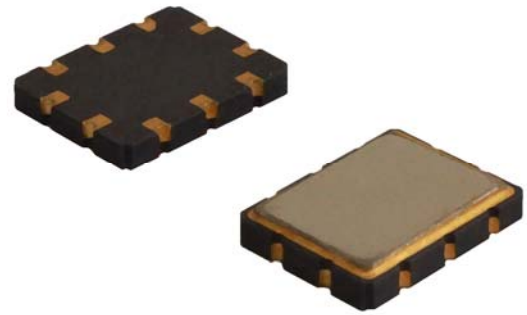


Application

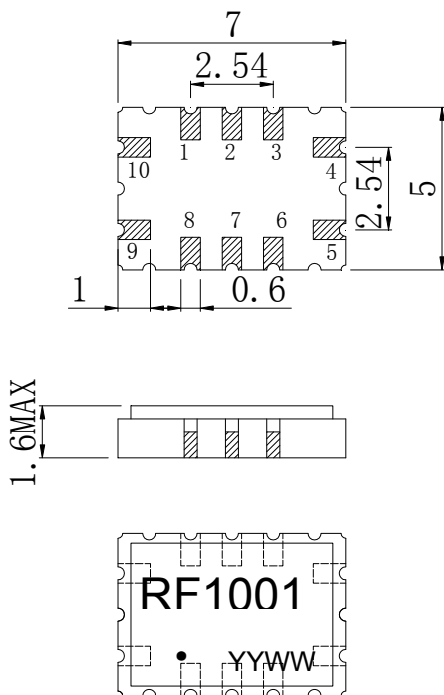
- Low-loss SAW component
- Low amplitude ripple
- Sharp rejections at both out-bands
- Usable passband 60 kHz



Features

- Ceramic Package for **Surface Mounted Technology (SMT)**
- **RoHS** compatible
- Package size 7.00x5.00x1.60mm³
- Package Code QCC12C
- **Electrostatic Sensitive Device(ESD)**

Package Dimensions (Unit: mm)



Pin Configuration

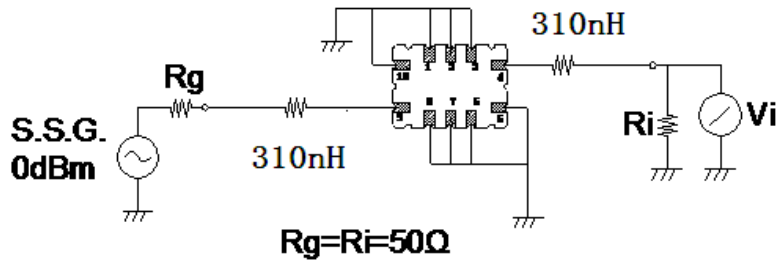
Pin No.	Description
9	Input
4	Output
1,2,3,5,6,7,8,10	Ground

Marking Description

R	Manufacturer
F	SAW Filter
1001	Part Number
●	Pin 1
YYWW	Year Code & Week Code

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

Test Circuit



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

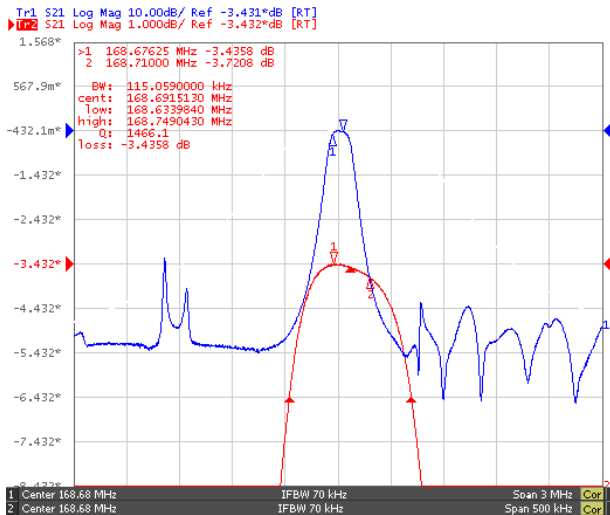
Terminating load impedance: 50Ω

Item		Minimum	Typical	Maximum	Unit
Center Frequency	f_c		168.68		MHz
Insertion Loss(min)	IL		3.8	4.5	dB
Insertion Loss	IL		4.4	5.0	dB
	168.65 - 168.71MHz				
Pass bandwidth	$\alpha_{rel} \leq 1 \text{ dB}$	BW_1	60.0	80.0	kHz
	$\alpha_{rel} \leq 3 \text{ dB}$	BW_3	90.0	110.0	kHz
Amplitude Ripple (p-p)	$\Delta\alpha$		0.5	1.0	dB
	168.65 - 168.71MHz				
Group Delay Ripple	GDR		1.5	2.0	us
	168.65 - 168.71MHz				
Absolute Attenuation	α				
	DC - 130.00MHz	50.0	55.0		dB
	130.00 - 163.68MHz	40.0	45.0		dB
	163.68 MHz	35.0	45.0		dB
	166.68 MHz	30.0	40.0		dB
	170.68 MHz	30.0	40.0		dB

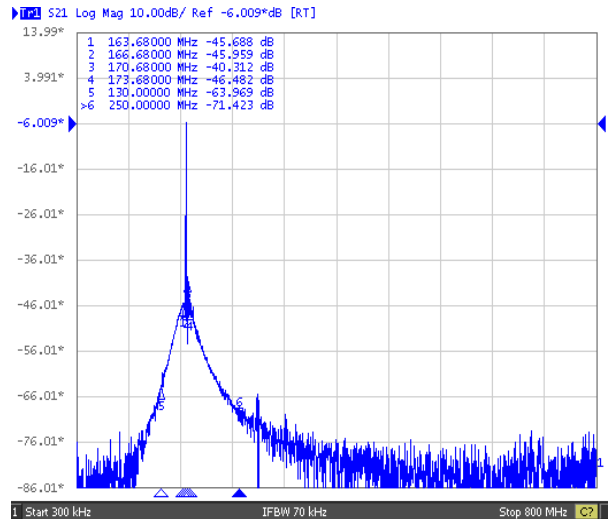
	173.68 MHz		35.0	45.0		dB
	173.68 - 250.00MHz		40.0	45.0		dB
	250.00 - 800.00MHz		50.0	55.0		dB
Input VSWR	168.65 - 168.71MHz			2.5:1	3.0:1	/
Output VSWR	168.65 - 168.71MHz			2.5:1	3.0:1	/

Frequency Characteristics

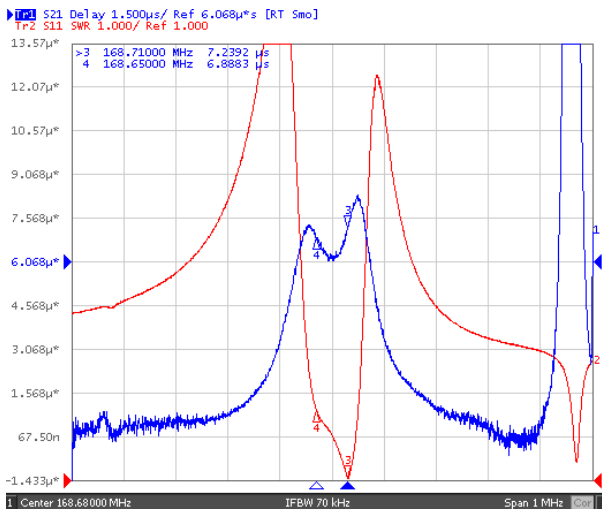
Frequency Response



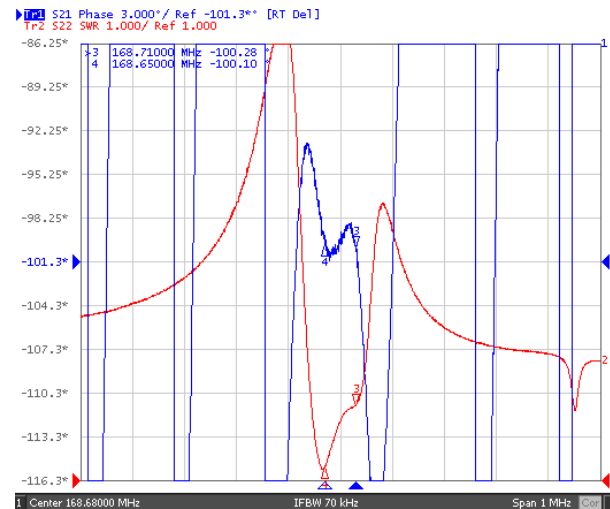
Frequency Response (wideband)



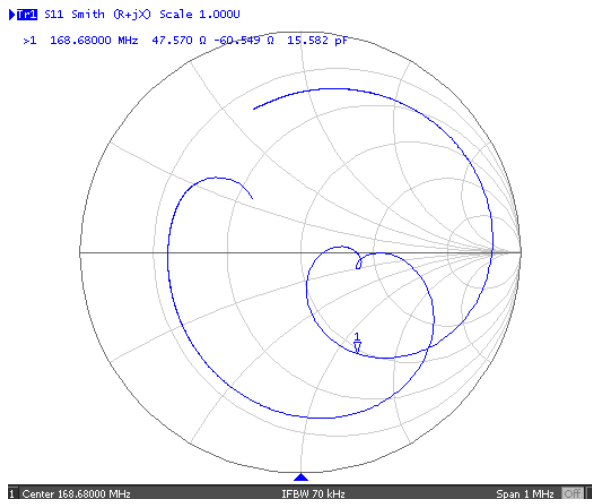
Delay Ripple & S11 VSWR



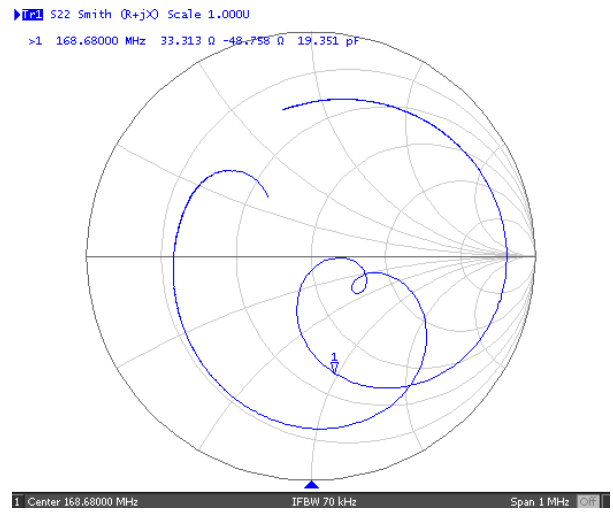
Phase Linearity & S22 VSWR



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.