



APPROVAL SHEET

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

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Prepared by:	
Checked by:	
Approved by:	

History Record

Date	Part No.	Version No.	Modify Content	Remark

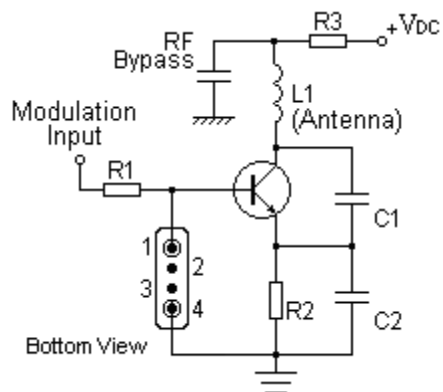
Features

- 1-port Resonator
- Metal Case for **SC04-06**
- **RoHS** compatible
- Package Code SC04-06
- **Electrostatic Sensitive Device(ESD)**

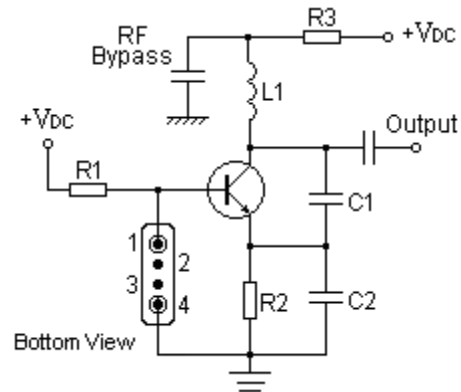


Application

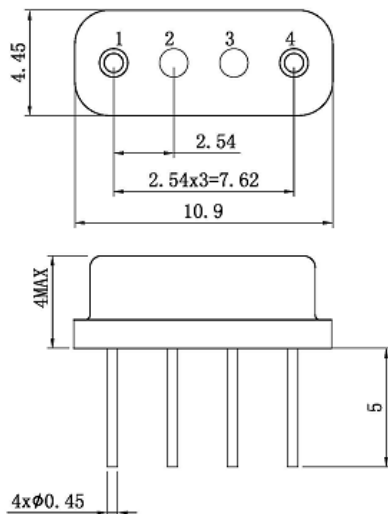
Typical Low-Power Transmitter Application



Typical Local Oscillator Application



Package Dimensions (SC04-06)



Pin Configuration

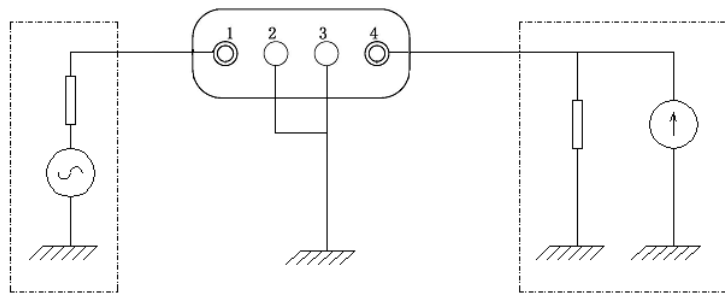
1	Input/ Output
4	Output/ Input
2,3	Case Ground

Marking

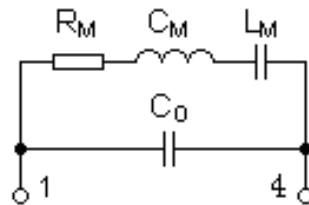


SF	Trademark
R	SAW Resonator
303D	Part number

Test Circuit



Equivalent LC Model



Performance

Maximum Rating

Item		Value	Unit
DC Voltage	V_{DC}	± 30	V
Operation Temperature	T	-40 ~ +85	$^{\circ}C$
Storage Temperature	T_{stg}	-40 ~ +85	$^{\circ}C$
RF Power Dissipation	P	15	dBm

Electronic Characteristics

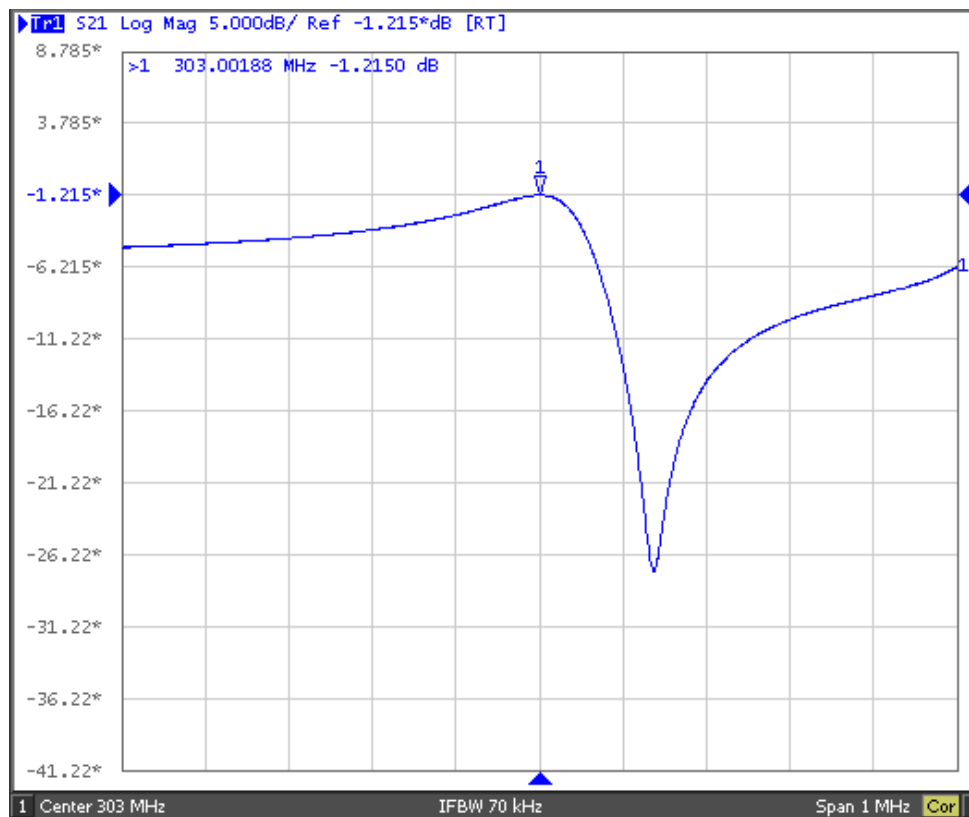
Test Temperature: $25^{\circ}C \pm 2^{\circ}C$

Terminating source impedance: 50Ω

Terminating load impedance: 50Ω

Item			Minimum	Typical	Maximum	Unit
Center Frequency	Absolute Frequency	f_c		303.00		MHz
	Tolerance from 303.00MHz	Δf_c		± 75		KHz
Insertion Loss(min)		IL		1.3	2.0	dB
Quality Factor	Unloaded Q	Q_U		10397		
	50 Ω Loaded Q	Q_L		1288		
Frequency Aging	Absolute Value during the First Year	$ f_A $		≤ 10		ppm/yr
DC Insulation Resistance between Any Two Pins			1.0			M Ω
RF Equivalent RLC Model	Motional Resistance	R_M		14.1	26.0	Ω
	Motional Inductance	L_M		77.2		μH
	Motional Capacitance	C_M		3.57		fF
	Static Capacitance	C_0	4.36	4.66	4.96	pF

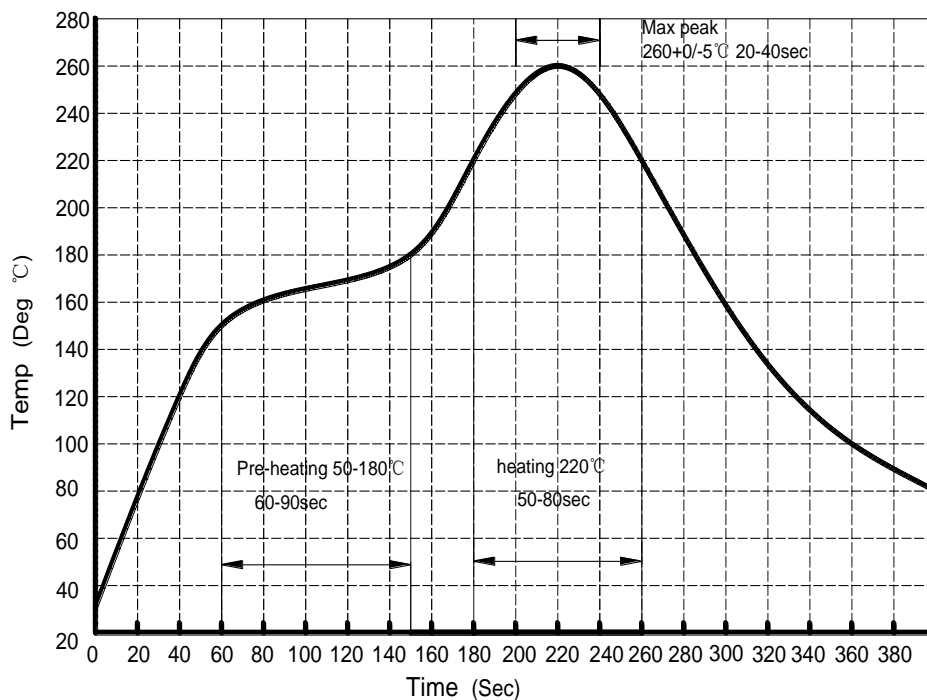
Frequency Response



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

No.	Test item	Test condition
1	Temperature Storage	(1) Temperature: $85^{\circ}\text{C}\pm 2^{\circ}\text{C}$, Duration: 250h , Recovery time: $2\text{h}\pm 0.5\text{h}$ (2) Temperature: $-40^{\circ}\text{C}\pm 3^{\circ}\text{C}$, Duration: 250h ,Recovery time: $2\text{h}\pm 0.5\text{h}$
2	Humidity Test	Conditions: $60^{\circ}\text{C}\pm 2^{\circ}\text{C}$, 90~95% RH Duration: 250h
3	Thermal Shock	Heat cycle conditions: $T_A=-40^{\circ}\text{C}\pm 3^{\circ}\text{C}$, $T_B=85^{\circ}\text{C}\pm 2^{\circ}\text{C}$, $t_1=t_2=30\text{min}$, Switch time: $\leq 3\text{min}$, Cycle time: 100 times , Recovery time : $2\text{h}\pm 0.5\text{h}$.
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: $245^{\circ}\text{C}\pm 5^{\circ}\text{C}$ Duration: 3.0s--5.0s Depth: DIP--2/3 , SMD--1/5
7	Resistance to Soldering Heat	(1)Thickness of PCB:1mm , Solder condition: $260^{\circ}\text{C}\pm 5^{\circ}\text{C}$, Duration: $10\pm 1\text{s}$ (2)Temperature of Soldering Iron: $350^{\circ}\text{C}\pm 10^{\circ}\text{C}$, Duration: 3~4s , Recovery time : $2 \pm 0.5\text{h}$

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.