

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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:	R310
:	4
:	2016/8/1
:	2.0
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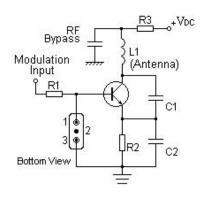
Features

- 1-port Resonator
- Metal Case for D11
- Package size 8.36x3.45x3.00 mm³
- RoHS compatible
- Electrostatic Sensitive Device(ESD)

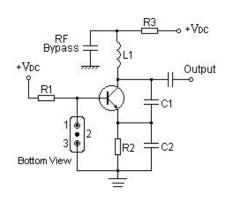


Application

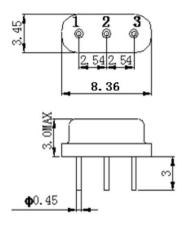
Typical Low-Power Transmitter Application



Typical Local Oscillator Application



Package Dimensions (D11)



Pin Configuration

1	Input/Output	
3	Output/Input	
2	Case Ground	

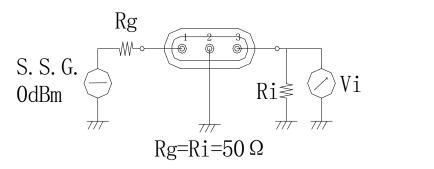
Marking

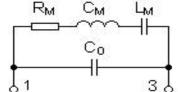


R	SAW Resonator
310	Part number

Test Circuit

Equivalent LC Model





Performance

Maximum Rating

Item		Value	Unit
DC Voltage	V _{DC}	±30	V
Operation Temperature	Т	-40 ~ +85	$^{\circ}$
Storage Temperature	T_{stg}	-40 ~ +85	$^{\circ}$
RF Power Dissipation	Р	25	dBm

Electronic Characteristics

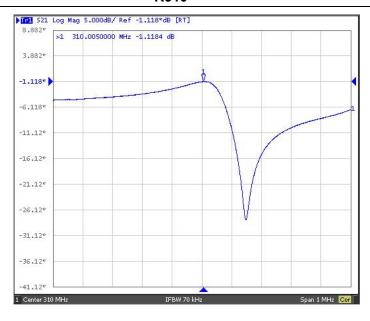
Test Temperature: 25℃±2℃

Terminating source impedance: 50Ω

Terminating load impedance: 50Ω

	ltem		Minlmum	Typical	Maximum	Unit
Center	Absolute Frequency	fc		310.00		MHz
Frequency	Tolerance from 310.00MHz	△fc		±75		KHz
Insertion Loss(n	Insertion Loss(min)			1.2	2.0	dB
Quality Factor	Unloaded Q	Q _U		17616		
Quality Factor	50Ω Loaded Q	QL		2141		
Frequency Aging	Absolute Value during the First Year			≤10		ppm/yr
DC Insulation Resistance between Any Two Pins			1.0			МΩ
	Motional Resistance	R _M		13.8	20	Ω
RF Equivalent RLC Model	Motional Inductance	L _м		125		μH
	Motional Capacitance	См		2.11		fF
	Static Capacitance	C ₀	3.99	4.29	4.59	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: -40℃±3℃, Duration: 250h, Recovery time: 2h±0.5h
2	Humidity Test	Conditions: 60℃±2℃,90~95% RH
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: 3.0s5.0s Depth: DIP2/3 , SMD1/5
7	Resistance to Soldering Heat	(1)Thickness of PCB:1mm , Solder condition: $260^{\circ}\text{C} \pm 5^{\circ}\text{C}$, Duration: $10\pm1\text{s}$ (2)Temperature of Soldering Iron: $350^{\circ}\text{C} \pm 10^{\circ}\text{C}$, Duration: $3\sim4\text{s}$, Recovery time : $2\pm0.5\text{h}$

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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