SAW Filter

RF1547

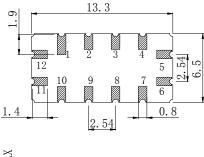
Application

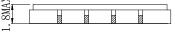
- Low-loss SAW component
- Low amplitude ripple
- Sharp rejections at both out-bands
- Usable passband 20.5 MHz

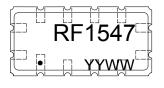
Features

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

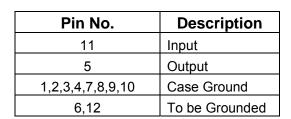
Package Dimensions (Unit: mm)







Test Circuit (Bottom View)

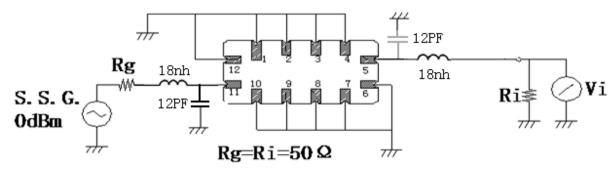


Marking Description

Pin Configuration

RF	R	Manufacturer	
	F	SAW Filter	
1547	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.



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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℃

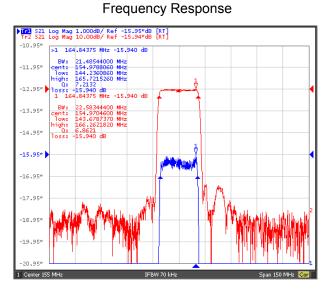
Terminating source impedance: 50Ω

Terminating load impedance: 50Ω

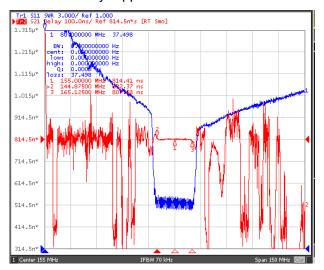
Item		Minimum	Typical	Maximum	Unit
Center Frequency	fc		155.00		MHz
Insertion Loss(min)	IL		16.0	20.0	dB
1 dB Bandwidth	BW1dB	20.5	21.5		MHz
3 dB Bandwidth	BW3dB		22.6	23.0	MHz
40 dB Bandwidth	BW40dB		26.65	28.0	MHz
Amplitude Ripple (p-p)	∆a		0.6	1.0	dB
Absolute Delay	AD		0.82	1.0	us
Absolute Attenuation					
DC-135.00MHz		45.0	50.0		dB
175.00-400.00MHz		40.0	45.0		dB

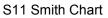
RF1547

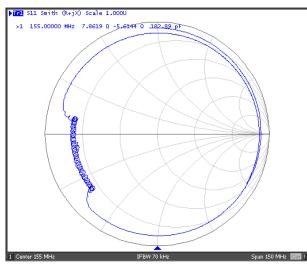
Frequency Characteristics



Delay Ripple & S11 VSWR

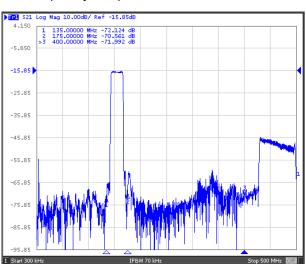


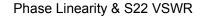


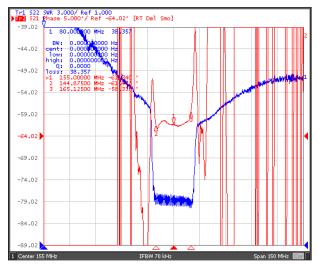


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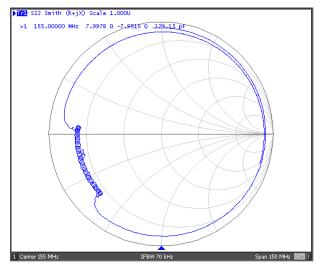
Frequency Response (wideband)







S22 Smith Chart



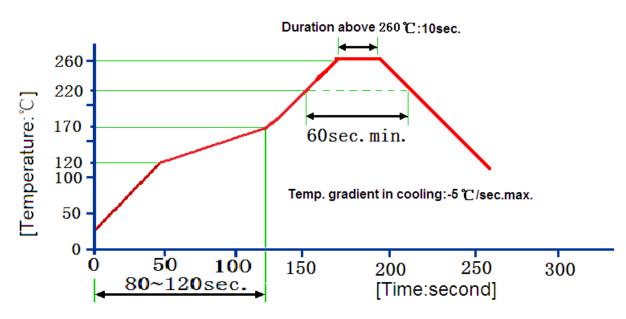
SAW Filter

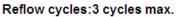
RF1547

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

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