



APPROVAL SHEET

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

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Part No.	:	SF2167
Pages	:	6
Date	:	2013/4/28
Revision	:	1.1

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Application

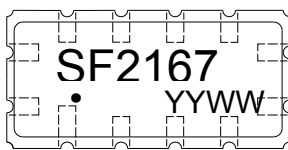
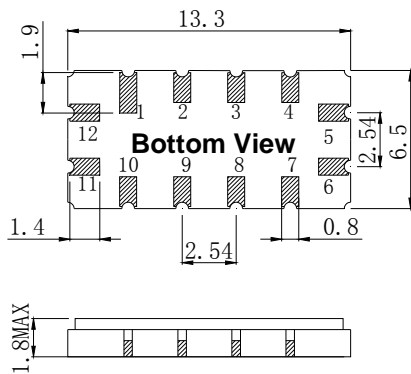
- Low-loss SAW component
- Low amplitude ripple
- Sharp rejections at both out-bands
- Usable passband 40 MHz



Features

- Ceramic Package for **Surface Mounted Technology (SMT)**
- **RoHS** compatible
- Package size 13.30x6.50x1.80mm³
- Package Code QCC12
- **Electrostatic Sensitive Device(ESD)**

Package Dimensions (Unit: mm)



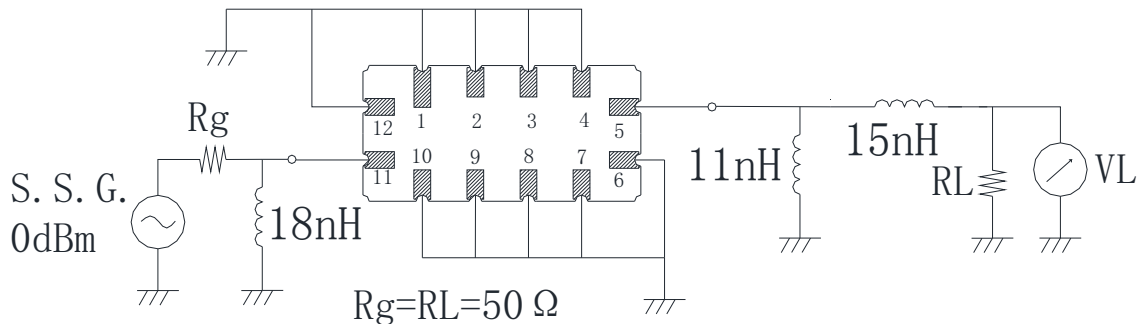
Pin Configuration

Pin No.	Description
11	Input
5	Output
1,2,3,4,6,7,8,9,10,12	Ground

Marking Description

S	Trademark
F	SAW Filter
2167	Part Number
●	Pin 1
YYWW	Year Code & Week Code

Test Circuit(Bottom View)



*Fig: If the products produced in 06th week of 2012, The year code & week code is 1206.

Performance**Maximum Rating**

Item		Value	Unit
DC Voltage	V _{DC}	3	V
Operation Temperature	T	-40 ~ +85	°C
Storage Temperature	T _{stg}	-55 ~ +125	°C
RF Power Dissipation	P	10	dBm

Electronic Characteristics

Test Temperature: 25°C ± 2°C

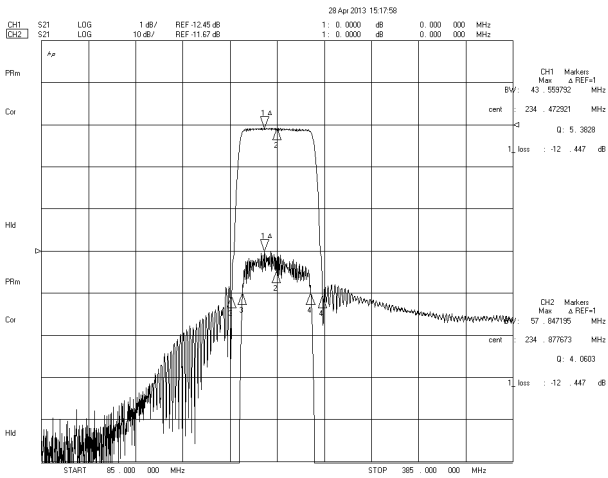
Terminating source impedance: 50Ω

Terminating load impedance: 50Ω

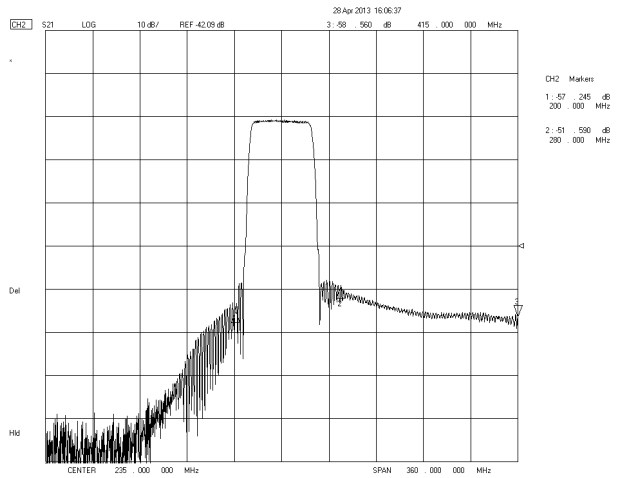
Item		Minimum	Typical	Maximum	Unit
Center Frequency	f _c		235.00		MHz
Insertion Loss(min)	IL		12.5	13.0	dB
Insertion Loss 215.00-255.00MHz	IL		12.8	13.5	dB
Amplitude Ripple (p-p) 215.00-255.00MHz	Δα		0.5	1.0	dB
1 dB Bandwidth	BW _{1dB}	40.0	43.5		MHz
40 dB Bandwidth	BW _{40dB}		57.0	60.0	MHz
Group Delay Ripple 215.00-255.00MHz	GDR		30	60	ns
Absolute Attenuation	α				
DC -200.00 MHz		40	45		dB
280.00-415.00 MHz		40	42		dB
Input VSWR 215.00-255.00MHz			1.9:1	2.5:1	/
Output VSWR 215.00-255.00MHz			1.9:1	2.5:1	/

Frequency Characteristics

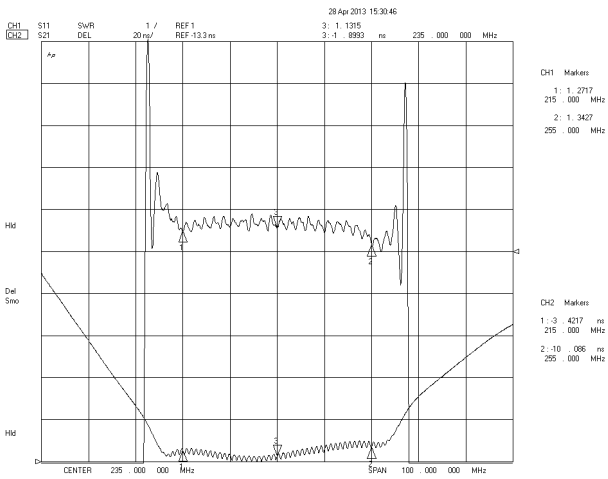
Frequency Response



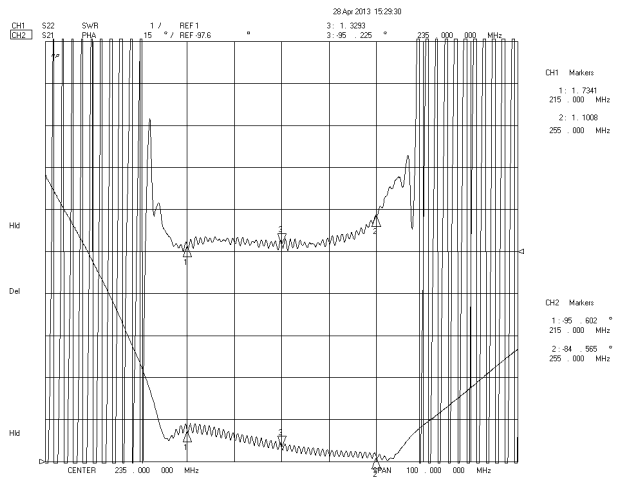
Frequency Response (wideband)



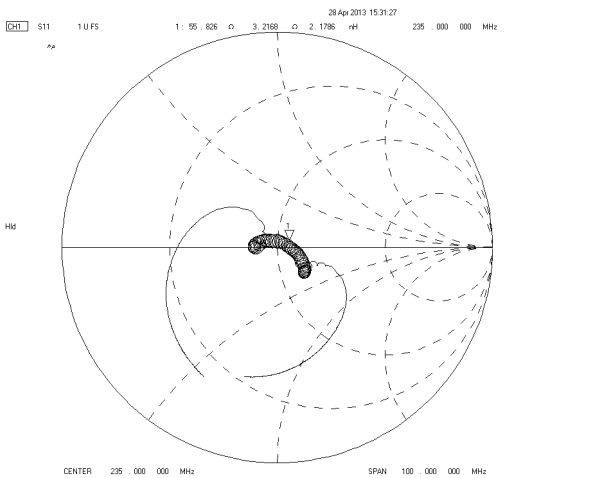
Delay Ripple & S11 VSWR



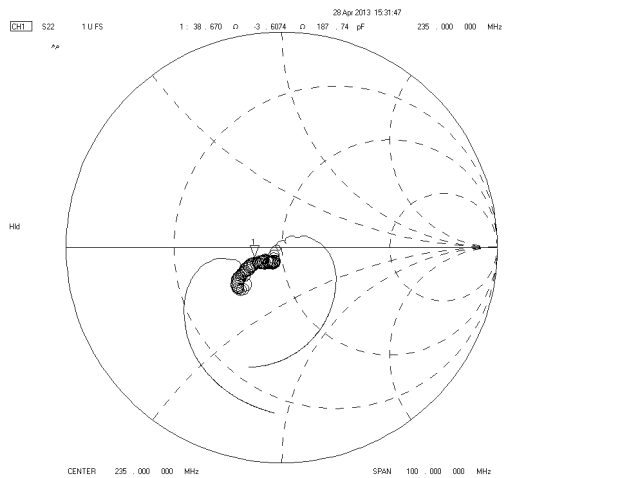
Phase Linearity & S22 VSWR



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.