KT 深圳华远微电科技有限公司 SHENZHEN HUAYUAN MICRO ELECTRONIC TECHNOLOGY CO., LTD.

APPROVAL SHEET

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

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Part No.	:	SFR318D
Pages	:	4
Date	:	2016/8/1
Revision	:	2.0

SAW Resonator

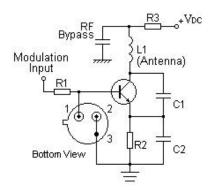
Features

- 1-port Resonator
- Metal Case for TO-39
- RoHS compatible
- Package Code TO-39
- Electrostatic Sensitive Device(ESD)

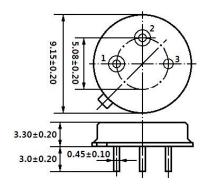


Application

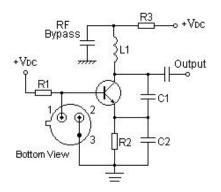
Typical Low-Power Transmitter Application



Package Dimensions (TO-39)



Typical Local Oscillator Application



Pin Configuration

1	Input/ Output		
2	Output/ Input		
3	Case Ground		

Marking

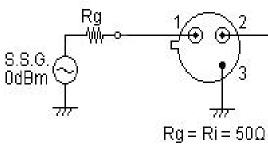


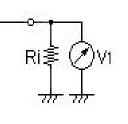
SF	Trademark		
R	SAW Resonator		
318D	Part number		

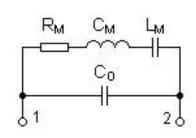
SAW Resonator

Test Circuit

Equivalent LC Model







Performance

Maximum Rating

ltem		Value	Unit
DC Voltage	V _{DC}	±30	V
Operation Temperature	Т	-40 ~ +85	°C
Storage Temperature	T _{stg}	-40 ~ +85	°C
RF Power Dissipation	Р	25	dBm

Electronic Characteristics

Test Temperature: 25℃±2℃

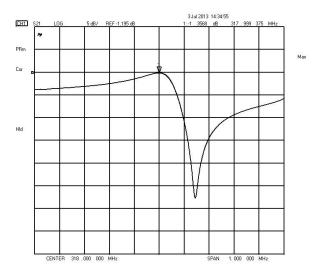
Terminating source impedance: 50Ω

Terminating load impedance: 50Ω

	ltem		Minimum	Typical	Maximum	Unit
Center	Absolute Frequency	fc		318.000		MHz
Frequency	Tolerance from 318.00MHz	$ riangle \mathbf{f_c}$		±75		KHz
Insertion Loss(r	nin)	IL		1.4	2.0	dB
Ovelity Feeter	Unloaded Q	Qu		16283		
Quality Factor	50Ω Loaded Q	Q_L		2187		
Frequency Aging	Absolute Value during the First Year	f _A		≤10		ppm/yr
DC Insulation R	esistance between Any Two Pins		1.0			MΩ
	Motional Resistance	Rм		13	22	Ω
RF Equivalent RLC Model	Motional Inductance	L _M		126.87		μH
	Motional Capacitance	См		2.03		fF
	Static Capacitance	Co	2.1	2.4	2.7	pF

Please read notes at the end of this document. - 3 -

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°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: 10~55HzAmplitude:1.5mmDirections: X,Y and ZDuration: 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 SMD1/5
7	Resistance to Soldering Heat	 (1)Thickness of PCB:1mm , Solder condition: 260℃±5℃ , Duration: 10±1s (2)Temperature of Soldering Iron: 350℃±10℃ , 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.

Please read notes at the end of this document. - 4 -

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