Shenzhen Crystal Technology Industrial Co.,Ltd

APPROVAL SHEET

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

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RoHS compliance **Pb** Pb free

Prepared by:	
Checked by:	
Approved by:	

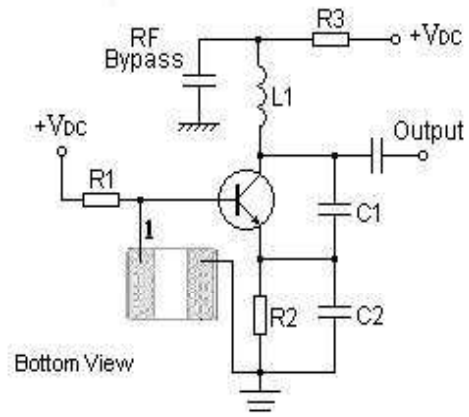| Part No.	:	SJKR434-2016
Pages	:	6
Date	:	2020/05/28
Revision	:	1.0

Features

■   1-port Resonator
■   CSP   Package for **S**urface **M**ounted Technology (**SMT**)
■   **RoHS** compatible
■   Package size 2.00x1.60x0.90mm^3
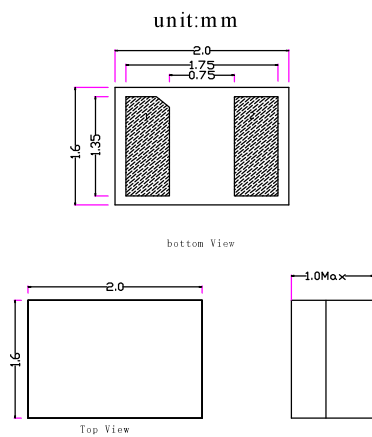■   **E**lectrostatic **S**ensitive **D**evice(**ESD)**

Application

Typical Low-Power Transmitter Application   Typical Local Oscillator Application
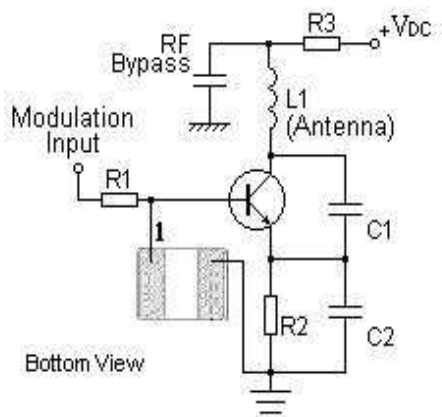
Package Dimensions

Pin Configuration

1	Input/ Output
2	Output/ Input

Marking

R434

Test Circuit

50Ω

50Ω
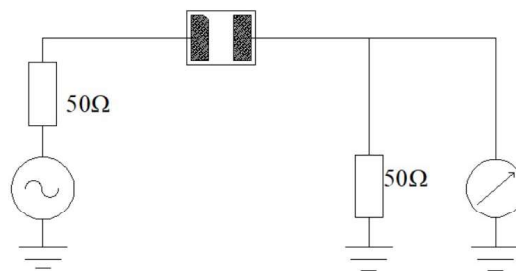
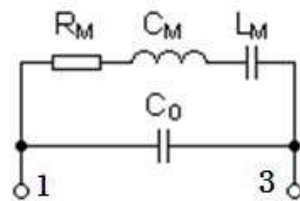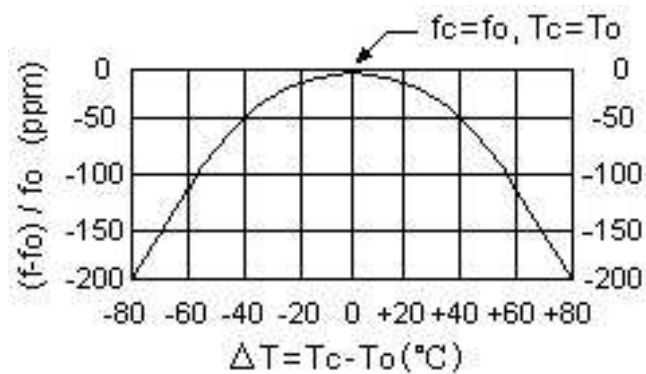**Equivalent LC Model**

Temperature Characteristics

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

Performance

Maximum Rating

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

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	433.820	433.920	434.020	MHz
	Tolerance from 433.920MHz	$\triangle f_c$		±100		KHz
Insertion Loss(min)		IL		1.3	2.2	dB
Quality Factor	Unloaded Q	Q_U		12000		
	50Ω Loaded Q	Q_L		1500		
Temperature Stability	Turnover Temperature	T_0	10	25	40	℃
	Turnover Frequency	f_0		f_c		
	Frequency Temperature Coefficient	FTC		0.032		ppm/℃
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		12.196		Ω
	Motional Inductance	L_M		183.82		μH
	Motional Capacitance	C_M		0.733		fF
	Static Capacitance	C_0		2.23		pF

Frequency Response

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

No.	Test item	Test condition
1	Temperature Storage	(1) Temperature: 85℃±2℃ , Duration: 250h , Recovery time: 2h±0.5h (2) Temperature: –55℃±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

Recommended Reflow Soldering Diagram

Duration above 260℃:10sec.

60sec. min.

Temp. gradient in cooling:-5℃/sec.max.

80~120sec.

[Time:second]

Reflow cycles:3 cycles max.
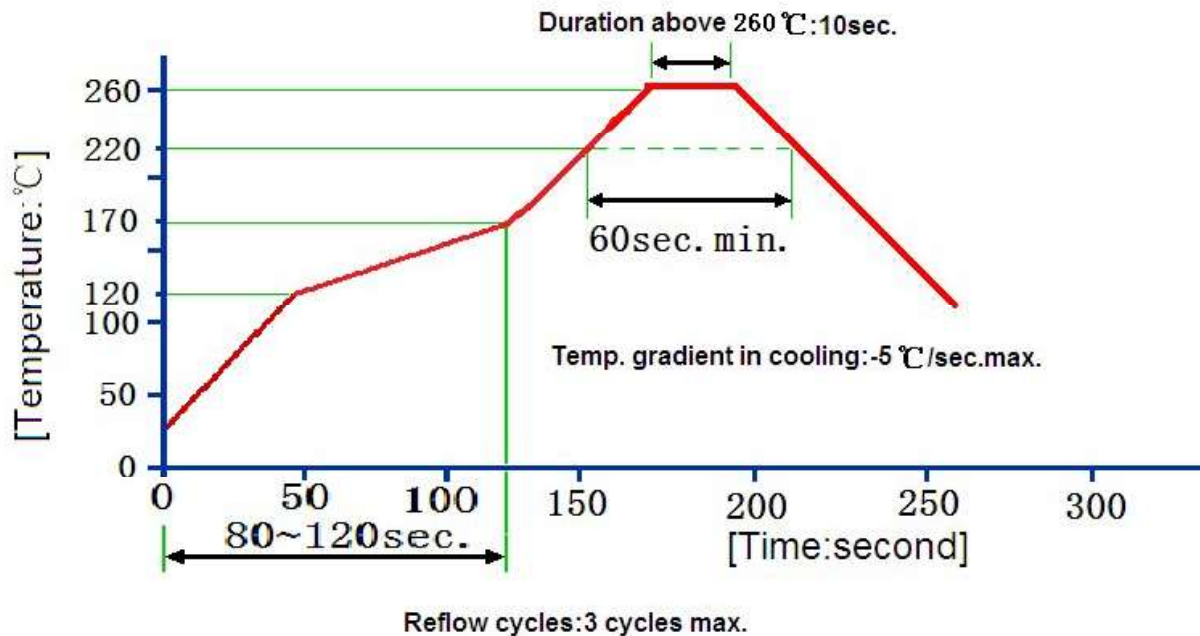
Notes

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.