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 |
|---|---|---|
| **TO:** | | **Checked & Approved by:** |
| **Part No.:** | | **Date:** |
| **Customer's Part No.:** | | Please return this copy as a certification of your approval |

## Shenzhen Huayuan Micro Electronic Technology Co.Ltd.


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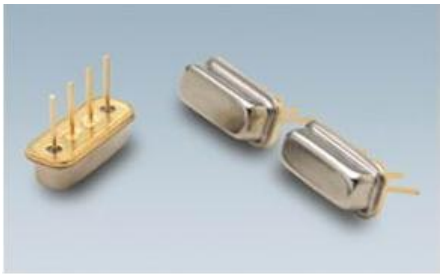
RoHS compliance Pb free REACH

| | | |
|---|---|---|
| Part No. | : | SFR350D |
| Pages | : | 4 |
| Date | : | 2016/8/1 |
| Revision | : | 2.0 |

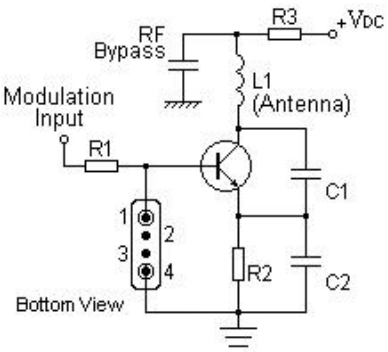
## Features



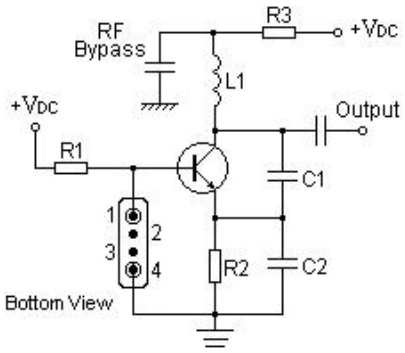
- 1-port Resonator
- Metal Case for **SC04-06**
- **RoHS** compatible
- Package Code SC04-06
- **E**lectrostatic **S**ensitive **D**evice(**ESD)**

## Application

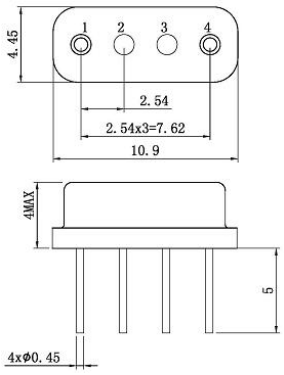
Typical Low-Power Transmitter Application




Typical Local Oscillator Application




## Package Dimensions (SC04-06)



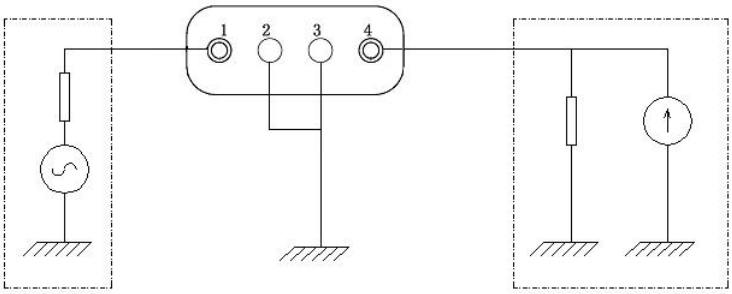

## Pin Configuration

| | |
|---|---|
| **1** | Input/ Output |
| **4** | Output/ Input |
| **2,3** | Case Ground |

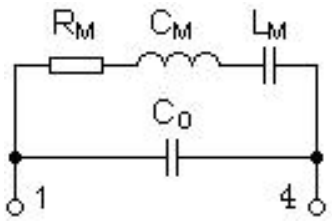
## Marking


| | |
|---|---|
| **SF** | Trademark |
| **R** | SAW Resonator |
| **350D** | Part number |

## Test Circuit




## Equivalent LC Model




## Performance

### Maximum Rating

| Item | | Value | Unit |
|---|---|---|---|
| DC Voltage | $V_{DC}$ | ±30 | V |
| Operation Temperature | T | -40 ~ +85 | ℃ |
| Storage Temperature | $T_{stg}$ | -40 ~ +85 | ℃ |
| RF Power Dissipation | P | 25 | dBm |

### Electronic Characteristics

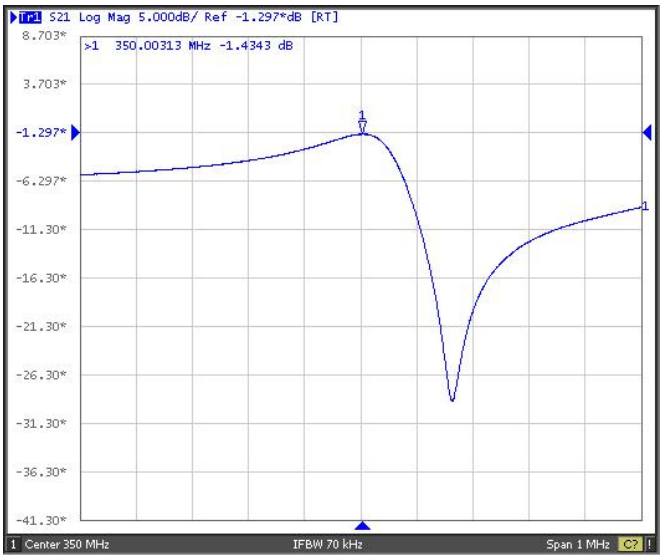
Test Temperature: 25℃±2℃

Terminating source impedance: 50Ω

Terminating load impedance: 50Ω

| Item | | | Minimum | Typical | Maximum | Unit |
|---|---|---|---|---|---|---|
| Center Frequency | Absolute Frequency | $f_c$ | | 350.00 | | MHz |
| | Tolerance from 350.00MHz | $\triangle f_c$ | | ±75 | | KHz |
| Insertion Loss(min) | | IL | | 1.5 | 2.0 | dB |
| Quality Factor | Unloaded Q | $Q_U$ | | 16531 | | |
| | 50Ω Loaded Q | $Q_L$ | | 1754 | | |
| 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 | $R_M$ | | 11.7 | 18.3 | Ω |
| | Motional Inductance | $L_M$ | | 89.34 | | μH |
| | Motional Capacitance | $C_M$ | | 2.31 | | fF |
| | Static Capacitance | $C_0$ | 2.5 | 2.7 | 3.0 | 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<br>(2) Temperature: –40℃±3℃ , Duration: 250h ,Recovery time: 2h±0.5h |
| 2 | Humidity Test | Conditions: 60℃±2℃ , 90~95% RH Duration: 250h |
| 3 | Thermal Shock | Heat cycle conditions: TA=-40℃±3℃, TB=85℃±2℃, 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<br>Directions: X,Y and Z Duration: 2h |
| 5 | Drop Test | Cycle time: 10 times Height: 1.0m |
| 6 | Solder Ability Test | Temperature: 245℃±5℃ Duration: 3.0s--5.0s<br>Depth: DIP--2/3 , SMD--1/5 |
| 7 | Resistance to Soldering Heat | (1)Thickness of PCB:1mm , Solder condition: 260℃±5℃ , Duration: 10±1s<br>(2)Temperature of Soldering Iron: 350℃±10℃ , Duration: 3~4s ,<br>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.