

# APPROVAL SHEET

Approval Specification	Customer's Approval Certificate
то:	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.	:	SF4252
Pages	:	6
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Revision	:	1.0



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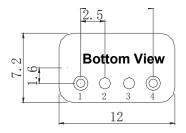
#### **Application**

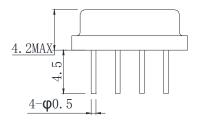
- Low-loss SAW component
- Low amplitude ripple
- Sharp rejections at both out-bands
- Usable passband 80 KHz

#### **Features**

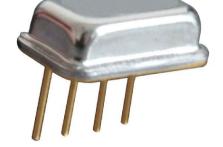
- RoHS compatible
- Package size 12.0x7.20x4.20mm³
- Package Code SC04-01
- Electrostatic Sensitive Device(ESD)

# Package Dimensions (Unit: mm)









# **Pin Configuration**

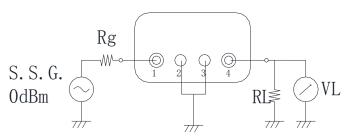
Pin No.	Description
1	Input
4	Output
2,3	Ground

#### **Marking Description**

S	Trademark	
F	SAW Filter	
4252	Part Number	
•	Pin 1	
YYWW	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(Bottom View)



 $Rg=RL=50 \Omega$ 

# **Performance**

# **Maximum Rating**

Item		Value	Unit
DC Voltage	$V_{DC}$	3	V
Operation Temperature	Т	-30 ~ +65	$^{\circ}$
Storage Temperature	T <sub>stg</sub>	-55 ~ +125	$^{\circ}$
RF Power Dissipation	Р	10	dBm

### **Electronic Characteristics**

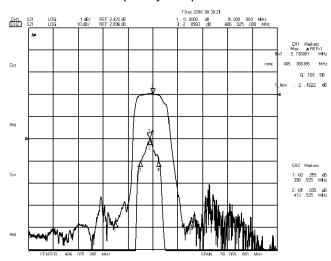
Test Temperature:  $25^{\circ}C \pm 2^{\circ}C$ 

Terminating source impedance:  $50\Omega$ Terminating load impedance:  $50\Omega$ 

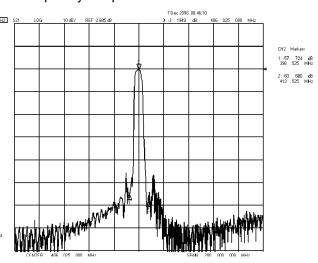
Item		Minimum	Typical	Maximum	Unit
Center Frequency	fc		406.025		MHz
Insertion Loss(min)	IL		2.4	4.0	dB
Amplitude Ripple (p-p)	Δα		0.8	1.0	dB
1 dB Usable Bandwidth		80			kHz
1 dB Bandwidth	BW <sub>1dB</sub>		3.73		MHz
Absolute Attenuation	α				
398.525MHz		48	57		dB
413.525MHz		48	58		dB

## **Frequency Characteristics**

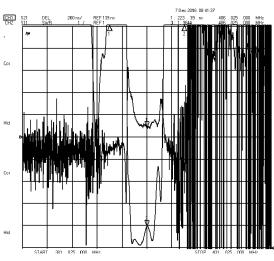
# Frequency Response



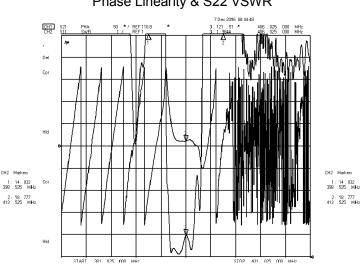
#### Frequency Response (wideband)



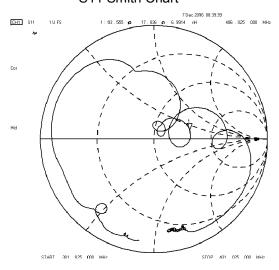
Delay Ripple & S11 VSWR



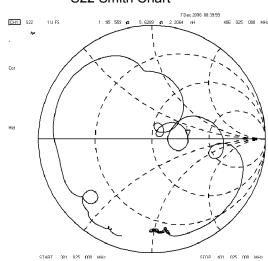
Phase Linearity & S22 VSWR



S11 Smith Chart



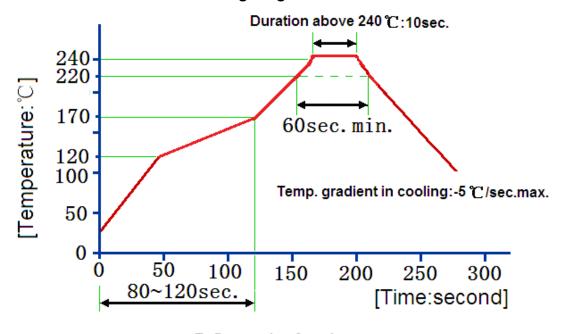
S22 Smith Chart



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

No.	Test item	Test condition		
1	Temperature Storage	(1) Temperature: 85℃±2℃, Duration: 250h, Recovery time: 2h±0.5h (2) Temperature: –55℃±3℃, Duration: 250h, Recovery time: 2h±0.5h		
	Otorage	(2) Temperature. –35 C±5 C , Duration. 250H ,Recovery time. 2H±0.5H		
2	Humidity Test	Conditions: 60℃±2℃, 90~95% RH Duration: 250h		
		Heat cycle conditions: TA=-55°C±3°C, TB=85°C±2°C, t1=t2=30min, Switch		
3	Thermal Shock	time: ≤3min, Cycle time: 100 times, Recovery time: 2h±0.5h.		
4	Vilonation Fations	Frequency of vibration: 10~55Hz Amplitude:1.5mm		
4	Vibration Fatigue	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		
		Deptil. Dir2/3 , SiviD 1/3		
		(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.

406.025MHz SAW Filter SF4252 80 KHz 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.

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