



# APPROVAL SHEET

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

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Part No.	:	SF0402
Pages	:	6
Date	:	2014/3/21
Revision	:	1.0

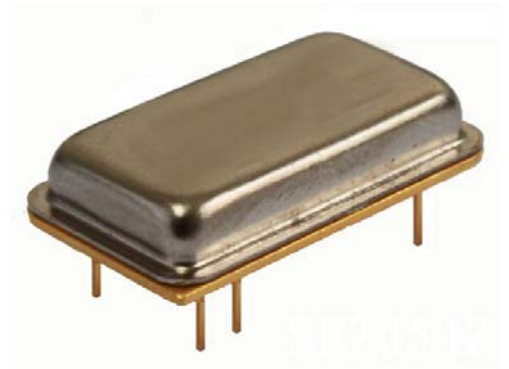
<b>Prepared by:</b>	梁浩
<b>Checked by:</b>	
<b>Approved by:</b>	

**Application**

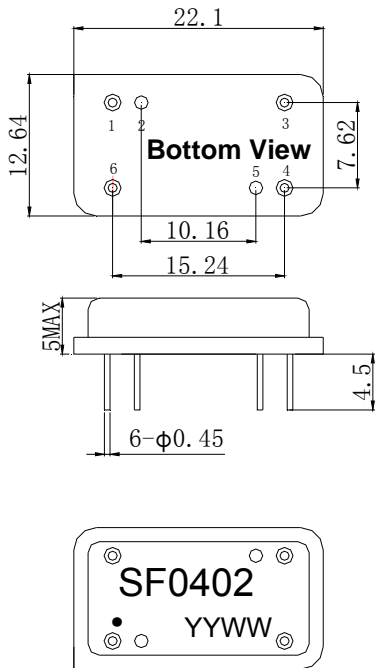
- Low-loss SAW component
- Low amplitude ripple
- Sharp rejections at both out-bands
- Usable passband 35 MHz

**Features**

- RoHS compatible
- Package size 22.1x12.64x5.00mm<sup>3</sup>
- Package Code DIP2212J
- Electrostatic Sensitive Device(ESD)



**Package Dimensions (Unit: mm)**



**Pin Configuration**

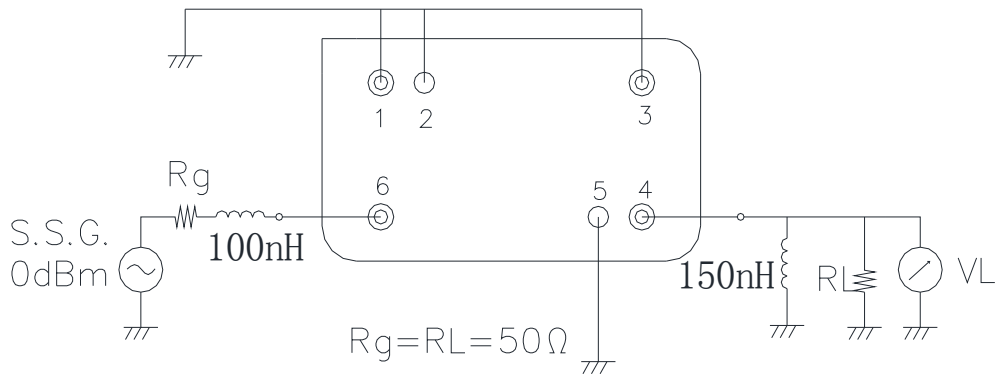
Pin No.	Description
6	Input
4	Output
1,2,3,5	Ground

**Marking Description**

<b>S</b>	Trademark
<b>F</b>	SAW Filter
<b>0402</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

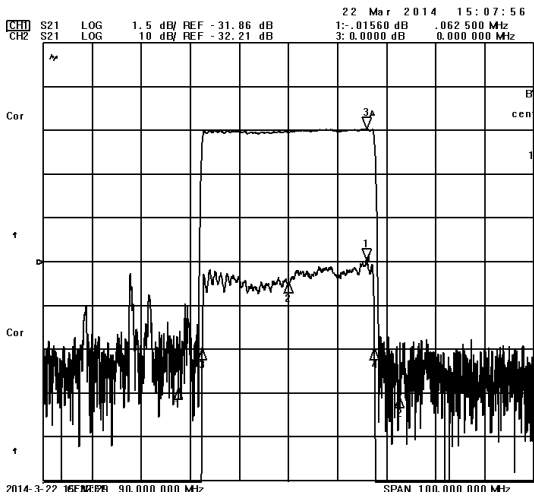
Terminating source impedance: 50Ω

Terminating load impedance: 50Ω

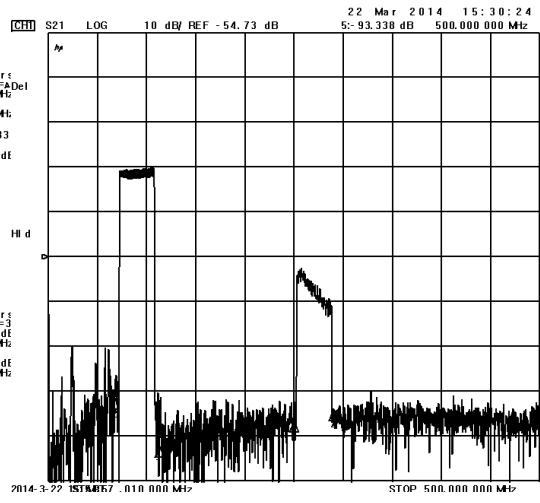
Item		Minimum	Typical	Maximum	Unit
Center Frequency	f <sub>c</sub>	89.85	90.00	90.15	MHz
Insertion Loss(min)	IL		31.84	33.00	dB
Amplitude Ripple	Δα		1.00	1.50	dB
3 dB Bandwidth	BW <sub>3dB</sub>	35.00	35.04		MHz
10 dB Bandwidth	BW <sub>10dB</sub>		35.70	36.80	MHz
40 dB Bandwidth	BW <sub>40dB</sub>		36.54	37.00	MHz
Absolute Delay	AD		2.00		us
Phase Linearity			13.00	15.00	deg
Absolute Attenuation	α				
	67.45MHz	50.00	55.00		dB
	112.55MHz	50.00	55.00		dB

Frequency Characteristics

Frequency Response

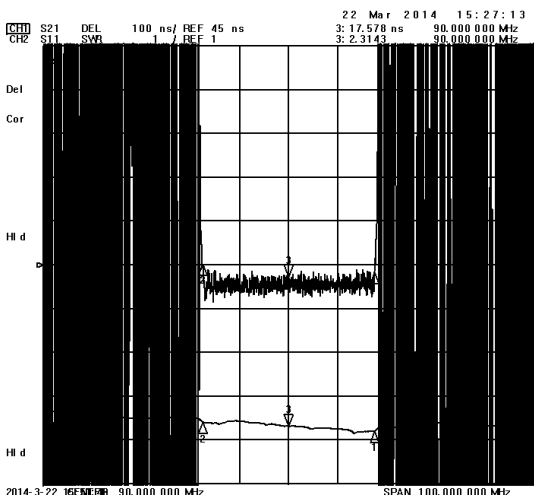


Frequency Response (wideband)

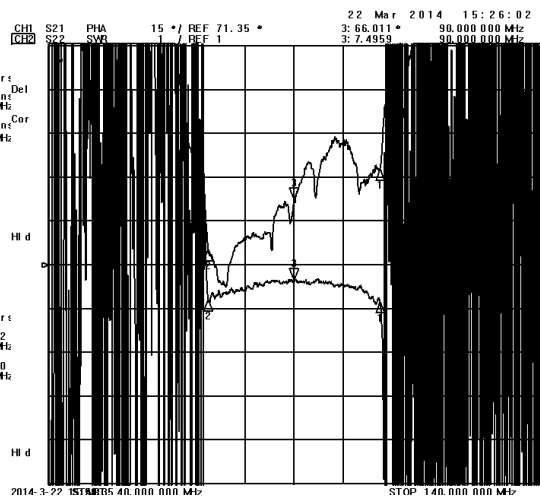


CH1 Markers  
 1: -96.879 dB  
 112.500 MHz  
 2: -86.168 dB  
 67.5000 MHz  
 3: -91.331 dB  
 250.000 MHz  
 4: -88.719 dB  
 290.000 MHz

Delay Ripple & S11 VSWR



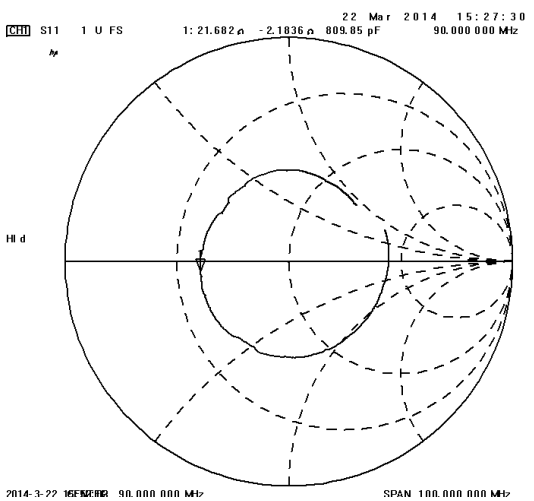
Phase Linearity & S22 VSWR



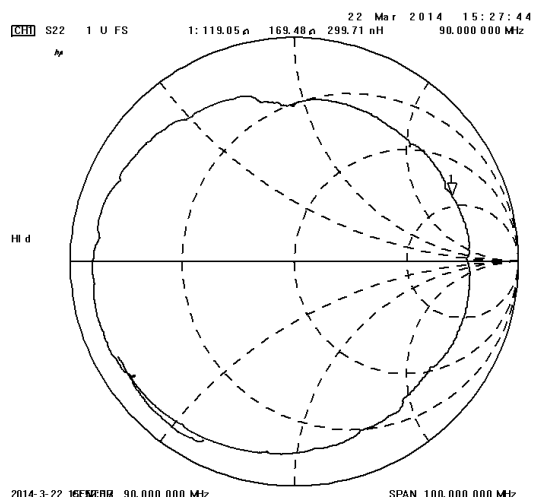
CH1 Markers  
 1: 28.870 ns  
 107.500 MHz  
 2: 47.607 ns  
 72.5000 MHz

CH2 Markers  
 1: 8.2056  
 107.500 MHz  
 2: 6.3552  
 72.5000 MHz

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.