



APPROVAL SHEET

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

BEIJING ZHONGXUN SIFANG SCIENCE & TECHNOLOGY CO.,LTD.

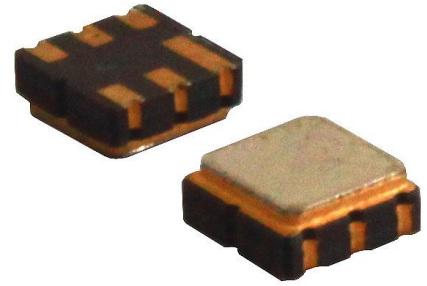
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Part No.	:	SF9031
Pages	:	6
Date	:	2013/6/20.
Revision	:	1.0

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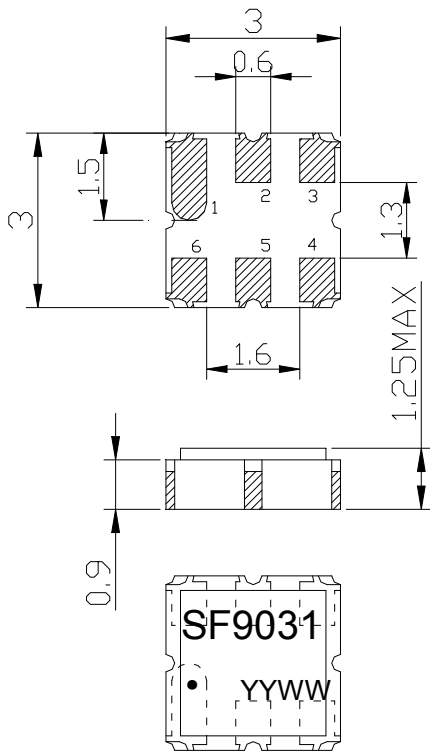
- Low-loss SAW component
- Low amplitude ripple
- Sharp rejections at both out-bands
- Usable passband 50.0 MHz



Features

- Ceramic Package for **Surface Mounted Technology (SMT)**
- **RoHS** compatible
- Package size 3.00x3.00x1.25mm³
- Package Code DCC6C
- **Electrostatic Sensitive Device(ESD)**

Package Dimensions (Unit: mm)



Pin Configuration

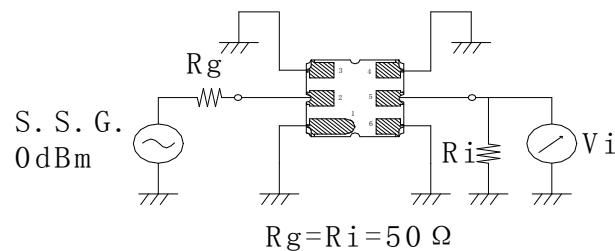
Pin No.	Description
2	Input
5	Output
1,3,4,6	Case Ground

Marking Description

SF	SF	Trademark
	F	SAW Filter
9031	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.

Test Circuit (Bottom View)



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: $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$

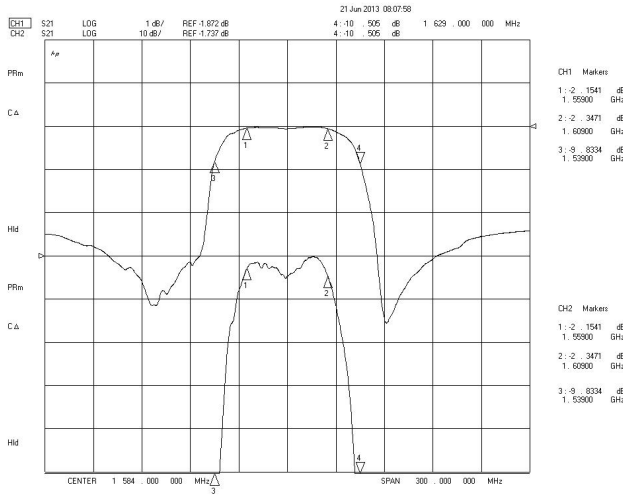
Terminating source impedance: 50Ω

Terminating load impedance: 50Ω

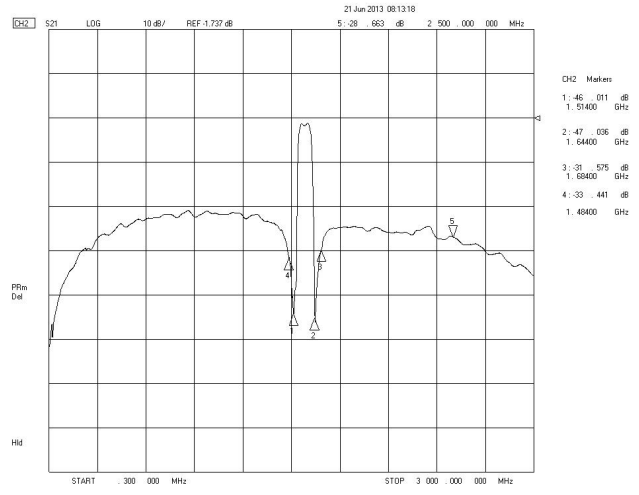
Item		Minimum	Typical	Maximum	Unit
Center Frequency	f_c		1584.00		MHz
Insertion Loss(min)	IL		1.9	2.2	dB
Insertion Loss 1559.00 - 1609.00MHz	IL		2.4	3.0	dB
Amplitude Ripple (p-p) 1559.00 - 1609.00MHz	Δa		0.5	1.2	dB
Group Delay Ripple 1559.00 - 1609.00MHz	GDR		12.0	40.0	ns
Absolute Attenuation	a				
DC - 1484.00MHz		20.0	21.0		dB
1484.00 - 1524.00MHz		28.0	30.0		dB
1539.00MHz		2.0	5.0		dB
1629.00MHz		2.0	5.0		dB
1644.00 - 1684.00MHz		28.0	30.0		dB
1684.00 - 3000.00MHz		23.0	25.0		dB
Input VSWR 1559.00 - 1609.00MHz			1.7:1	2.0:1	/
Output VSWR 1559.00 - 1609.00MHz			1.7:1	2.0:1	/

Frequency Characteristics

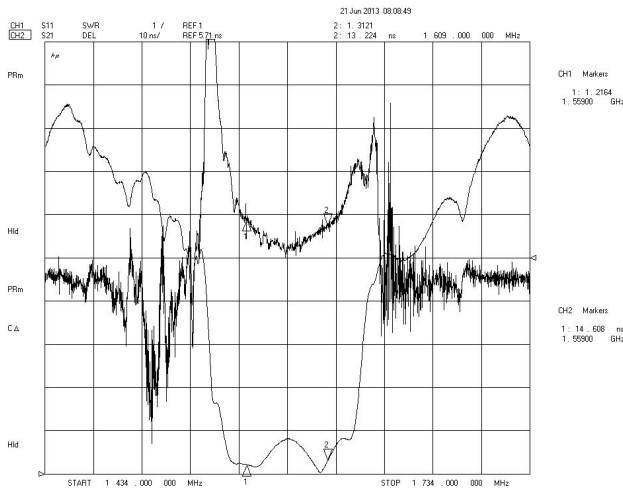
Frequency Response



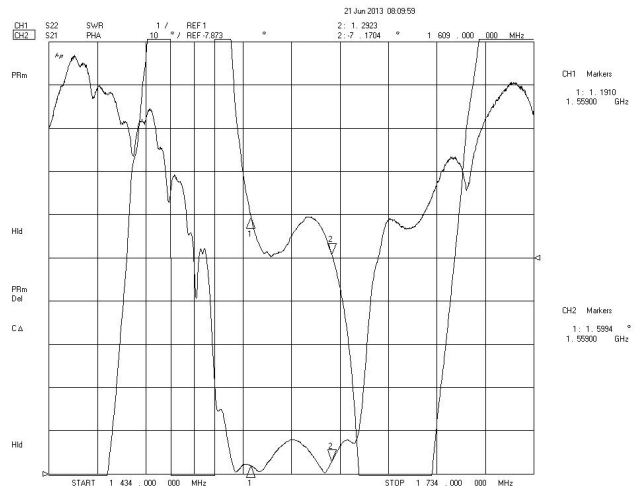
Frequency Response (wideband)



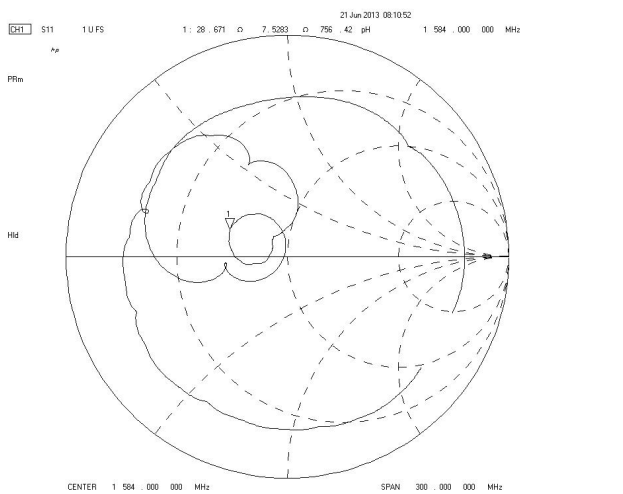
Delay Ripple & S11 VSWR



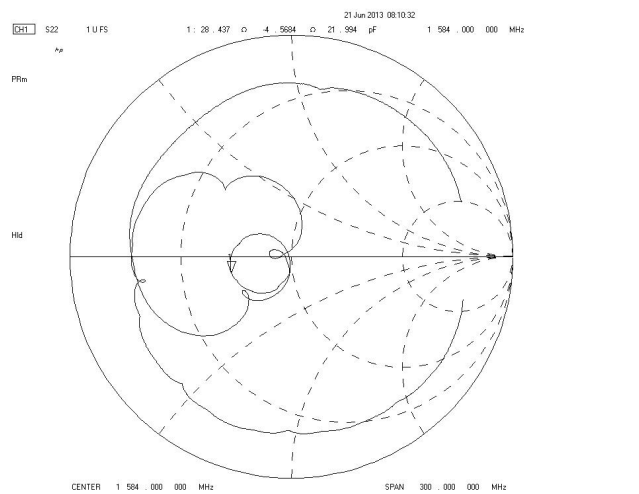
Phase Linearity & S22 VSWR



S11 Smith Chart



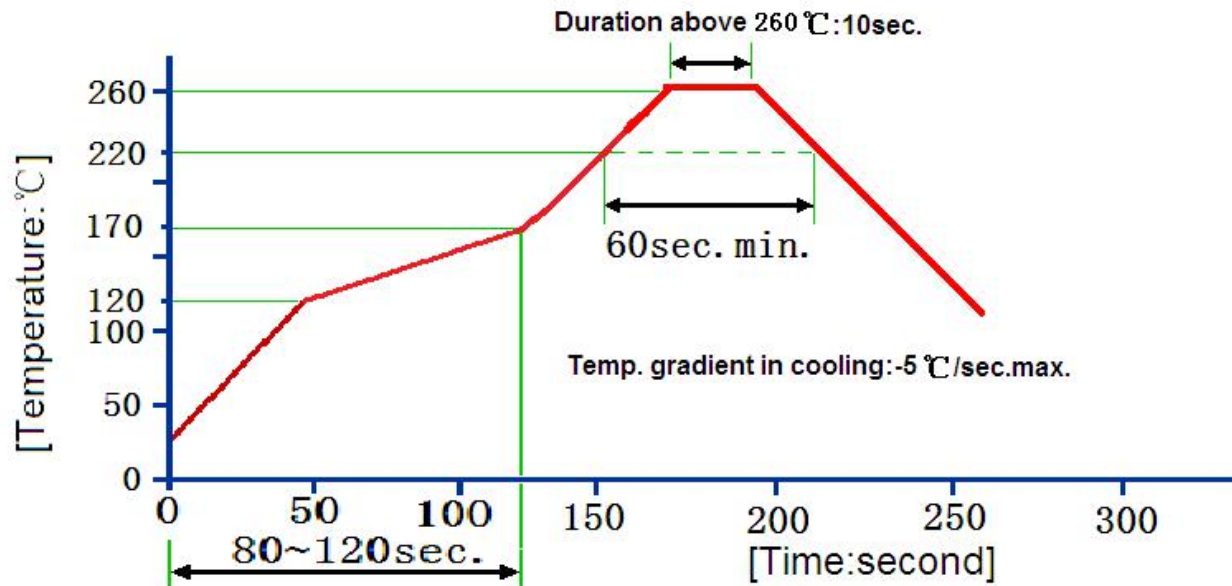
S22 Smith Chart



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

No.	Test item	Test condition
1	Temperature 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
3	Thermal Shock	Heat cycle conditions: TA=-55°C±3°C, TB=85°C±2°C, t1=t2=30min, Switch time: ≤3min, Cycle time: 100 times, Recovery time: 2h±0.5h.
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
6	Solder Ability Test	Temperature: 245°C±5°C Duration: 3.0s--5.0s Depth: DIP--2/3 , SMD--1/5
7	Resistance to Soldering Heat	(1)Thickness of PCB:1mm , Solder condition: 260°C±5°C , Duration: 10±1s (2)Temperature of Soldering Iron: 350°C±10°C, Duration: 3~4s, Recovery time : 2 ± 0.5h

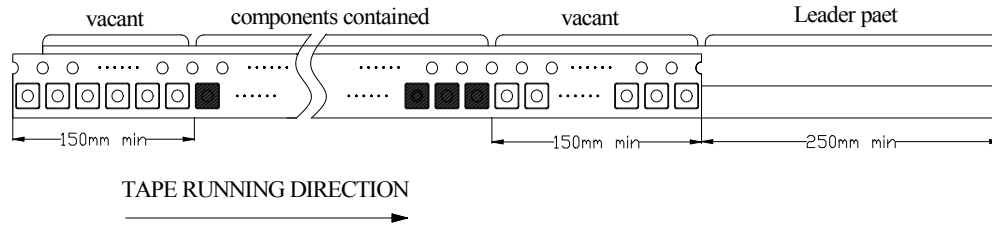
Recommended Reflow Soldering Diagram



Reflow cycles:3 cycles max.

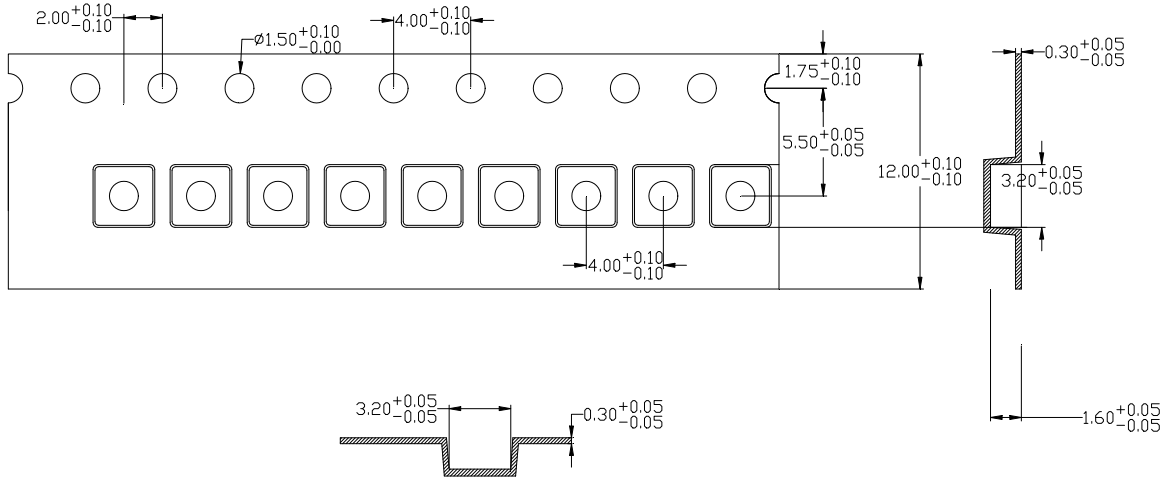
Packing Information

Carrier Tape



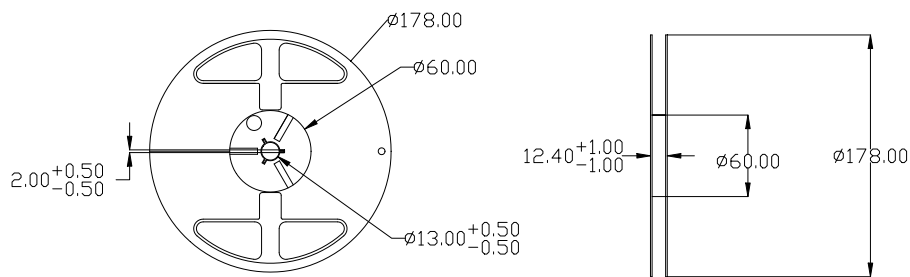
Reel Dimensions

Unit: mm



Outer Packing

Unit: mm



3000 pcs/reel

Type	Quantity	Dimension	Description	Weight
Internal box	6000	190×188×42	carton box 2 reel / internal box 5 boxes / external box	0.50
External box	30000	235×205×210		2.77

Unit: mm

Unit: kg

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.