size 3.20x2.50x0.7mm

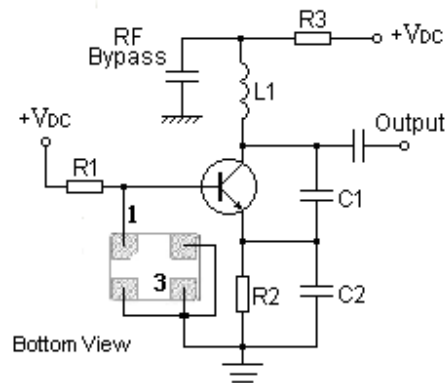


Application

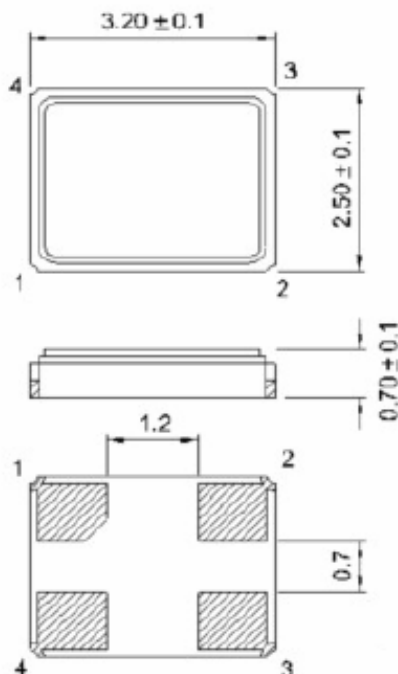
Typical Low-Power Transmitter Application



Typical Local Oscillator Application



1. Package Dimensions (3225)



2. Pin Configuration

1 [↔]	Input [↔]
3 [↔]	Output [↔]
2,4 [↔]	Ground [↔]

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3. Performance

3-1. Maximum Ratings

Rating	Value	Unit
RF Power Dissipation P	10	dBm
DC Voltage V_{DC}	10	V
Operable Temperature Range T_A	-40 to +85	°C
Storage Temperature Range T_{stg}	-55 ~ +125	°C

Electronic Characteristics

Test Temperature: 25°C ± 2°C

Terminating source impedance: 50Ω

Terminating load impedance: 50Ω

3-2. Electronic Characteristics

Item		Minimum	Typical	Maximum	Unit
Center Frequency	Absolute Frequency f_c		433.920		MHz
	Tolerance from 433.920MHz Δf_c		± 75		KHz
Insertion Loss(min) IL			1.5	2.0	dB
Quality Factor	Unloaded Q Q_U		18362		
	50Ω Loaded Q Q_L		2150		
Temperature Stability	Turnover Temperature T_0	25	40	55	°C
	Turnover Frequency f_0		f_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		13.2	18.0	Ω
	Motional Inductance L_M		89.4	110.2	μH
	Motional Capacitance C_M		1.5		fF
	Static Capacitance C_0	1.45	1.75	2.05	pF

4. Marking



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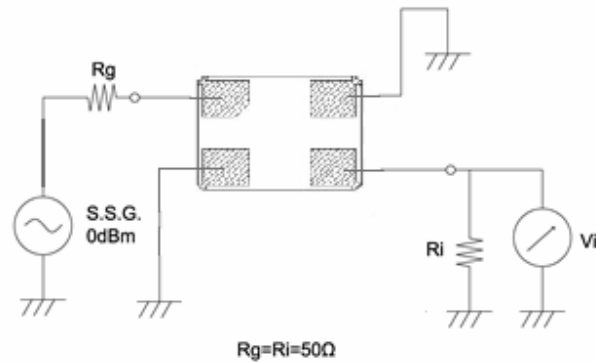
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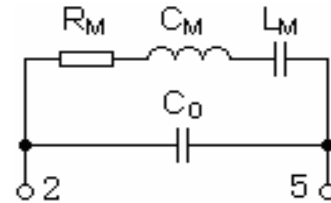
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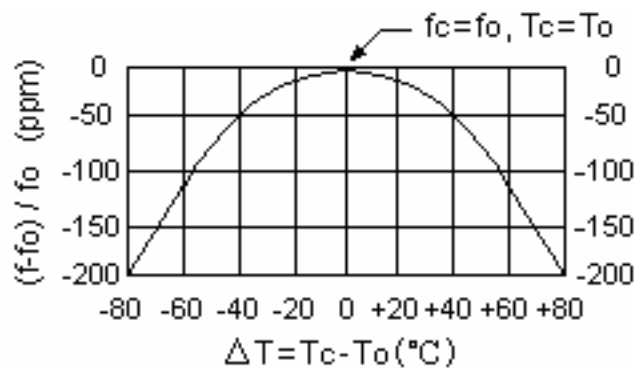
5. Test Circuit



6. QuiEivalent LC Model

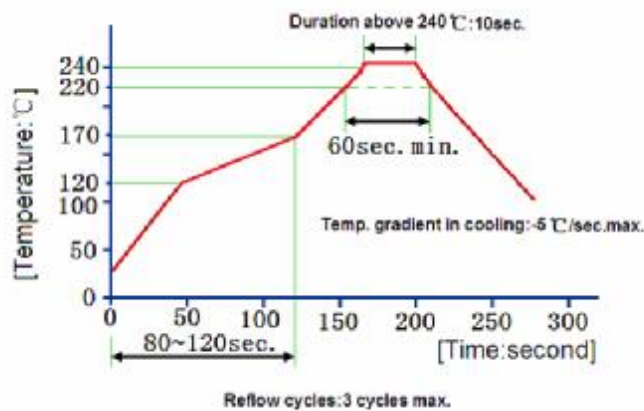


7. Temperature Characteristics



The curve shown above accounts for resonator contribution only and does not include LC component temperature contributions.

8. Recommended Reflow Soldering Diagram



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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 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: 3.0s--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.

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