

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: |

BEIJING ZHONGXUN SIFANG SCIENCE & TECHNOLOGY CO.,LTD.

Tel: +86-010-58937383
Fax: +86-010-58937263
E-mail: bjzxsf@bjzxsf.net
Website: http://www.bjzxsf.net

Add: No 201, Block A. Building 3. Yongjie Beilu

Yongfeng high-tech industrial base Haidian District Beijing city

| Part No. | : | SF0469 |
|----------|---|------------|
| Pages | : | 6 |
| Date | : | 2014/10/18 |
| Revision | : | 1.0 |



| Prepared by: | 梁浩 |
|--------------|-------|
| Checked by: | gla g |
| Approved by: | 马拉上 |

Application

- Low-loss SAW component
- Low amplitude ripple

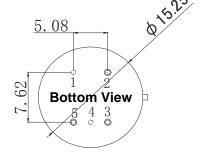
60.00MHz SAW Filter

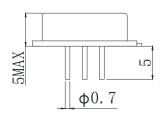
- Sharp rejections at both out-bands
- Usable passband 4 MHz

Features

- RoHS compatible
- Package size \$\phi\$15.25x5.00mm³
- Package Code R15
- Electrostatic Sensitive Device(ESD)

Package Dimensions (Unit: mm)







Test Circuit(Bottom View)

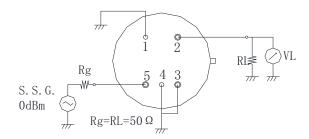
Pin Configuration

| Pin No. | Description |
|---------|-------------|
| 5 | Input |
| 2 | Output |
| 1.3.4 | Ground |

Marking Description

| s | Trademark | |
|------|-----------------------|--|
| F | SAW Filter | |
| 0469 | 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.



Performance

Maximum Rating

| Item | | Value | Unit |
|-----------------------|------------------|------------|------------|
| DC Voltage | V_{DC} | 3 | V |
| Operation Temperature | Т | -10 ~ +50 | $^{\circ}$ |
| Storage Temperature | T _{stg} | -55 ~ +125 | $^{\circ}$ |
| RF Power Dissipation | Р | 10 | dBm |

Electronic Characteristics

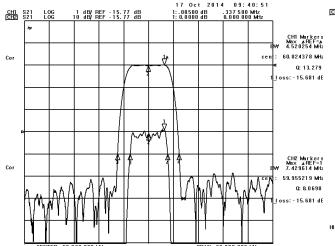
Test Temperature: $25^{\circ}C \pm 2^{\circ}C$

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

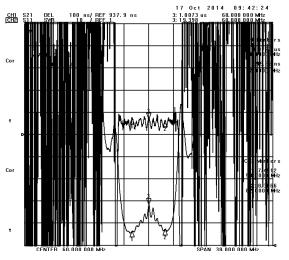
| Item | | Minimum | Typical | Maximum | Unit |
|---------------------------------------|-------------------|---------|---------|---------|------|
| Center Frequency | fc | | 60.0 | | MHz |
| Insertion Loss(min) | IL | | 15.7 | 17.0 | dB |
| Amplitude Ripple (p-p) 58.00-62.00MHz | Δα | | 0.4 | 1.0 | dB |
| 1 dB Bandwidth | BW _{1dB} | 4.0 | 4.5 | | MHz |
| Absolute Attenuation | а | | | | |
| 56.00MHz | | 45.0 | 50.0 | | dB |
| 64.00MHz | | 45.0 | 50.0 | | dB |

Frequency Characteristics

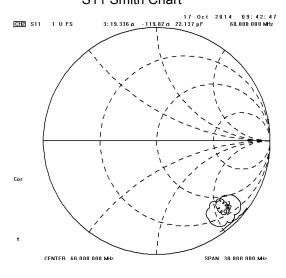
Frequency Response



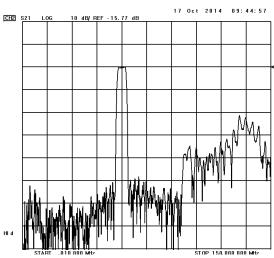
Delay Ripple & S11 VSWR



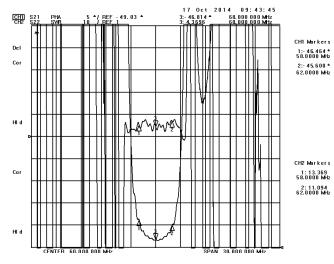
S11 Smith Chart



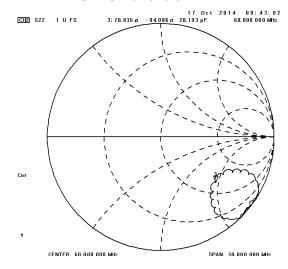
Frequency Response (wideband)



Phase Linearity & S22 VSWR



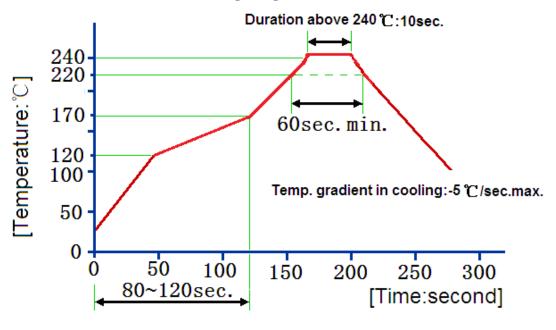
S22 Smith Chart



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

| No. | Test item | Test condition | | |
|-----|---------------------------------|---|--|--|
| 4 | 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℃±2℃, 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. | | |
| 1 | 4 Vibration Fatigue | Frequency of vibration: 10~55Hz Amplitude:1.5mm | | |
| | | 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 ℃±10 ℃,Duration: 3~4s, | | |
| | | Recovery time: 2 ± 0.5h | | |

Recommended Reflow Soldering Diagram



Reflow cycles:3 cycles max.

60.00MHz SAW Filter SF0469 4.00 MHz Bandwidth

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.