深圳市炬烜科技有限公司 CHIP SUN TECHNOLOGY CO., LTD

APPROVAL SHEET



CUSTOMER:	
DESCRIPTION:	SMD5035 433.920MHz SAW Resonator
MANUFACTURER PART NO.:	FTR433.92M75-SM53
CUSTOMER PART NO:	
USED IN MODEL:	
REVISION	A1

	承 i	认 APPR	OVAL
工程部		記 质部	采购部
TECHNOLOGY DEPT.	QUALITY DEPT.		PURCHASING DEPT.

Date: <u>三月 24, 2023</u>



深圳市炬烜科技有限公司

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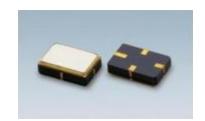
E-MAIL: sales01@chinachipsun.com

History Record

Date	Part No.	Version No.	Modify Content	Remark

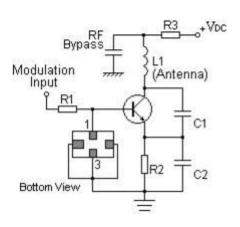
Features

- Ceramic Package for Surface Mounted Technology (SMT)
- RoHS compatible
- Package size 5.00x3.50x1.50mm³
- Package Code QCC4A

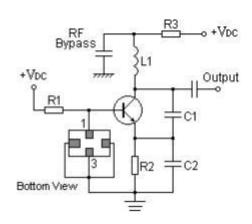


Application

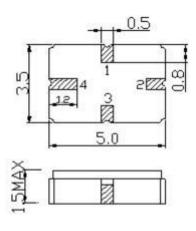
Typical Low-Power Transmitter Application

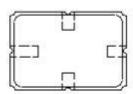


Typical Local Oscillator Application



Package Dimensions (QCC4A)

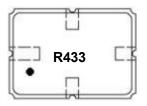




Pin Configuration

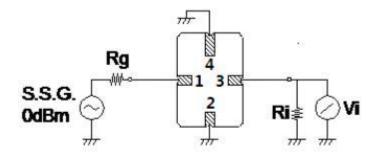
Pin No.	Description		
1	Input/Output		
3	Output/Input		
2,4	Case Ground		

Marking Description



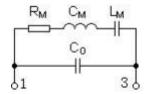
•	Pin 4	
R	SAW Resonator	
433	Part Number	

Test Circuit



Rg=Ri=50Ω

Equivalent LC Model



Performance

Maximum Rating

ltem		Value	Unit
DC Voltage	VDC	±30	V
Operation Temperature	Т	-40 ~ +85	°C
Storage Temperature	T _{stg}	-40 ~ +85	°C
RF Power Dissipation	Р	15	dBm

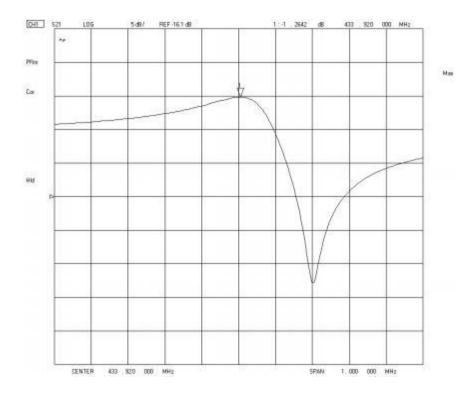
Electronic Characteristics

Test Temperature: 25°C±2°C

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

Item			Minimum	Typical	Maximum	Unit
Center	Absolute Frequency	fc		433.92		MHz
Frequency	Tolerance from 433.92MHz	△fc		±75		KHz
Insertion Loss(min) IL		IL		1.3	1.8	dB
Unloaded Q		Q _U		15174		
Quality Factor	50Ω Loaded Q	QL		1771		
Frequency Aging	· · · Absolute value duffild the Filst Leaf			≤10		ppm/yr
DC Insulation Resistance between Any Two Pins			1.0			ΜΩ
	Motional Resistance	R _M		13.0	22.0	Ω
RF Equivalent RLC Model	Motional Inductance	L _M		73.6		μΗ
	Motional Capacitance	См		1.83		fE
	Static Capacitance	C ₀	2.1	2.4	2.7	bЕ

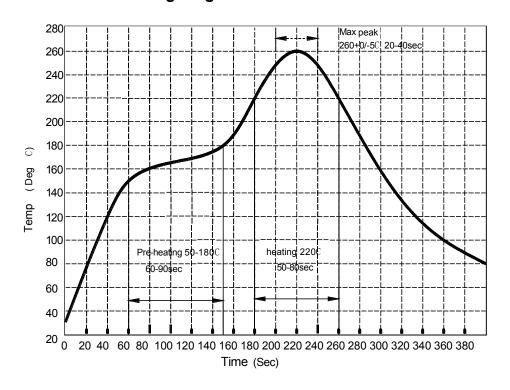
Frequency Response



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

No.	Test item	Test condition
	Temperature	(1) Temperature: 85°C±2°C , Duration: 250h , Recovery time: 2h±0.5h
1	Storage	(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
3	Thermal Shock	time: ≤3min , Cycle time: 100 times , Recovery time : 2h±0.5h.
4	Vibration Fatigue	Frequency of vibration: 10~55Hz Amplitude:1.5mm
4	Vibration Fatigue	Directions: X,Y and Z Duration: 2h
5	Drop Test	Cycle time: 10 times Height: 1.0m
		Temperature: 245°C±5°C
6 Solder Ability Test		Depth: DIP2/3 , SMD1/5
		(1)Thickness of PCB:1mm , Solder condition: 260°C±5°C , Duration: 10±1s
7 Resistance to Soldering Heat		(2)Temperature of Soldering Iron: 350°C±10°C , Duration: 3~4s ,
		Recovery time: 2 ± 0.5h

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.