

## APPROVAL SHEET

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

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Part No.	:	SF1240
Pages	:	6
Date	:	2013/3/7
Revision	:	1.0



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Checked by:	
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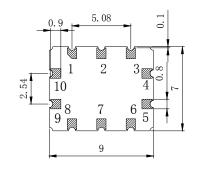
### **Application**

- Low-loss SAW component
- Low amplitude ripple
- Sharp rejections at both out-bands
- Usable passband 3 MHz

#### **Features**

- Ceramic Package for Surface Mounted Technology (SMT)
- RoHS compatible
- Package size 7.00x9.00x1.90mm³
- Electrostatic Sensitive Device(ESD)

### **Package Dimensions**







### **Pin Configuration**

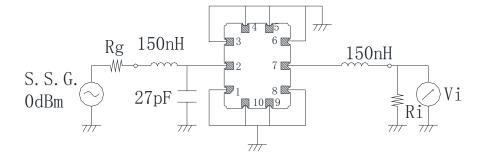
Pin No.	Description
2	Input
7	Output
1,3,4,5,6,8,9,10	Ground

### **Marking Description**

S	Trademark	
F	SAW Filter	
1240	Part Number	
•	Pin 1	
YYWW	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)**



Please read notes at the end of this document.

### 140.00 MHz SAW Filter

### Performance

**Maximum Rating** 

Item		Value	Unit
DC Voltage	$V_{DC}$	3	V
Operation Temperature	Т	-40 ~ +85	$^{\circ}$
Storage Temperature	T <sub>stg</sub>	-55 ~ +125	$^{\circ}$
RF Power Dissipation	Р	10	dBm

### **Electronic Characteristics**

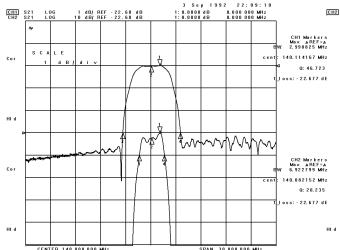
Test Temperature:  $25^{\circ}C \pm 2^{\circ}C$ 

Terminating source impedance:  $50\Omega$ Terminating load impedance:  $50\Omega$ 

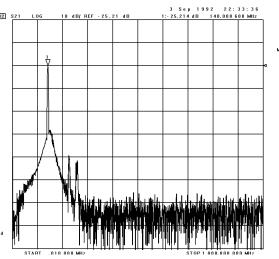
Item	Minimum	Typical	Maximum	Unit	
Center Frequency	fc	139.8	140.0	140.2	MHz
Insertion Loss(min)	IL		22.5	24.0	dB
Amplitude Ripple (p-p) 139.00-141.00 MHz	∆a		0.5	1.0	dB
1 dB Bandwidth	BW <sub>1dB</sub>	2.5	2.9		MHz
30 dB Bandwidth	BW <sub>30dB</sub>		6.9	7.5	MHz
Absolute Attenuation	а				
DC -136.00 MHz		30.0	31.0		dB
144.00-1000.00 MHz		30.0	31.0		dB

### **Frequency Characteristics**

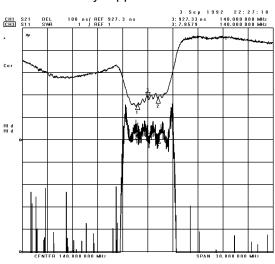
### Frequency Response



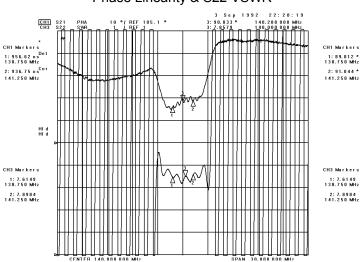
### Frequency Response (wideband)



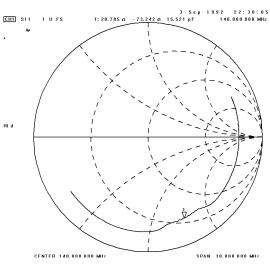
Delay Ripple & S11 VSWR



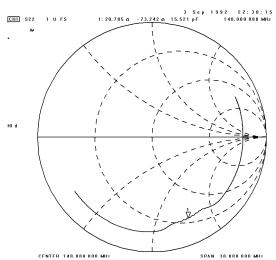
Phase Linearity & S22 VSWR



S11 Smith Chart



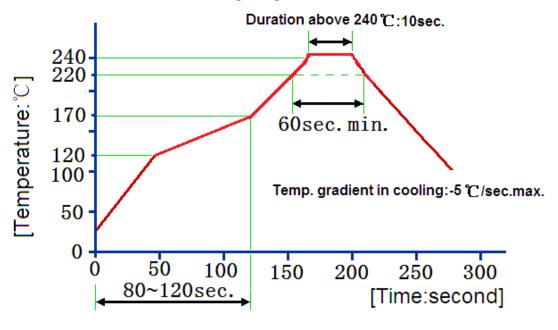
S22 Smith Chart



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

No.	Test item	Test condition		
1	Temperature	(1) Temperature: 85℃±2℃, Duration: 250h, Recovery time: 2h±0.5h		
I	Storage	(2) Temperature: –55°C±3°C , Duration: 250h ,Recovery time: 2h±0.5h		
2	Humidity Test	Conditions: 60℃±2℃, 90~95% RH Duration: 250h		
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 ℃ ±5 ℃ Duration: 3.0s5.0s		
6	Solder Ability Test	Depth: DIP2/3 , SMD1/5		
		(1)Thickness of PCB:1mm , Solder condition: 260 ℃±5 ℃ , Duration: 10±1s		
7	Resistance to Soldering Heat	(2)Temperature of Soldering Iron: 350℃±10℃, Duration: 3~4s,		
		Recovery time: 2 ± 0.5h		

### **Recommended Reflow Soldering Diagram**



Reflow cycles:3 cycles max.

140.00 MHz SAW Filter SF1240 3 MHz Bandwidth

### **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.