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

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| | | | | |

| Part No. | : | R370 |
|----------|---|----------|
| Pages | : | 4 |
| Date | : | 2016/8/1 |
| Revision | : | 2.0 |

SAW Resonator

R370

CF:370.00MHz

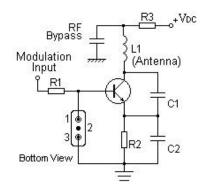
Features

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

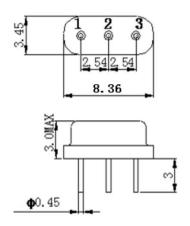


Application

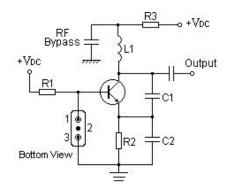
Typical Low-Power Transmitter Application



Package Dimensions (D11)



Typical Local Oscillator Application



Pin Configuration

| 1 | Input/Output | | |
|---|--------------|--|--|
| 3 | Output/Input | | |
| 2 | Case Ground | | |

Marking



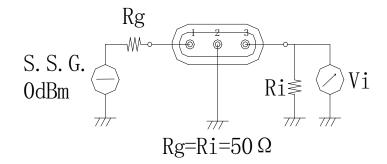
| R | SAW Resonator | | |
|-----|---------------|--|--|
| 370 | Part number | | |

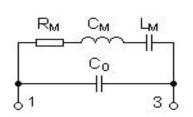
SAW Resonator

R370

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 Frequency | Absolute Frequency | f _c | | 370.00 | | MHz |
| | Tolerance from 370.00MHz | $	riangle f_{c}$ | | ±75 | | KHz |
| Insertion Loss(r | nin) | IL | | 1.4 | 2.0 | dB |
| Quality Factor | Unloaded Q | Qu | | 17803 | | |
| | 50Ω Loaded Q | QL | | 2119 | | |
| Frequency Aging Absolute Value during the First Year | | f _A | | ≤10 | | ppm/yr |
| DC Insulation F | Resistance between Any Two Pins | | 1.0 | | | MΩ |
| RF Equivalent RLC Model | Motional Resistance | Rм | | 13.5 | 18.0 | Ω |
| | Motional Inductance | L _M | | 103.5 | | μH |
| | Motional Capacitance | См | | 1.78 | | fF |
| | Static Capacitance | C ₀ | 2.0 | 2.2 | 2.4 | pF |

Frequency Response

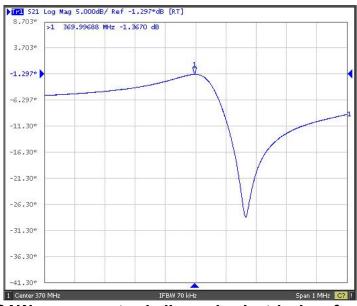
Please read notes at the end of this document. - 3 -

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2016/8/1

SAW Resonator

R370



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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