SAW Filter

RF1550

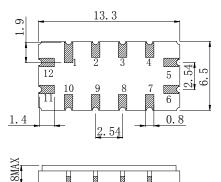
Application

- Low-loss SAW component
- Low amplitude ripple
- Sharp rejections at both out-bands
- Usable passband 4.8 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)





Test Circuit (Bottom View)

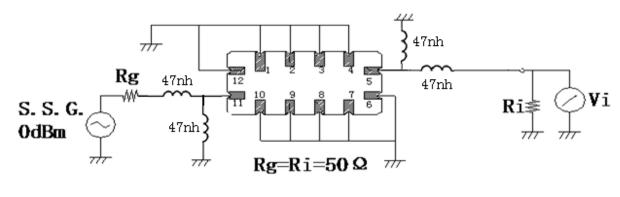
Pin Configuration

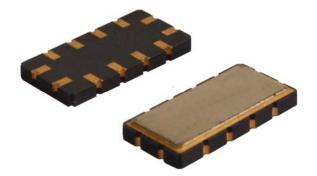
Pin No.	Description		
11	Input		
5	Output		
1,2,3,4,7,8,9,10	Case Ground		
6,12	To be Grounded		

Marking Description

	R	Manufacturer	
RF	F	SAW Filter	
1550	Part Number		
	Pin 1		
YYWW	Year Code & Week Code		

*Fig: If the products produced in 06th week of 2015, The year code & week code is 1506.





Performance

Maximum Rating

Item		Value	Unit
DC Voltage	V _{DC}	3	V
Operation Temperature	т	-40 ~ +85	°C
Storage Temperature	T _{stg}	-55 ~ +125	°C
RF Power Dissipation	Р	15	dBm

Electronic Characteristics

Test Temperature: 25℃±2℃

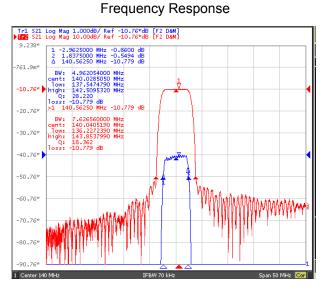
Terminating source impedance: 50Ω

Terminating load impedance: 50Ω

Item		Minimum	Typical	Maximum	Unit
Center Frequency	fc	139.9	140.0	140.1	MHz
Insertion Loss(min)	IL		11.0	13.0	dB
1 dB Bandwidth	BW1dB	4.5	4.8		MHz
40 dB Bandwidth	BW40dB		7.6	7.8	MHz
Amplitude Ripple (p-p) Fc±2.4 MHz	۵		0.7	1.0	dB
Group Delay Ripple Fc±2.4 MHz	GDR		50.0	150.0	ns
Absolute Delay	AD	1.31	1.32	1.33	us
Absolute Attenuation		40.0	45.0		dB
Temperature Coeffcient of Frequency			-18		ppm/° ℃

RF1550

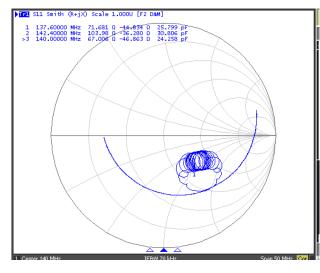
Frequency Characteristics



Delay Ripple & S11 VSWR

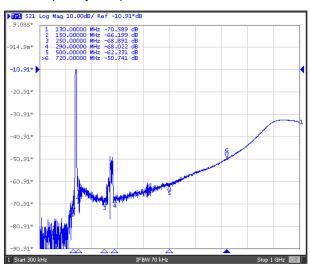


S11 Smith Chart

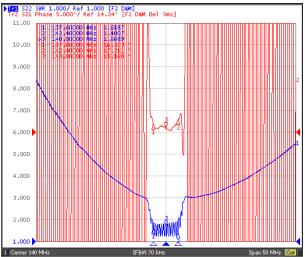


REYCONNS CHINA LIMITED

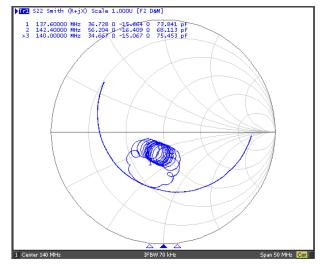
Frequency Response (wideband)



Phase Linearity & S22 VSWR



S22 Smith Chart



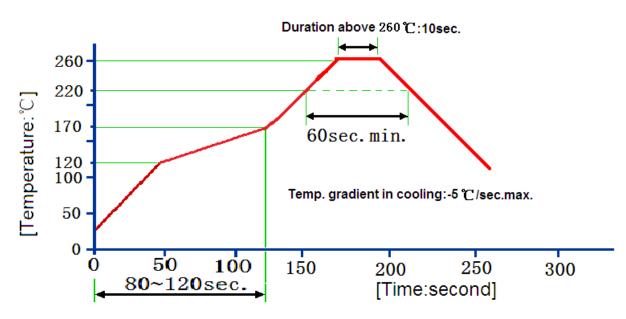
SAW Filter

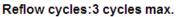
RF1550

Reliability (The SAW components shall remain electrical performance after tests)

No.	Test item	Test condition		
1	1 Temperature Storage	(1) Temperature: 85℃±2℃, Duration: 250h, Recovery time: 2h±0.5h		
I		(2) Temperature: –55 $^\circ\!\mathrm{C}\pm\!3^\circ\!\mathrm{C}$, Duration: 250h ,Recovery time: 2h±0.5h		
2	Humidity Test	Conditions: 60℃±2℃ , 90~95% RH Duration: 250h		
3	3 Thermal Shock	Heat cycle conditions: TA=-55℃±3℃, TB=85℃±2℃, t1=t2=30min, Switch		
3	Thermal Shock	time: ≤3min, Cycle time: 100 times, Recovery time: 2h±0.5h.		
4	4 Vibration Fatigue	Frequency of vibration: 10~55Hz Amplitude:1.5mm		
		Directions: X,Y and Z Duration: 2h		
5	Drop Test	Cycle time: 10 times Height: 1.0m		
		Temperature: 245 °C ±5 °CDuration: 3.0s5.0s		
6	6 Solder Ability Test	Depth: DIP2/3 , SMD1/5		
		(1)Thickness of PCB:1mm , Solder condition: 260 $^\circ\!\!\mathrm{C}\pm5^\circ\!\!\mathrm{C}$, Duration: 10±1s		
7	Resistance to Soldering Heat	(2)Temperature of Soldering Iron: 350 $^\circ\!\!\mathbb{C}\pm10^\circ\!\!\mathbb{C}$, Duration: 3~4s ,		
		Recovery time : 2 ± 0.5h		

Recommended Reflow Soldering Diagram





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.