



# APPROVAL SHEET

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

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Part No.	:	SF1591
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<b>Prepared by:</b>	梁浩
<b>Checked by:</b>	
<b>Approved by:</b>	

**Application**

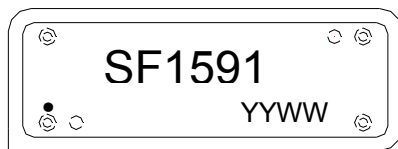
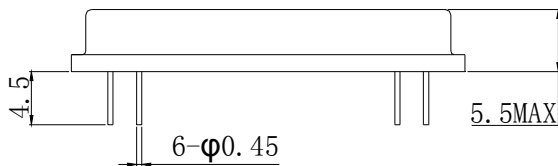
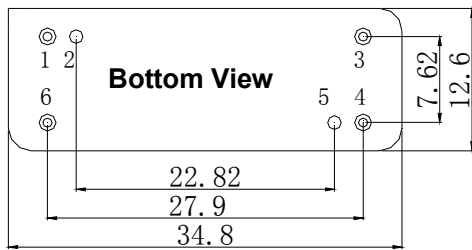
- High-loss SAW component
- Low amplitude ripple
- Sharp rejections at both out-bands
- Passband 12 MHz
- Low Shape factor



**Features**

- RoHS compatible
- Package size 34.8x12.6x5.50mm<sup>3</sup>
- Package Code DIP3512
- Electrostatic Sensitive Device(ESD)

**Package Dimensions (Unit: mm)**



**Pin Configuration**

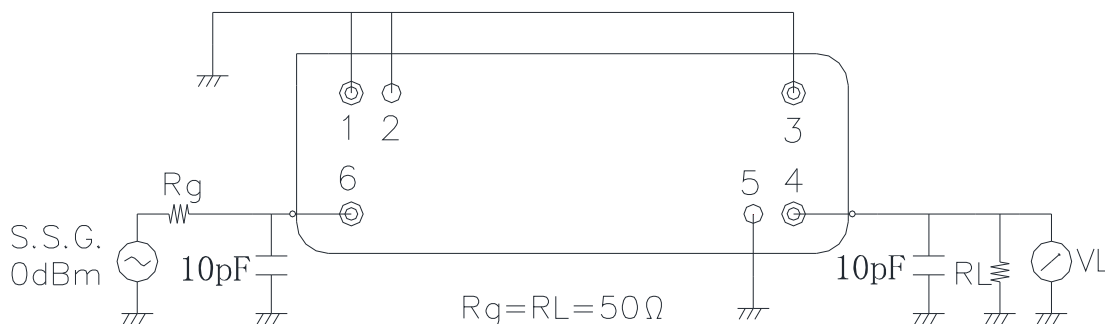
Pin No.	Description
6	Input
4	Output
1,2,3,5	Ground

**Marking Description**

<b>S</b>	Trademark
<b>F</b>	SAW Filter
<b>1591</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

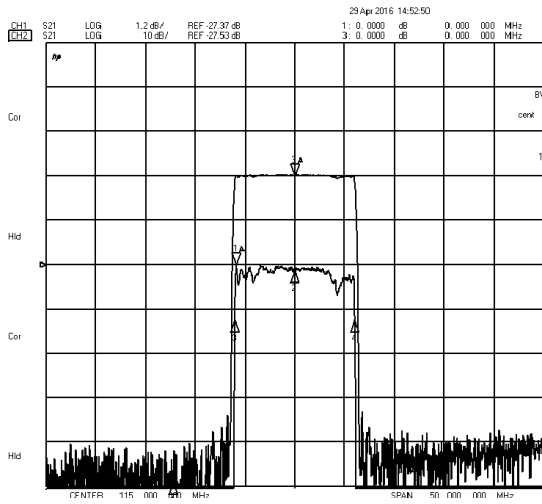
Terminating source impedance: 50Ω

Terminating load impedance: 50Ω

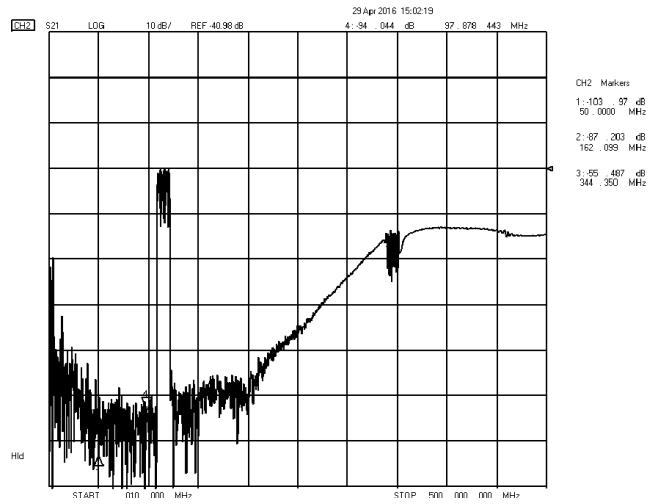
Item		Minimum	Typical	Maximum	Unit
Center Frequency	f <sub>c</sub>	114.9	115.0	115.1	MHz
Insertion Loss(min)	IL		27.5	29.0	dB
Amplitude Ripple	Δα		1.0	1.2	dB
1.5 dB Bandwidth	BW <sub>1.5dB</sub>		12.00		MHz
2 dB Bandwidth	BW <sub>2dB</sub>	12.00	12.05		MHz
35 dB Bandwidth	BW <sub>35dB</sub>		12.74	12.80	MHz
40 dB Bandwidth	BW <sub>40dB</sub>		12.77	13.00	MHz
45 dB Bandwidth	BW <sub>45dB</sub>		12.80	13.50	MHz
Absolute Delay	AD		4.09	4.15	us
Group Delay Ripple	GDR		170.0	200.0	ns
Phase Linearity			6.0	10.0	deg
Absolute Attenuation	α	45.0	52.0		dB

Frequency Characteristics

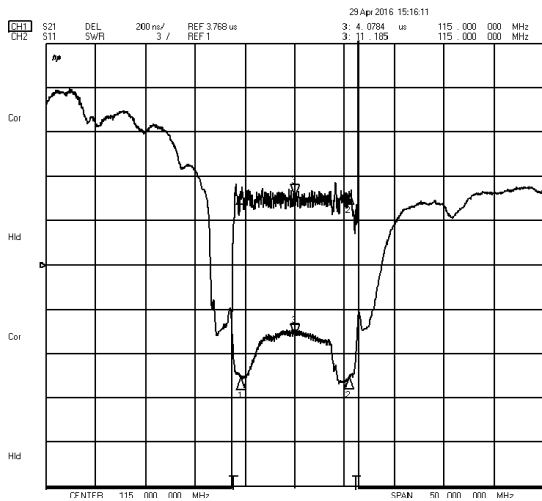
Frequency Response



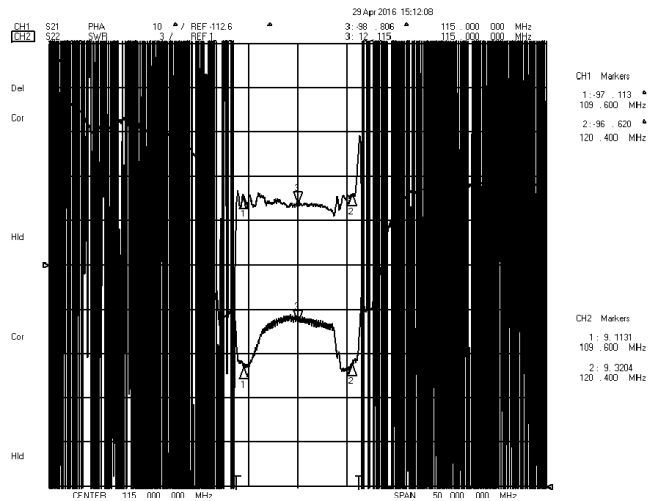
Frequency Response (wideband)



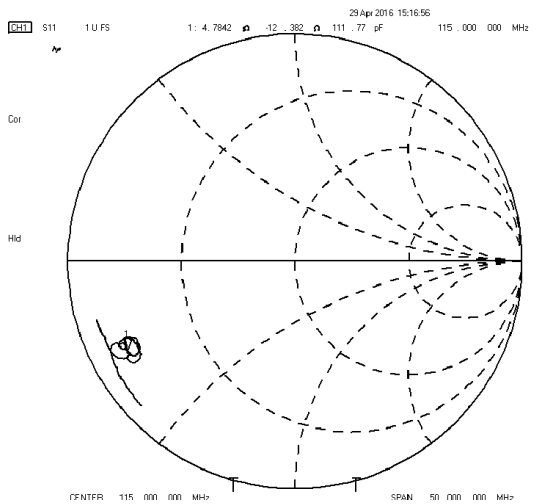
Delay Ripple & S11 VSWR



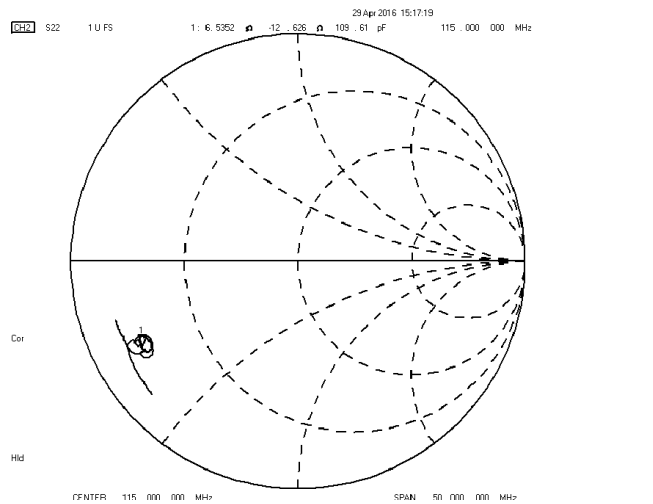
Phase Linearity & S22 VSWR



S11 Smith Chart



S22 Smith Chart





**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.