



# 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.	:	SF1597
Pages	:	6
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Revision	:	1.0

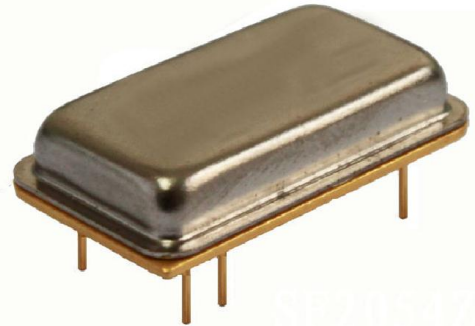
<b>Prepared by:</b>	刘菲
<b>Checked by:</b>	
<b>Approved by:</b>	

**Application**

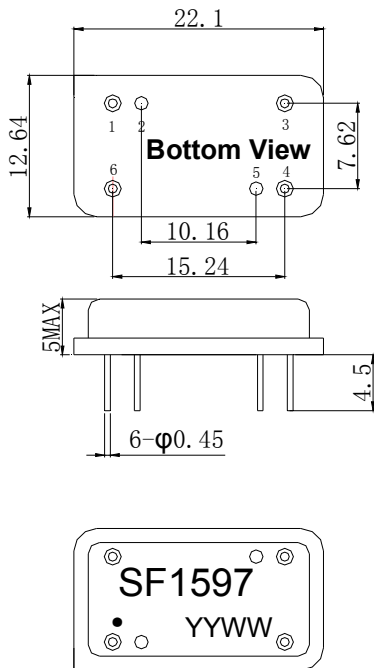
- High-loss SAW component
- Low amplitude ripple
- Sharp rejections at both out-bands
- Passband 24.4 MHz

**Features**

- RoHS compatible
- Package size 22.1x12.64x5.00mm<sup>3</sup>
- Package Code DIP2212
- Electrostatic Sensitive Device(ESD)



**Package Dimensions (Unit: mm)**



**Pin Configuration**

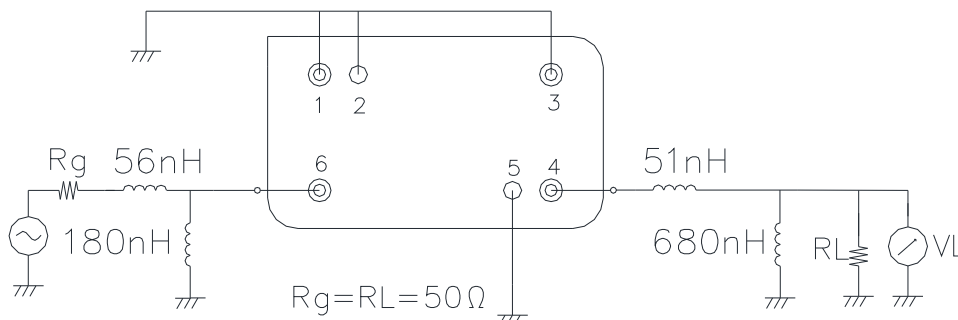
Pin No.	Description
6	Input
4	Output
1,2,3,5	Ground

**Marking Description**

<b>S</b>	Trademark
<b>F</b>	SAW Filter
<b>1597</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 <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

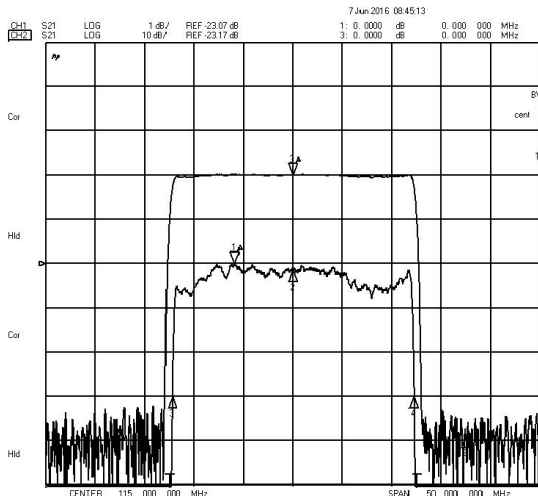
Terminating source impedance: 50Ω

Terminating load impedance: 50Ω

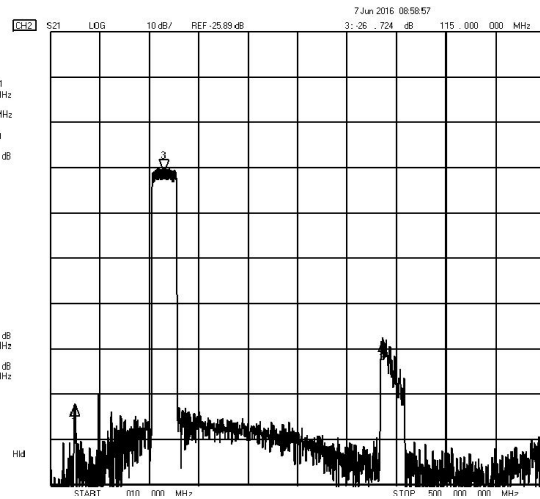
Item		Minimum	Typical	Maximum	Unit
Center Frequency	f <sub>c</sub>	114.8	115.0	115.2	MHz
Insertion Loss(min)	IL		23.1	25.0	dB
Amplitude Ripple (p-p)	Δα		0.8	1.0	dB
3dB Bandwidth	BW <sub>3dB</sub>		24.4		MHz
10dB Bandwidth	BW <sub>10dB</sub>		24.9	25.1	MHz
40 dB Bandwidth	BW <sub>40dB</sub>		25.7	26.4	MHz
Absolute Delay @Fc	AD		2.2		us
Phase Linearity			7.0	10.0	deg
	102.80-127.20MHz				
Absolute Attenuation	α				
	97.50MHz	55.0	57.0		dB
	132.50MHz	55.0	58.0		dB

Frequency Characteristics

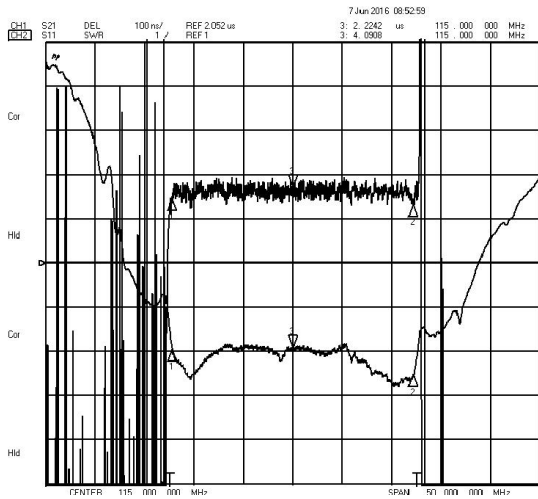
Frequency Response



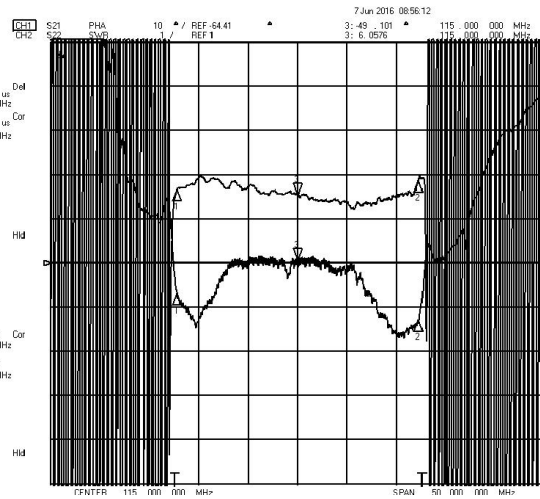
Frequency Response (wideband)



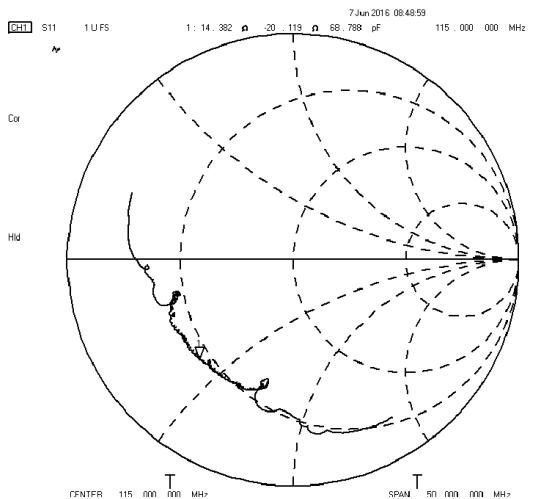
Delay Ripple & S11 VSWR



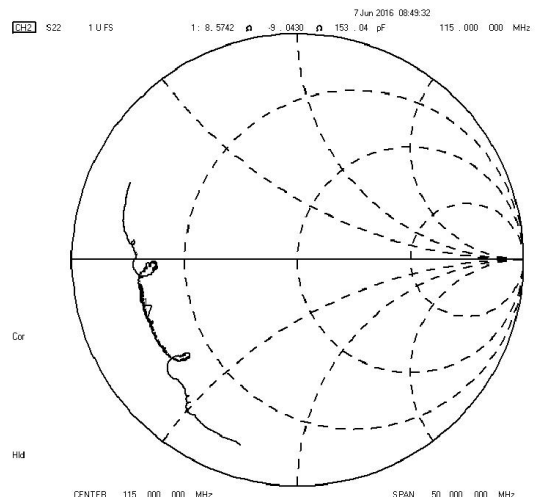
Phase Linearity & S22 VSWR



S11 Smith Chart



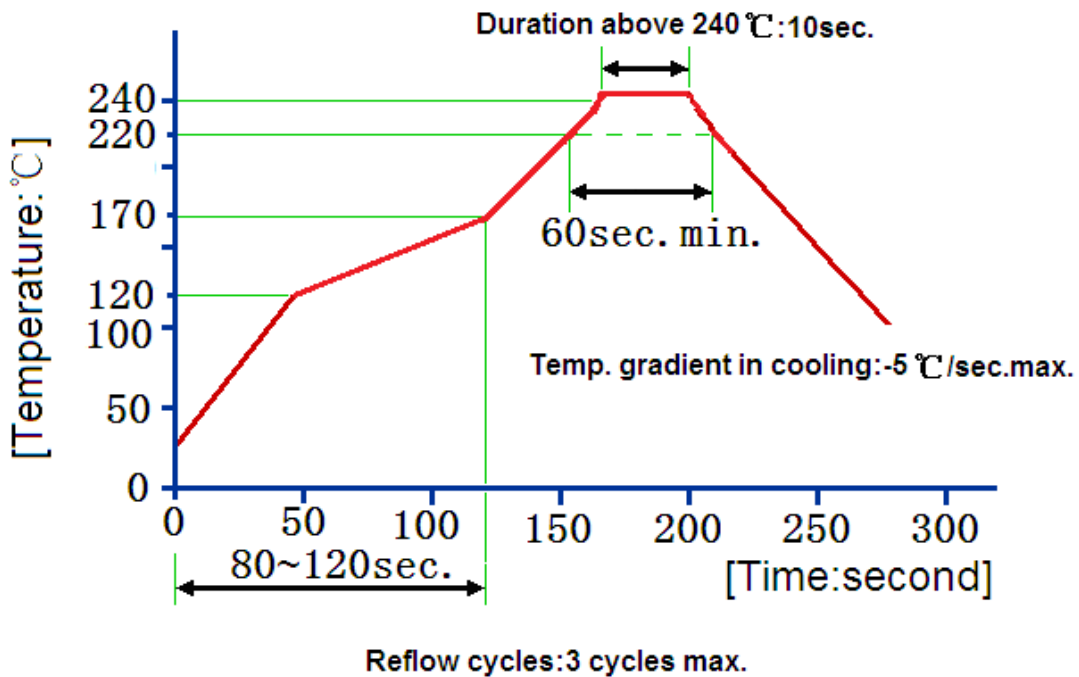
S22 Smith Chart



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

No.	Test item	Test condition
1	Temperature Storage	(1) Temperature: $85^{\circ}\text{C}\pm 2^{\circ}\text{C}$ , Duration: 250h , Recovery time: $2\text{h}\pm 0.5\text{h}$ (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 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 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: $10\pm 1\text{s}$ (2) Temperature of Soldering Iron: $350^{\circ}\text{C}\pm 10^{\circ}\text{C}$ , Duration: 3~4s , Recovery time : $2 \pm 0.5\text{h}$

**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.