



# APPROVAL SHEET

| Approval Specification   | Customer's Approval Certificate   |
|--|---|
| <p><b>TO:</b></p> <p><b>Part No.:</b></p> <p><b>Customer's Part No.:</b></p> | <p>Please return this copy as a certification of your approval</p> <p><b>Checked &amp; Approved by:</b></p> <p><b>Date:</b></p> |

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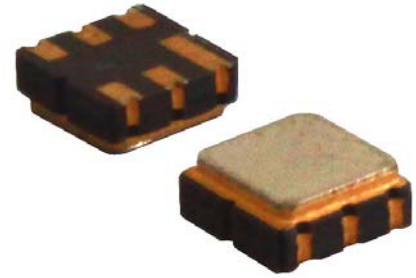


|          |   |           |
|----------|---|-----------|
| Part No. | : | SF9134    |
| Pages    | : | 6         |
| Date     | : | 2013/2/22 |
| Revision | : | 1.0       |

|                     |  |
|---------------------|--|
| <b>Prepared by:</b> |  |
| <b>Checked by:</b>  |  |
| <b>Approved by:</b> |  |

**Application**

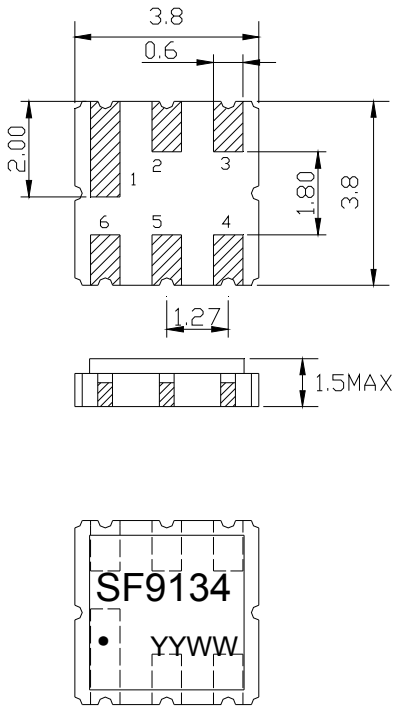
- Low-loss SAW component
- Low amplitude ripple
- Sharp rejections at both out-bands
- Usable passband 26 MHz



**Features**

- Ceramic Package for **Surface Mounted Technology (SMT)**
- **RoHS** compatible
- Package size 3.80x3.80x1.50mm<sup>3</sup>
- Package Code DCC6
- **Electrostatic Sensitive Device(ESD)**

**Package Dimensions (Unit: mm)**



**Pin Configuration**

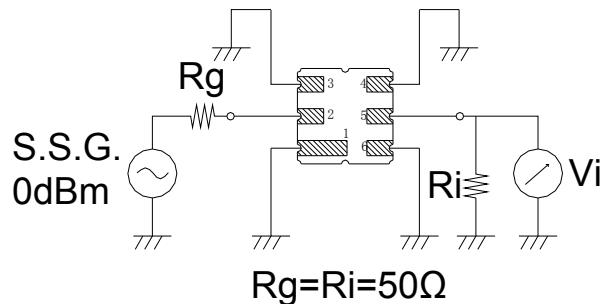
| Pin No. | Description |
|---------|-------------|
| 2       | Input       |
| 5       | Output      |
| 1,3,4,6 | Ground      |

**Marking Description**

|             |                       |
|-------------|-----------------------|
| <b>S</b>    | Trademark             |
| <b>F</b>    | SAW Filter            |
| <b>9134</b> | Part Number           |
| ●           | Pin 1                 |
| <b>YYWW</b> | Year Code & Week Code |

\*Fig: If the products produced in 06<sup>th</sup> week of 2012, The year code & week code is 1206.

**Test Circuit**



**Performance****Maximum Rating**

| Item                  |                  | Value      | Unit |
|-----------------------|------------------|------------|------|
| DC Voltage            | V <sub>DC</sub>  | 3          | V    |
| Operation Temperature | T                | -40 ~ +85  | °C   |
| Storage Temperature   | T <sub>stg</sub> | -55 ~ +125 | °C   |
| RF Power Dissipation  | P                | 10         | dBm  |

**Electronic Characteristics**

Test Temperature: 25°C ± 2°C

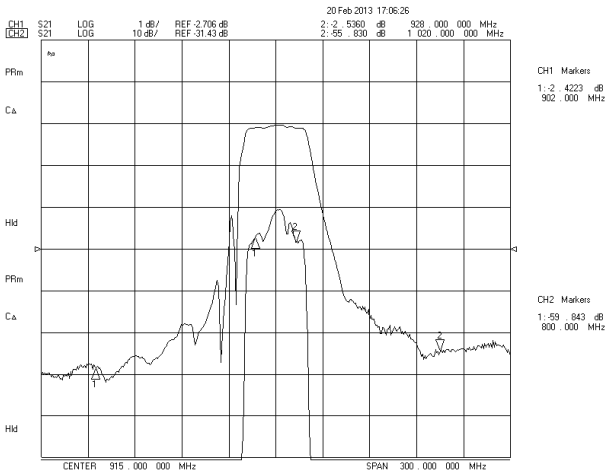
Terminating source impedance: 50Ω

Terminating load impedance: 50Ω

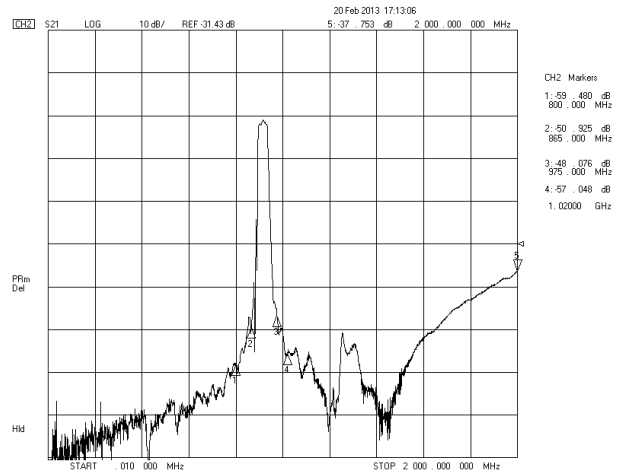
| Item   |                | Minimum | Typical | Maximum | Unit |
|--|----------------|---------|---------|---------|------|
| Center Frequency                             | f <sub>c</sub> |         | 915.00  |         | MHz  |
| Insertion Loss(min)                          | IL             |         | 2.0     | 2.5     | dB   |
| Insertion Loss<br>902.00 - 928.00MHz         | IL             |         | 2.5     | 3.0     | dB   |
| Amplitude Ripple (p-p)<br>902.00 - 928.00MHz | Δα             |         | 0.8     | 1.0     | dB   |
| Group Delay Ripple<br>902.00 - 928.00MHz     | GDR            |         | 20.0    | 50.0    | ns   |
| Absolute Attenuation                         | α              |         |         |         |      |
| DC - 800.00 MHz                              |                | 50.0    | 55.0    |         | dB   |
| 800.00 - 865.00MHz                           |                | 40.0    | 45.0    |         | dB   |
| 975.00 - 1020.00 MHz                         |                | 40.0    | 45.0    |         | dB   |
| 1020.00 - 1500.00 MHz                        |                | 45.0    | 50.0    |         | dB   |
| 1500.00 - 2000.00 MHz                        |                | 30.0    | 35.0    |         | dB   |
| Input VSWR<br>902.00-928.00MHz               |                |         | 2.0:1   | 2.3:1   | /    |
| Output VSWR<br>902.00-928.00MHz              |                |         | 2.0:1   | 2.3:1   | /    |

Frequency Characteristics

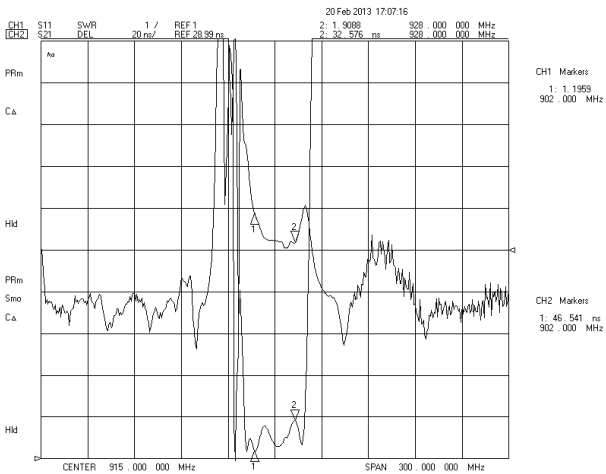
Frequency Response



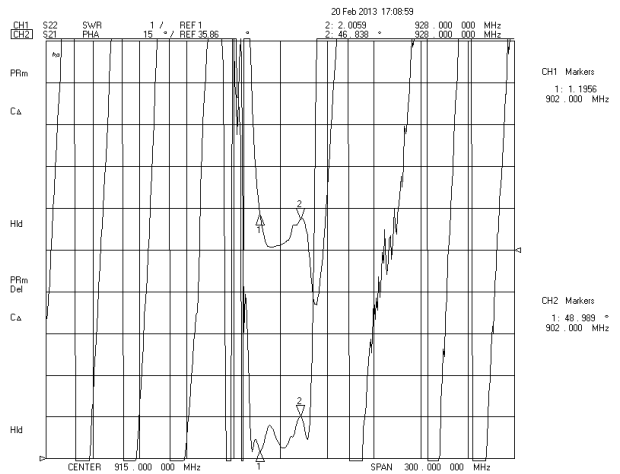
Frequency Response (wideband)



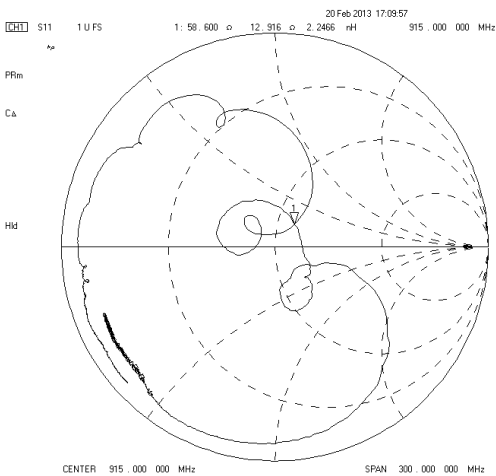
Delay Ripple & S11 VSWR



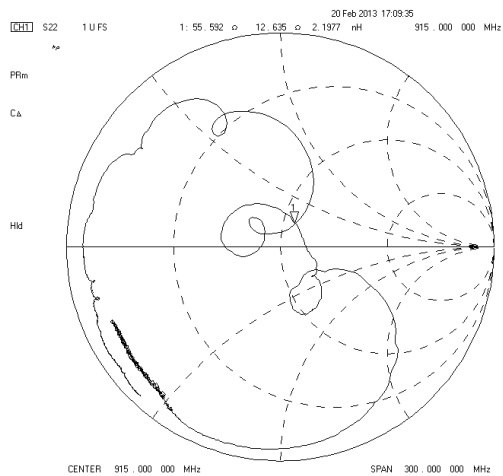
Phase Linearity & S22 VSWR



S11 Smith Chart



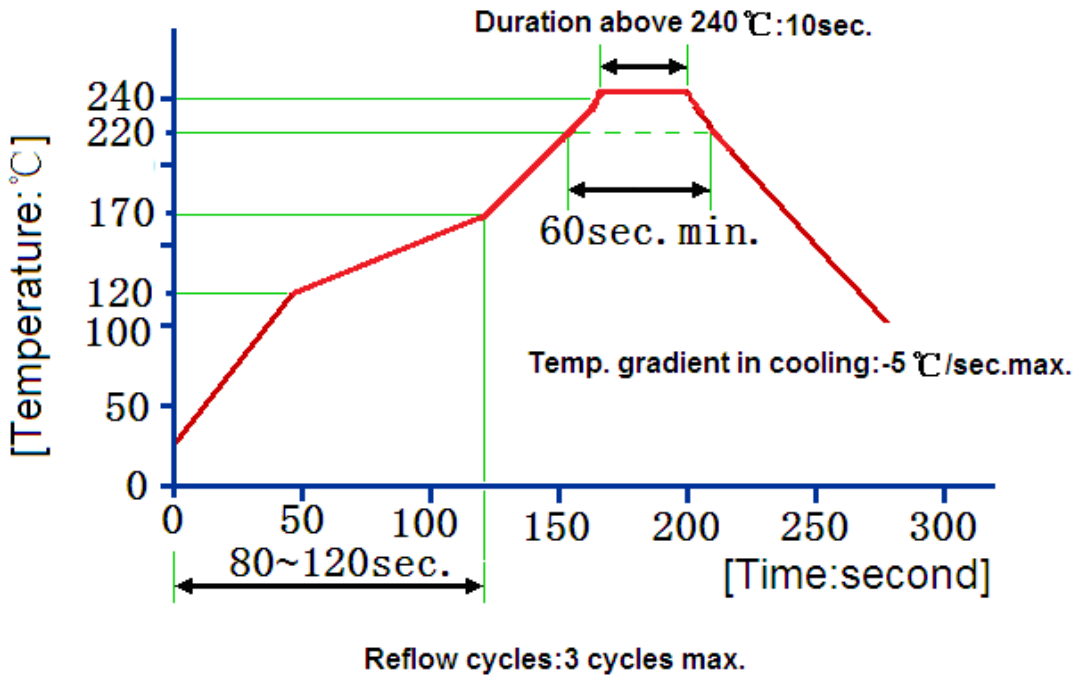
S22 Smith Chart



**Reliability (The SAW components shall remain electrical performance after tests)**

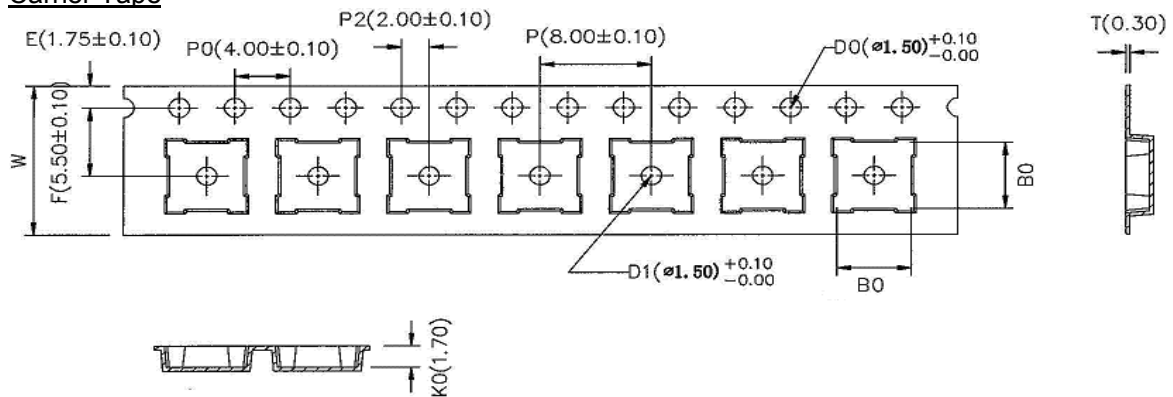
| No. | Test item                    | Test condition   |
|-----|------------------------------|--|
| 1   | Temperature Storage          | (1) Temperature: $85^{\circ}\text{C}\pm 2^{\circ}\text{C}$ , Duration: 250h , Recovery time: $2\text{h}\pm 0.5\text{h}$<br>(2) Temperature: $-55^{\circ}\text{C}\pm 3^{\circ}\text{C}$ , Duration: 250h ,Recovery time: $2\text{h}\pm 0.5\text{h}$             |
| 2   | Humidity Test                | Conditions: $60^{\circ}\text{C}\pm 2^{\circ}\text{C}$ , 90~95% RH Duration: 250h   |
| 3   | Thermal Shock                | Heat cycle conditions: $T_A=-55^{\circ}\text{C}\pm 3^{\circ}\text{C}$ , $T_B=85^{\circ}\text{C}\pm 2^{\circ}\text{C}$ , $t_1=t_2=30\text{min}$ , Switch time: $\leq 3\text{min}$ , Cycle time: 100 times, Recovery time: $2\text{h}\pm 0.5\text{h}$ .          |
| 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: $245^{\circ}\text{C}\pm 5^{\circ}\text{C}$ 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: $260^{\circ}\text{C}\pm 5^{\circ}\text{C}$ , Duration: $10\pm 1\text{s}$<br>(2)Temperature of Soldering Iron: $350^{\circ}\text{C}\pm 10^{\circ}\text{C}$ , Duration: 3~4s,<br>Recovery time : $2 \pm 0.5\text{h}$ |

**Recommended Reflow Soldering Diagram**



**Packing Information**

Carrier Tape



\* B0: 5.35 for QCC8C; 4.15 for DCC6/QCC8B; 3.35 for DCC6C/QCC8D

Reel Dimensions



Outer Packing

| Type         | Quantity | Dimension   | Description                         | Weight |
|--------------|----------|-------------|-------------------------------------|--------|
| Internal box | 1000     | 190×188×42  | carton box<br>2 reel / internal box | 0.18   |
| External box | 10000    | 235×205×210 | 5 boxes / external box              | 1.80   |

Unit: mm

Unit: kg

**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.