



# 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.	:	SF0168
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Revision	:	2.0

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**Application**

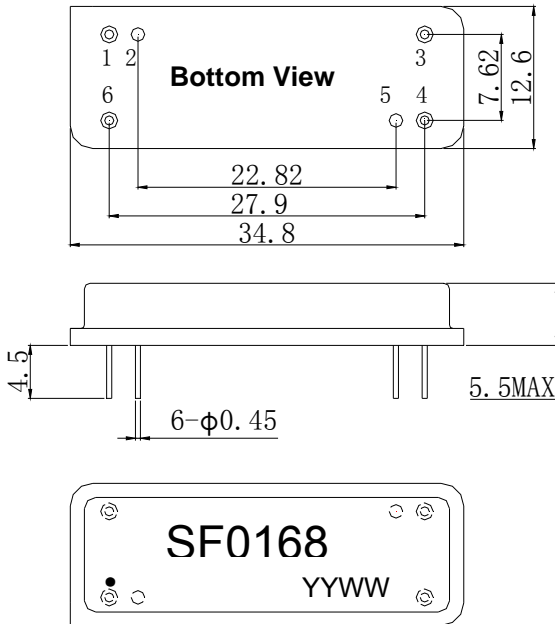
- Low amplitude ripple
- Sharp rejections at both out-bands
- Low shape factor
- Usable passband 22 MHz

**Features**

- RoHS compatible
- Package size 34.8x12.6x5.50mm<sup>3</sup>
- Package Code DIP3512J
- Electrostatic Sensitive Device(ESD)



**Package Dimensions (Unit: mm)**



**Pin Configuration**

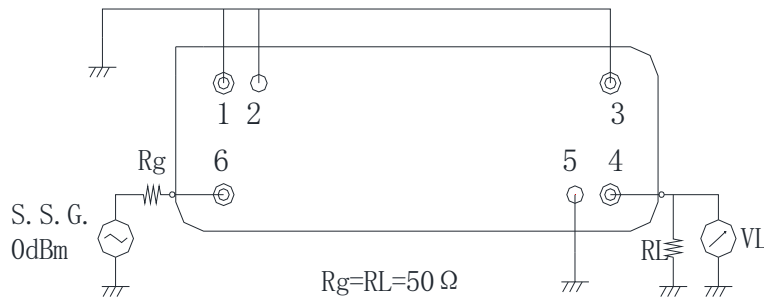
Pin No.	Description
6	Input
4	Output
1,2,3,5	Ground

**Marking Description**

<b>S</b>	Trademark
<b>F</b>	SAW Filter
<b>0168</b>	Part Number
<b>●</b>	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

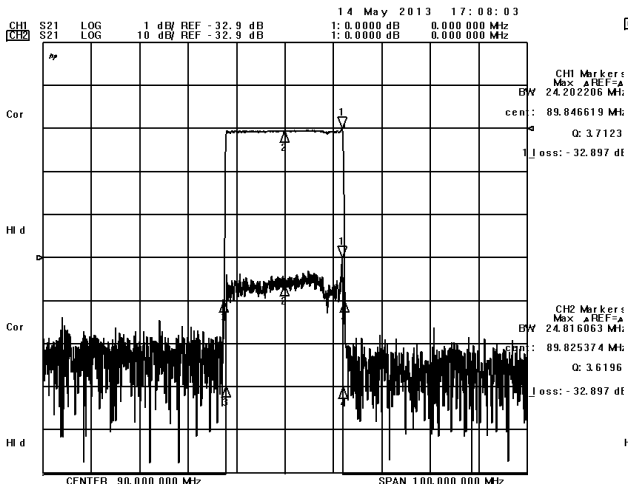
Terminating source impedance: 50Ω

Terminating load impedance: 50Ω

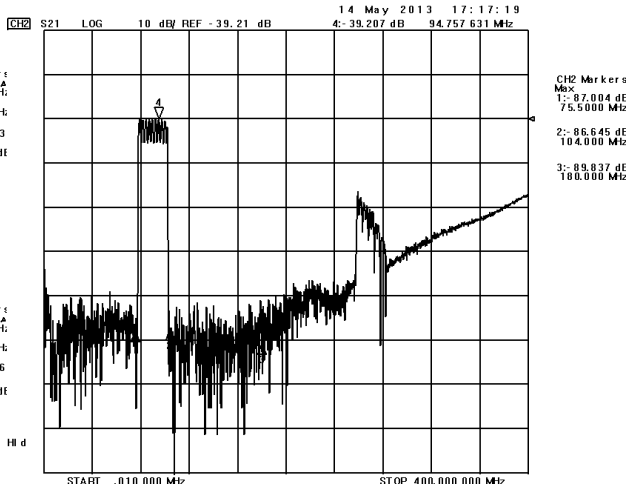
Item		Minimum	Typical	Maximum	Unit
Center Frequency	fc	89.85	90.0	90.15	MHz
Insertion Loss(min)	IL		32.9	35.0	dB
Amplitude Ripple (p-p) 79.00-101.00MHz	Δα		1.3	1.8	dB
1.8dB Bandwidth	BW <sub>1.8dB</sub>	24.00	24.02		MHz
3dB Bandwidth	BW <sub>3dB</sub>	24.16	24.21		MHz
35dB Bandwidth	BW <sub>35dB</sub>		24.75	24.80	MHz
40dB Bandwidth	BW <sub>40dB</sub>		24.82	24.88	MHz
50dB Bandwidth	BW <sub>50dB</sub>		25.14	25.30	MHz
Group Delay Ripple 79.00-101.00MHz	GDR		220.0	250.0	ns
Phase Linearity 79.00-101.00MHz			6.0	8.0	deg
Absolute Delay			3.8		us
Absolute Attenuation	α				
	5.00 -77.00 MHz	40.0	45.0		dB
	103.00-160.00MHz	40.0	48.0		dB

Frequency Characteristics

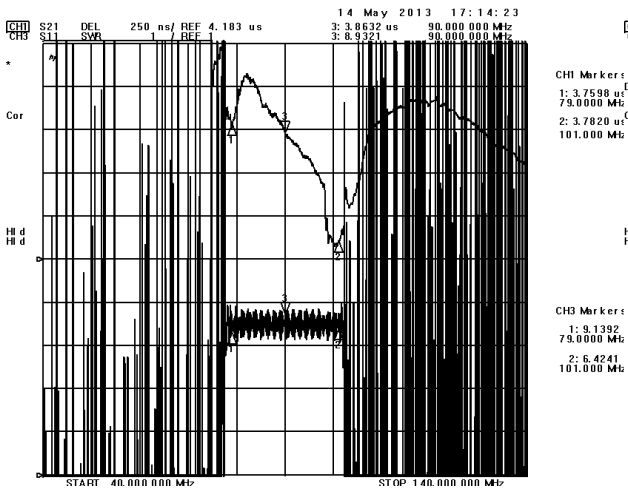
Frequency Response



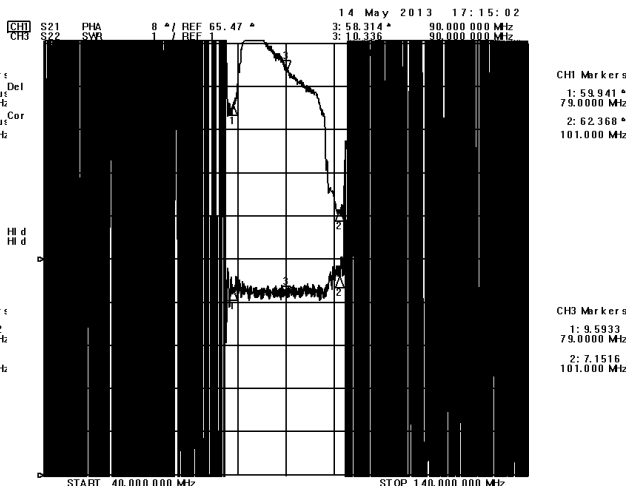
Frequency Response (wideband)



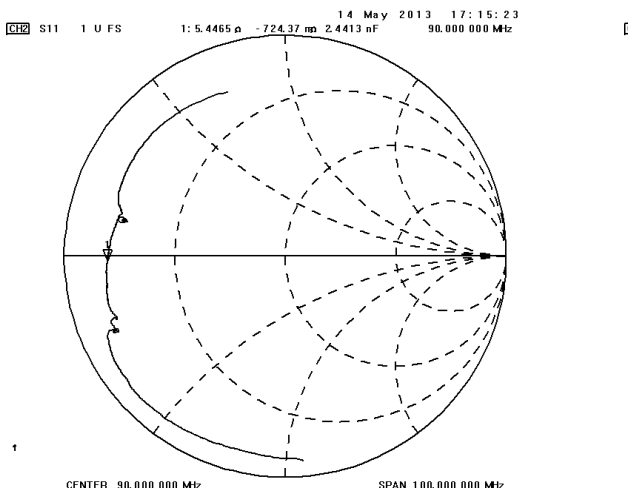
Delay Ripple & S11 VSWR



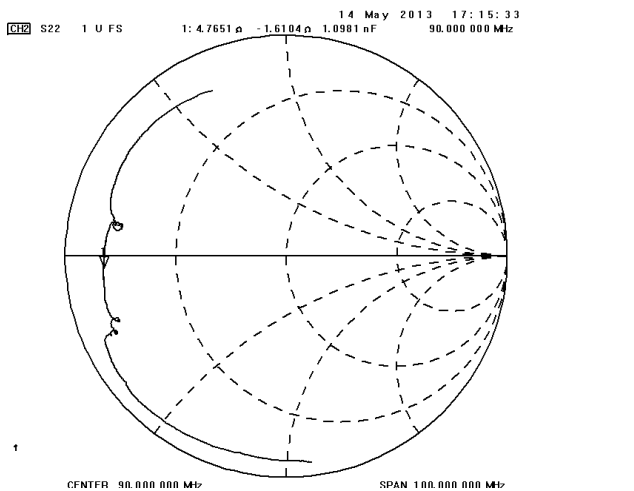
Phase Linearity & S22 VSWR



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.