

APPROVAL SHEET

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

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| Part No. | : | SF9155 |
|----------|---|------------|
| Pages | : | 6 |
| Date | : | 2012/12/12 |
| Revision | : | 1.0 |



| Prepared by: | |
|--------------|--|
| Checked by: | |
| Approved by: | |

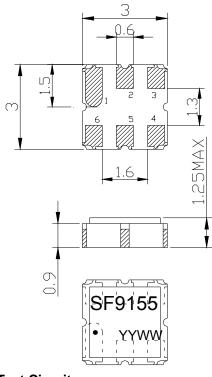
Application

- Low-loss SAW component
- Low amplitude ripple
- Sharp rejections at both out-bands
- Usable passband 18 MHz

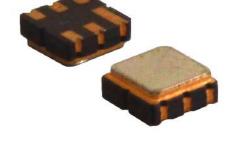
Features

- Ceramic Package for Surface Mounted Technology (SMT)
- RoHS compatible
- Package size 3.00x3.00x1.25mm³
- Package Code DCC6C
- Electrostatic Sensitive Device(ESD)

Package Dimensions (Unit: mm)



Test Circuit



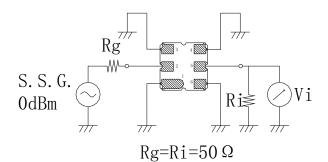
Pin Configuration

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

Marking Description

| S | Trademark | | | |
|------|-----------------------|--|--|--|
| F | SAW Filter | | | |
| 9155 | Part Number | | | |
| • | Pin 1 | | | |
| YYWW | Year Code & Week Code | | | |

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



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Performance

Maximum Rating

| Item | | Value | Unit |
|-----------------------|------------------|------------|------------|
| DC Voltage | V_{DC} | 3 | V |
| Operation Temperature | Т | -40 ~ +85 | $^{\circ}$ |
| Storage Temperature | T _{stg} | -55 ~ +125 | $^{\circ}$ |
| RF Power Dissipation | Р | 10 | dBm |

Electronic Characteristics

Test Temperature: $25^{\circ}C \pm 2^{\circ}C$

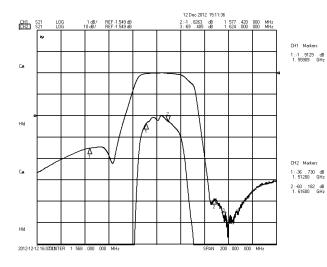
Terminating source impedance: 50Ω Terminating load impedance: 50Ω

| Item | Minimum | Typical | Maximum | Unit | |
|---|---------|---------|---------|-------|-----|
| Center Frequency | fc | | 1568.00 | | MHz |
| Insertion Loss(min) | IL | | 1.6 | 2.0 | dB |
| Insertion Loss 1559.098-1563.098MHz | IL | | 1.9 | 2.5 | dB |
| Insertion Loss 1573.42 -1577.42 MHz | IL | | 1.8 | 2.5 | dB |
| Amplitude Ripple (p-p) 1559.098 -1577.42 MHz | ∆a | | 0.5 | 1.2 | dB |
| Group Delay Ripple 1559.098 -1577.42 MHz | GDR | | 10.0 | 40.0 | ns |
| Absolute Attenuation | а | | | | |
| DC - 820.00 MHz | | 30.0 | 40.0 | | dB |
| 820.00 -1512.00 MHz | | 30.0 | 35.0 | | dB |
| 1616.00 -1624.00 MHz | | 35.0 | 45.0 | | dB |
| 1624.00 -2000.00 MHz | | 30.0 | 40.0 | | dB |
| 2000.00 -3000.00 MHz | | 20.0 | 25.0 | | dB |
| Input VSWR 1559.098 -1577.42 MHz | | | 1.5:1 | 2.0:1 | / |
| Output VSWR 1559.098 -1577.42 MHz | | | 1.5:1 | 2.0:1 | / |

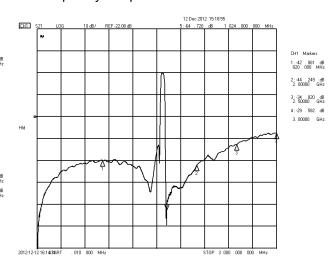
CH1 Markers

Frequency Characteristics

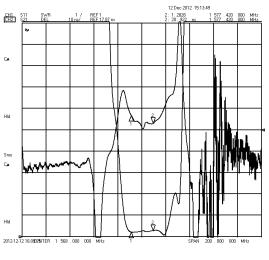
Frequency Response



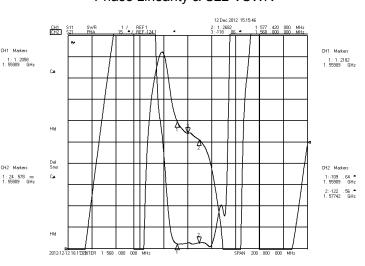
Frequency Response (wideband)



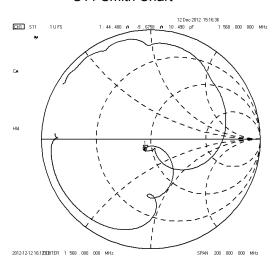
Delay Ripple & S11 VSWR



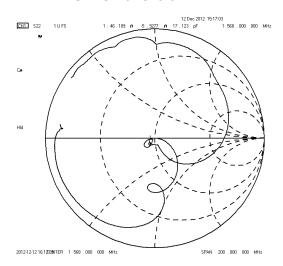
Phase Linearity & S22 VSWR



S11 Smith Chart



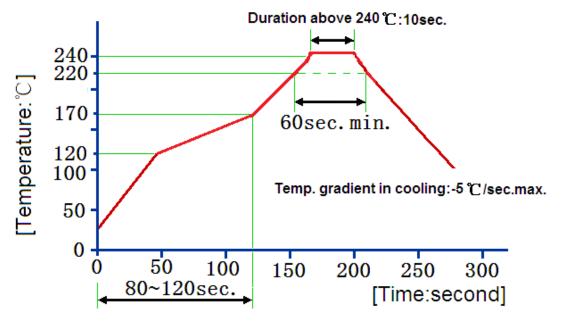
S22 Smith Chart



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

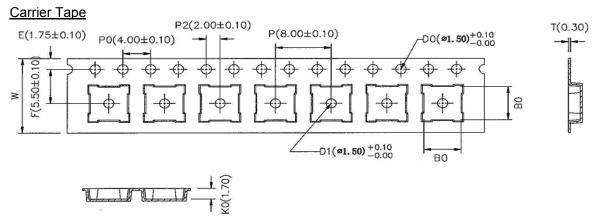
| No. | Test item | Test condition | | |
|-----------------------|---------------------------------|---|--|--|
| 1 | Temperature | (1) Temperature: 85℃±2℃, Duration: 250h, Recovery time: 2h±0.5h | | |
| ļ | Storage | (2) Temperature: –55°C±3°C , Duration: 250h ,Recovery time: 2h±0.5h | | |
| 2 | Humidity Test | Conditions: 60°C±2°C , 90~95% RH Duration: 250h | | |
| 3 | Thermal Shock | Heat cycle conditions: TA=-55℃±3℃, TB=85℃±2℃, t1=t2=30min, Switch | | |
| 3 | Thermal Shock | time: ≤3min, Cycle time: 100 times, Recovery time: 2h±0.5h. | | |
| 4 | Vibration Fatigue | Frequency of vibration: 10~55Hz Amplitude:1.5mm | | |
| _ | Vibration Latigue | Directions: X,Y and Z Duration: 2h | | |
| 5 | Drop Test | Cycle time: 10 times Height: 1.0m | | |
| | | Temperature: 245 ℃ ±5 ℃ Duration: 3.0s5.0s | | |
| 6 Solder Ability Test | | Depth: DIP2/3 , SMD1/5 | | |
| | | (1)Thickness of PCB:1mm , Solder condition: 260 ℃±5 ℃ , Duration: 10±1s | | |
| 7 | Resistance to Soldering Heat | (2)Temperature of Soldering Iron: 350°C±10°C, Duration: 3~4s, | | |
| | | Recovery time: 2 ± 0.5h | | |

Recommended Reflow Soldering Diagram



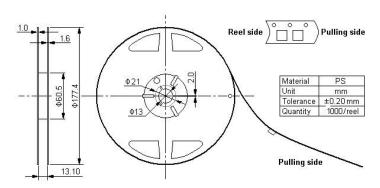
Reflow cycles:3 cycles max.

Packing Information



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

Reel Dimensions



Outer Packing

| Туре | Quantity | Dimension | Description | Weight |
|--------------|----------|-------------|-------------------------------------|--------|
| Internal box | 1000 | 190×188×42 | carton box 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.