

承 认 书

SPECIFICATION FOR APPROVAL

客户名称 Customer : _____

货 名 Description : _____ 表面声波谐振器 (SAW Resonator) _____

客户料号 Part No: _____

物料编号 Code No: _____ B21D339210A010CT _____

频 率 Frequency: _____ 433.920MHZ _____

日 期 Date: _____ 2022-11-02 _____

备 注 Note: _____ RoHS compliance with Directive (EU) 2015/863 _____

制作(Prepare by)	检查(Check by)	批准 (Approve by)
江丹娜	甘瑛	邓攀

客户批准 Approve by customer	
批准日期 Approval date	

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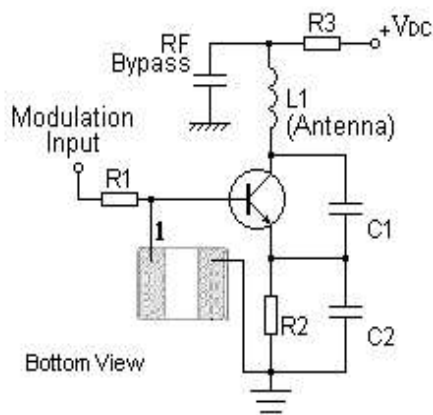
Fax: 86-755-83048280

Features

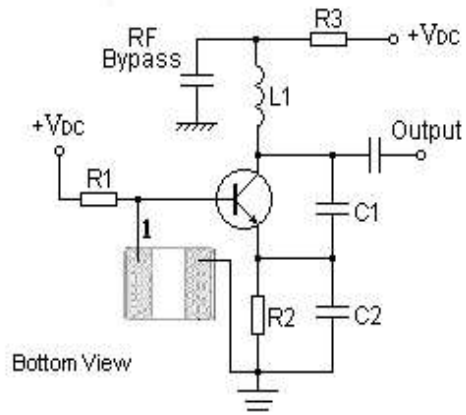
- 1-port Resonator
- CSP Package for **Surface Mounted Technology (SMT)**
- **RoHS** compatible
- Package size 2.00x1.60x0.90mm³
- **Electrostatic Sensitive Device(ESD)**

Application

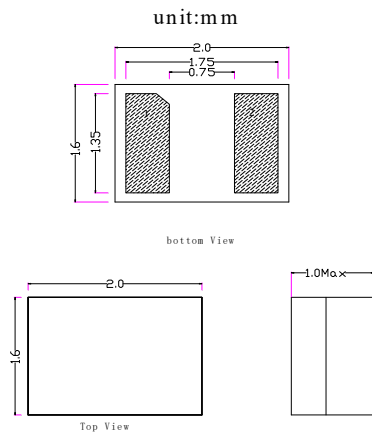
Typical Low-Power Transmitter Application



Typical Local Oscillator Application



Package Dimensions



Pin Configuration

1	Input/ Output
2	Output/ Input

Part No.	:	R434
Pages	:	5
Date	:	2020/05/28
Revision	:	1.0

SAW Resonator

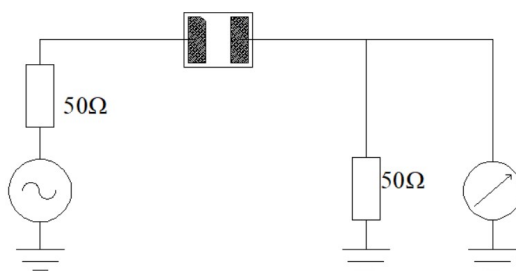
R434

433.920MHz

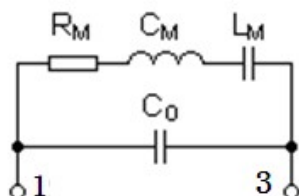
Marking



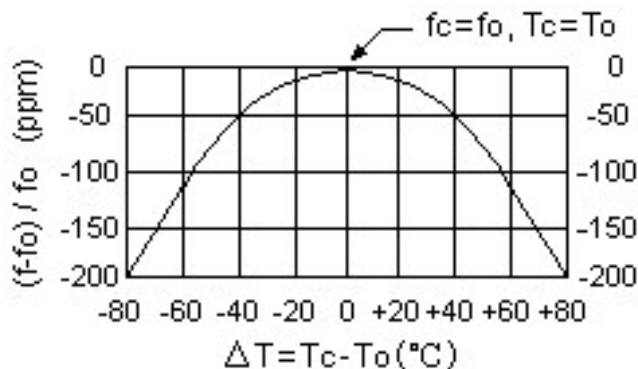
Test Circuit



Equivalent LC Model



Temperature Characteristics



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

SAW Resonator

R434

433.920MHz

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

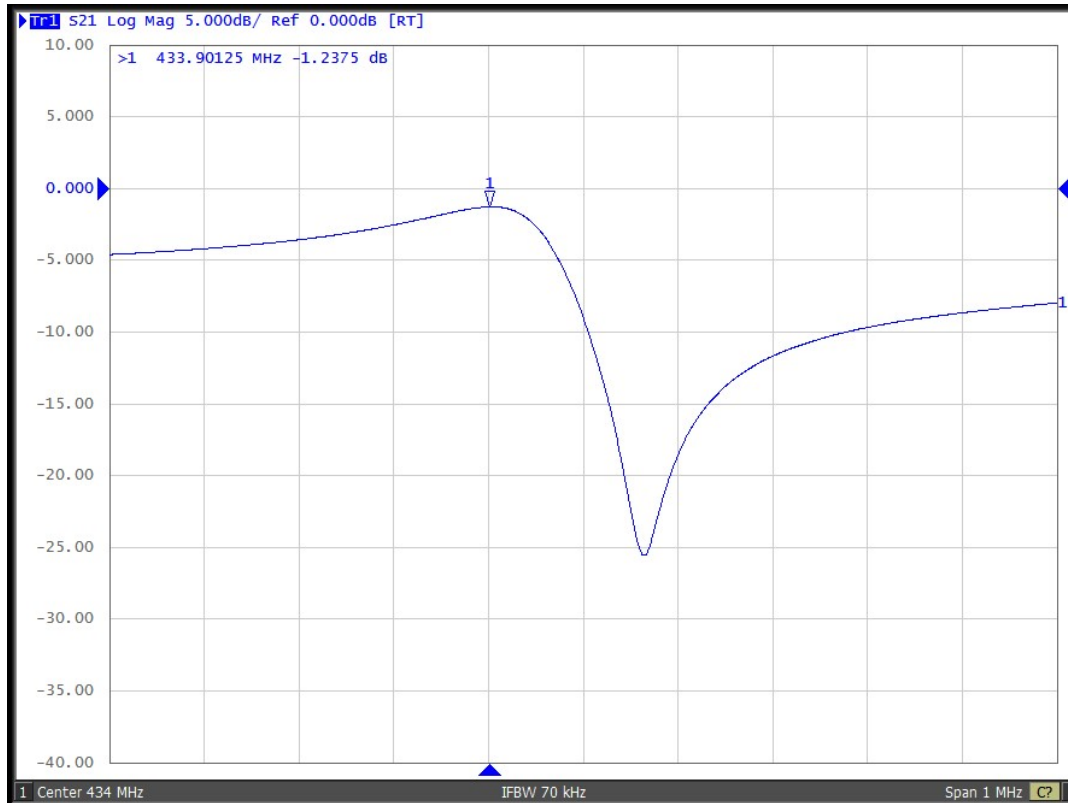
Item			Minimum	Typical	Maximum	Unit
Center Frequency	Absolute Frequency	f_c	433.820	433.920	434.020	MHz
	Tolerance from 433.920MHz	Δf_c	Fc-100		Fc+100	KHz
Insertion Loss(min)		IL		1.3	2.2	dB
Quality Factor	Unloaded Q	Q_U		12000		
	50Ω Loaded Q	Q_L		1500		
Temperature Stability	Turnover Temperature	T_0	10	25	40	°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		12.196		Ω
	Motional Inductance	L_M		183.82		μH
	Motional Capacitance	C_M		0.733		fF
	Static Capacitance	C_0		2.23		pF

SAW Resonator

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433.920MHz

Frequency Response



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

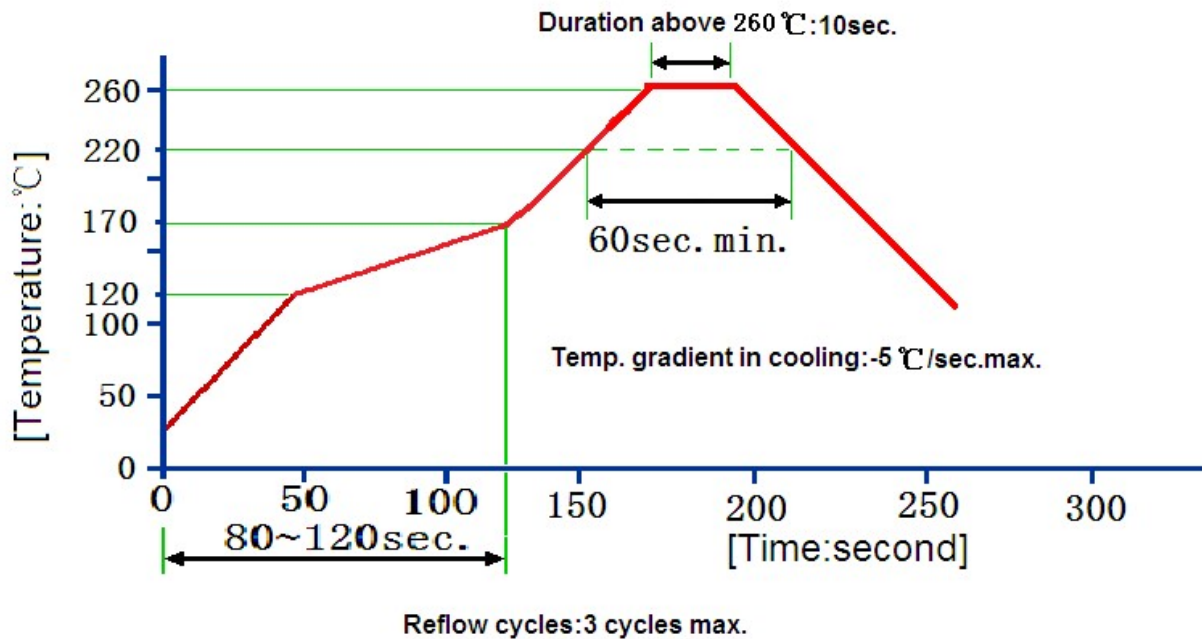
No.	Test item	Test condition
1	Temperature Storage	(1) Temperature: 85°C±2°C , Duration: 250h , Recovery time: 2h±0.5h (2) Temperature: -55°C±3°C , Duration: 250h ,Recovery time: 2h±0.5h
2	Humidity Test	Conditions: 60°C±2°C , 90~95% RH Duration: 250h
3	Thermal Shock	Heat cycle conditions: TA=-40°C±3°C, 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 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

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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.
6. The temperature of manual welding should not exceed 300 °C.