

# APPROVAL SHEET

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

**Shenzhen Crystal Technology Co., Ltd.**



## History Record

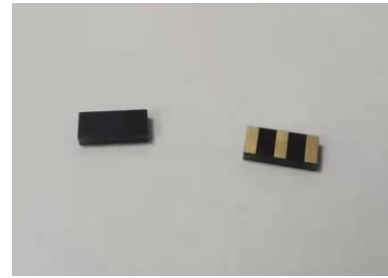
Prepared by:	<i>Linle</i>
Checked by:	<i>YF</i>
Approved by:	<i>LCG</i>

Part No.	:	R315
Pages	:	6
Date	:	2021/7/1
Revision	:	1.0

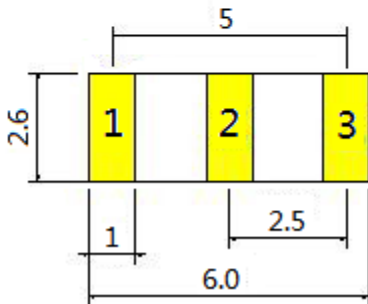
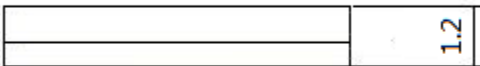
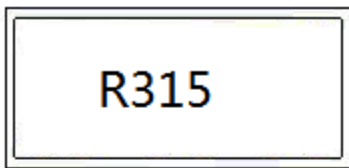


# 1.Features

- 1-port Resonator
- Ceramic Package for **Surface Mounted Technology (SMT)**
- **RoHS** compatible
- Package size  $6.0 \times 2.6 \times 1.2 \text{mm}^3$
- Package Code MEMS6026
- **Electrostatic Sensitive Device (ESD)**



## Package Dimensions (MEMS2660)

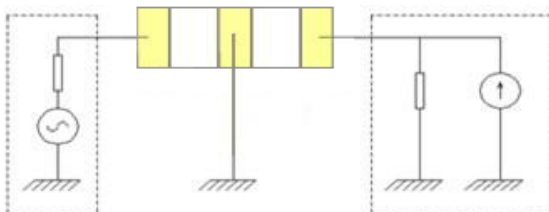


<b>R</b>	SAW Resonator
<b>315</b>	Part number

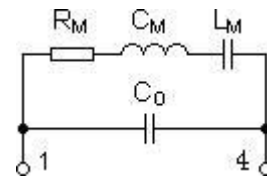
## Pin Configuration

<b>1</b>	Input/Output
<b>3</b>	Output/Input
<b>2</b>	Case Ground

## Test Circuit

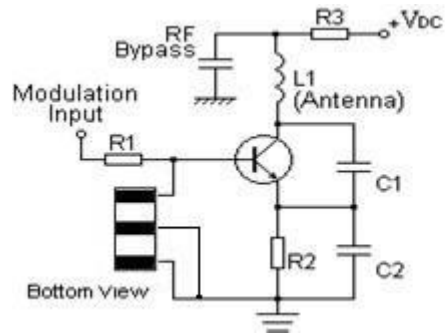


## Equivalent LC Model

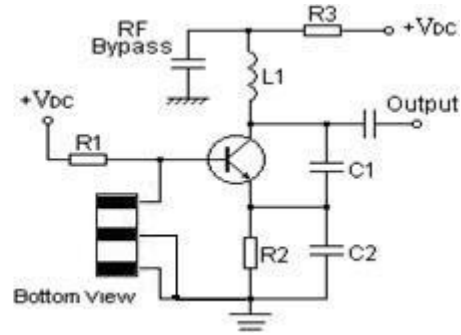


## 2.Application

### Typical Low-Power Transmitter Application



### Typical Local Oscillator Application

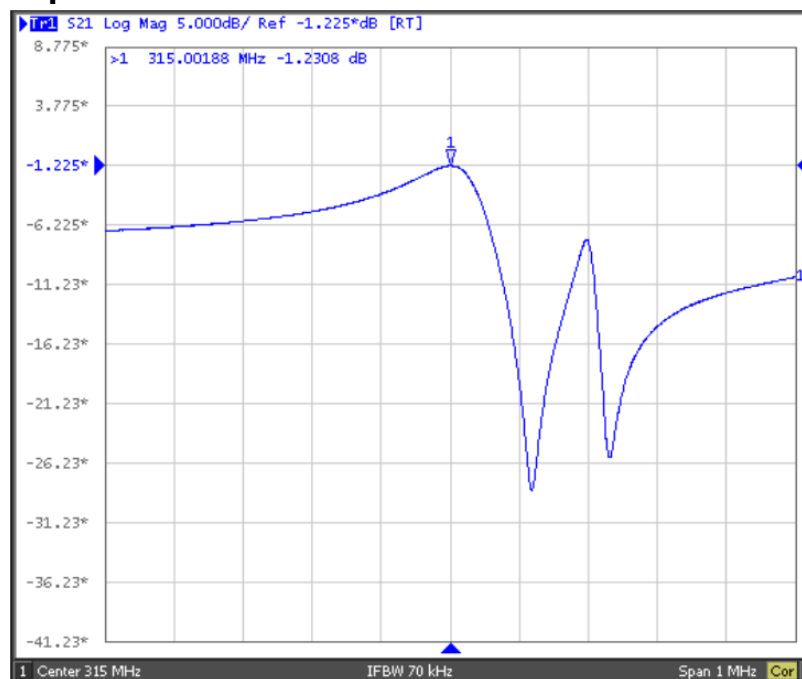


## 3.Performance

### Maximum Rating

Item		Value	Unit
DC Voltage	VDC	±30	V
Operation Temperature	T	-40 ~ +85	°C
Storage Temperature	Tstg	-40 ~ +85	°C
RF Power Dissipation	P	25	dBm

### Frequency Response



## Electronic Characteristics

Test Temperature: 25°C±2°C

Terminating source impedance: 50Ω

Terminating load impedance: 50Ω

Item			Minimum	Typical	Maximum	Unit
Center Frequency	Absolute Frequency	$f_c$	314.925	315.00	315.075	MHz
	Tolerance from 315.00MHz	$\Delta f_c$		±75		KHz
Insertion Loss(min)		IL		1.6	2.0	dB
Quality Factor	Unloaded Q	$Q_U$		13991		
	50Ω Loaded Q	$Q_L$		2605		
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	$R_M$		22.8	26	Ω
	Motional Inductance	$L_M$		161.8		μH
	Motional Capacitance	$C_M$		1.57		fF
	Static Capacitance	$C_0$		3.2		pF

## 4. Reliability

(The SAW components shall remain electrical performance after tests)

No.	Test item	Test condition
1	Temperature Storage	Temperature: 85°C±2°C , Duration: 250h , Recovery time: 2h±0.5h 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 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

## 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.