



# APPROVAL SHEET

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

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Part No.	:	SF0251
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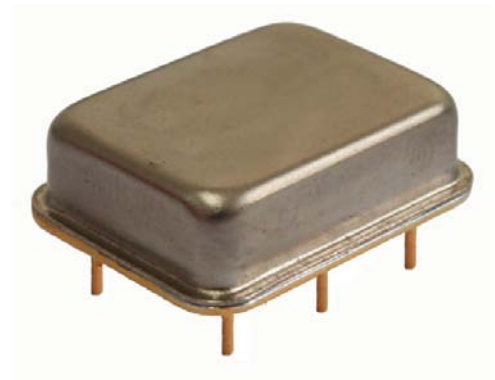
<b>Prepared by:</b>	刘建伟
<b>Checked by:</b>	
<b>Approved by:</b>	

**Application**

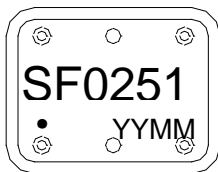
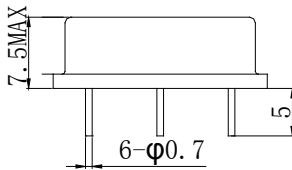
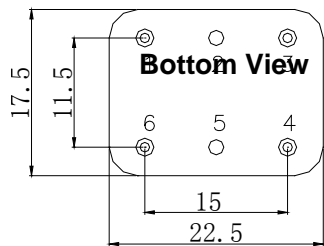
- High-loss SAW component
- Low amplitude ripple
- Sharp rejections at both out-bands
- Passband 4.0 MHz

**Features**

- **RoHS** compatible
- Package size 22.5x17.5x7.50mm<sup>3</sup>
- Package Code DIP2217
- **Electrostatic Sensitive Device(ESD)**



**Package Dimensions (Unit: mm)**



**Pin Configuration**

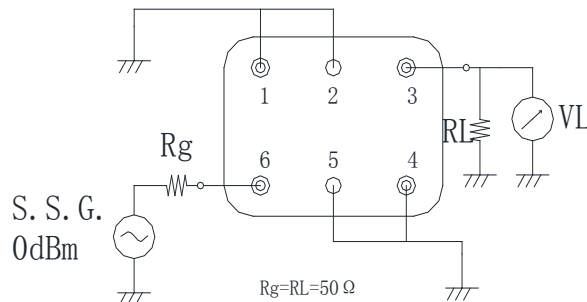
Pin No.	Description
6	Input
3	Output
1,2,4,5	Ground

**Marking Description**

<b>S</b>	Trademark
<b>F</b>	SAW Filter
<b>0251</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(Bottom View)**



**Performance**

**Maximum Rating**

Item		Value	Unit
DC Voltage	$V_{DC}$	3	V
Operation Temperature	T	-40 ~ +85	□
Storage Temperature	$T_{stg}$	-55 ~ +125	□
RF Power Dissipation	P	10	dBm

**Electronic Characteristics**

Test Temperature:  $25\text{□} \pm 2\text{□}$

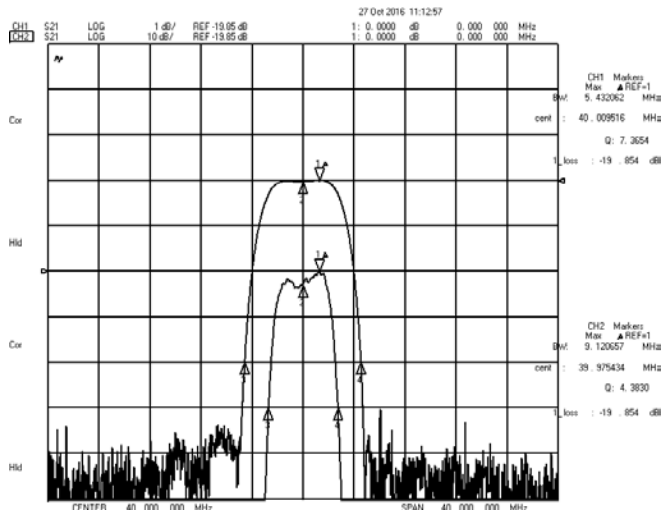
Terminating source impedance:  $50\Omega$

Terminating load impedance:  $50\Omega$

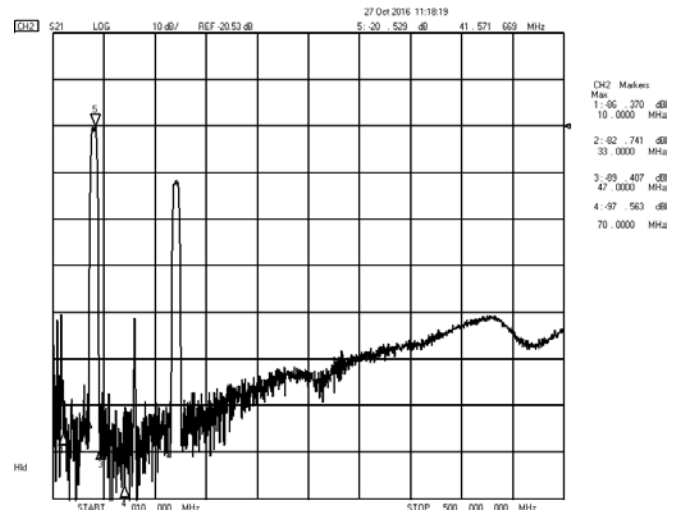
Item		Minimum	Typical	Maximum	Unit
Center Frequency	$f_c$	39.80	40.00	40.20	MHz
Insertion Loss(min)	IL		19.9	22.0	dB
Amplitude Ripple (p-p)	$\Delta\text{□}$		0.5	1.0	dB
	38.00-42.00MHz				
3dB Bandwidth	$BW_{3dB}$	5.3	5.4	5.7	MHz
Shape Factor	$\frac{BW_{40dB}}{BW_{3dB}}$		1.7	2.5	/
Absolute Attenuation	□				
	10.00-33.00MHz	50.0	55		dB
	47.00-70.00MHz	50.0	56		dB

Frequency Characteristics

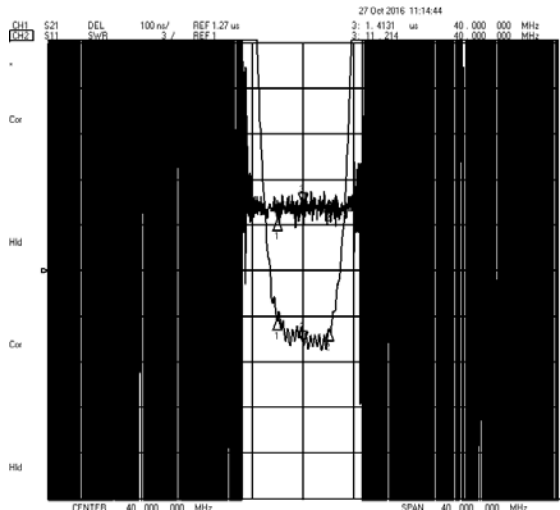
Frequency Response



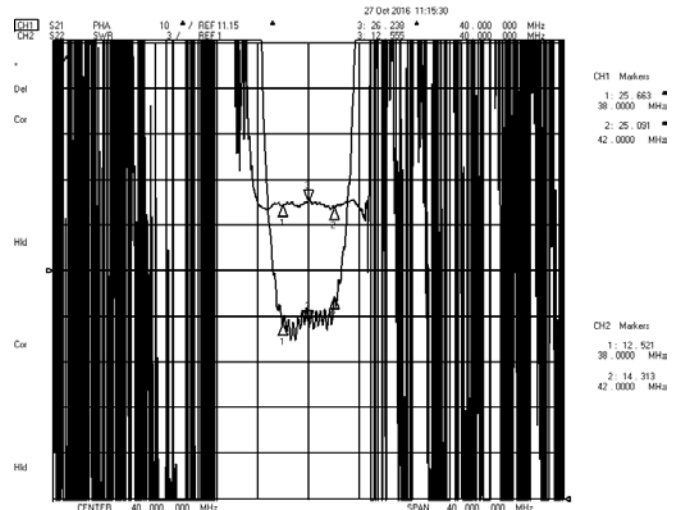
Frequency Response (wideband)



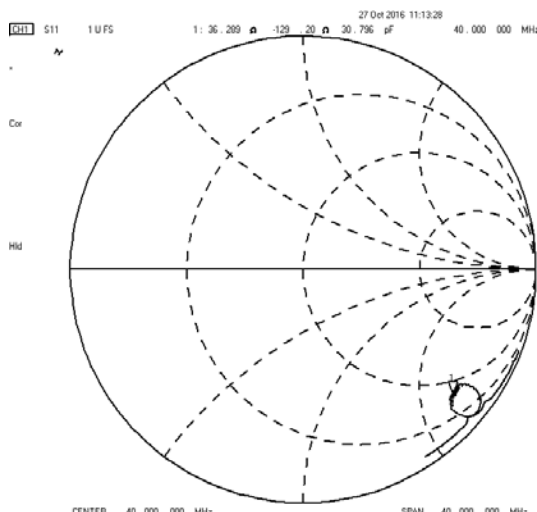
Delay Ripple & S11 VSWR



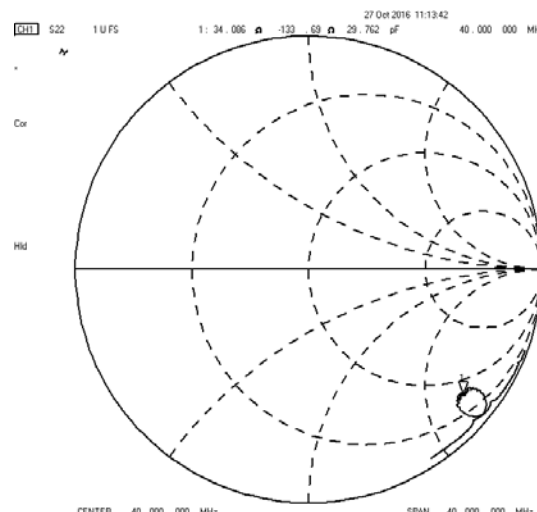
Phase Linearity & S22 VSWR



S11 Smith Chart



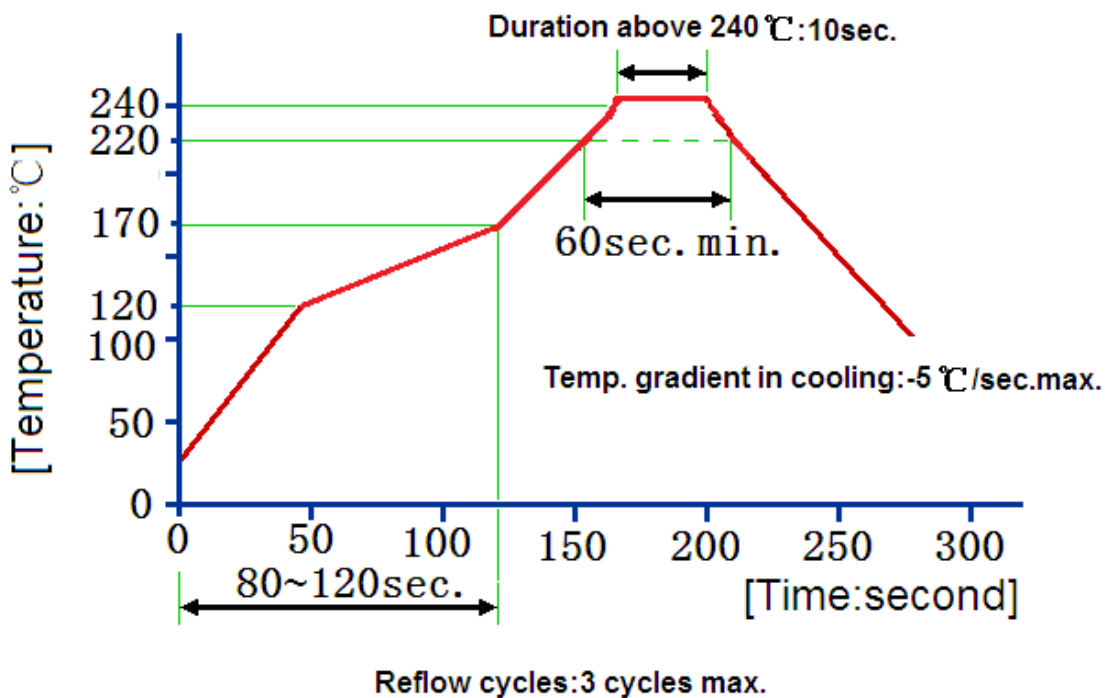
S22 Smith Chart



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

No.	Test item	Test condition
1	Temperature Storage	(1) Temperature: $85 \square \pm 2 \square$ , Duration: 250h , Recovery time: $2h \pm 0.5h$ (2) Temperature: $-55 \square \pm 3 \square$ , Duration: 250h ,Recovery time: $2h \pm 0.5h$
2	Humidity Test	Conditions: $60 \square \pm 2 \square$ , 90~95% RH          Duration: 250h
3	Thermal Shock	Heat cycle conditions: $T_A = -55 \square \pm 3 \square$ , $T_B = 85 \square \pm 2 \square$ , $t_1 = t_2 = 30min$ , Switch time: $\leq 3min$ , Cycle time: 100 times, Recovery time: $2h \pm 0.5h$ .
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
6	Solder Ability Test	Temperature: $245 \square \pm 5 \square$ Duration: 3.0s--5.0s Depth: DIP--2/3 , SMD--1/5
7	Resistance to Soldering Heat	(1) Thickness of PCB: 1mm , Solder condition: $260 \square \pm 5 \square$ , Duration: $10 \pm 1s$ (2) Temperature of Soldering Iron: $350 \square \pm 10 \square$ , Duration: 3~4s , Recovery time : $2 \pm 0.5h$

**Recommended Reflow Soldering Diagram**



**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.