

Product Specification	Abundance Enterprise Co.	Original Date	2016/5/12
		PN:	SF1580-1411A10



Abundance Enterprise Co.
PRODUCT SPECIFICATION

SAW FILTER

AEC PART NUMBER / SPEC. NO: SF1580-1411A10



This model is ROHS/PB-free compliance according to the ROHS directive 2002/95/EC

Production Name	SAW FILTER
Frequency	1580MHz
Model No	1411A10
Issue Date	12th May, 2016

Address: Room 602-603, Java Commercial Centre,
128 Java Road, North Point, Hong Kong
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Prepared	Inspection	Approved
<i>Tom</i>	<i>Andy</i>	<i>Henkie</i>

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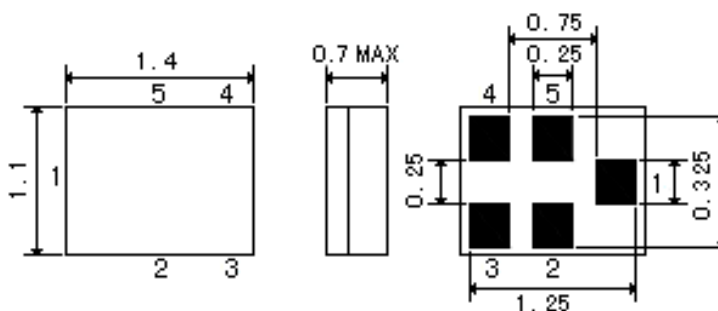
1.GENERAL PROVISION

The **SF1580-1411A10** is a low-loss, compact, and economical surface-acoustic-wave (**SAW**) RF filter used in **Compass (Beidou), GLONASS and GPS system** with a surface-mount ceramic case with the following features.

- High stability and reliability with good performance and no adjustment
- Narrow and sharp pass band characteristics. ROHS compatible.
- Low insertion loss and deep stop band attenuation for interference.
- Low - loss SAW filter for GPS Package Size 1.4X1.1mm

2. PACKAGE DIMENSIONS (1411)

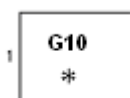
Ceramic Package: Unit : mm



Pin Configuration

1	Input
4	Output
2,3,5	Ground

Marking




Top View, Laser Marking

"G10": Part number Type

"1": Terminal 1

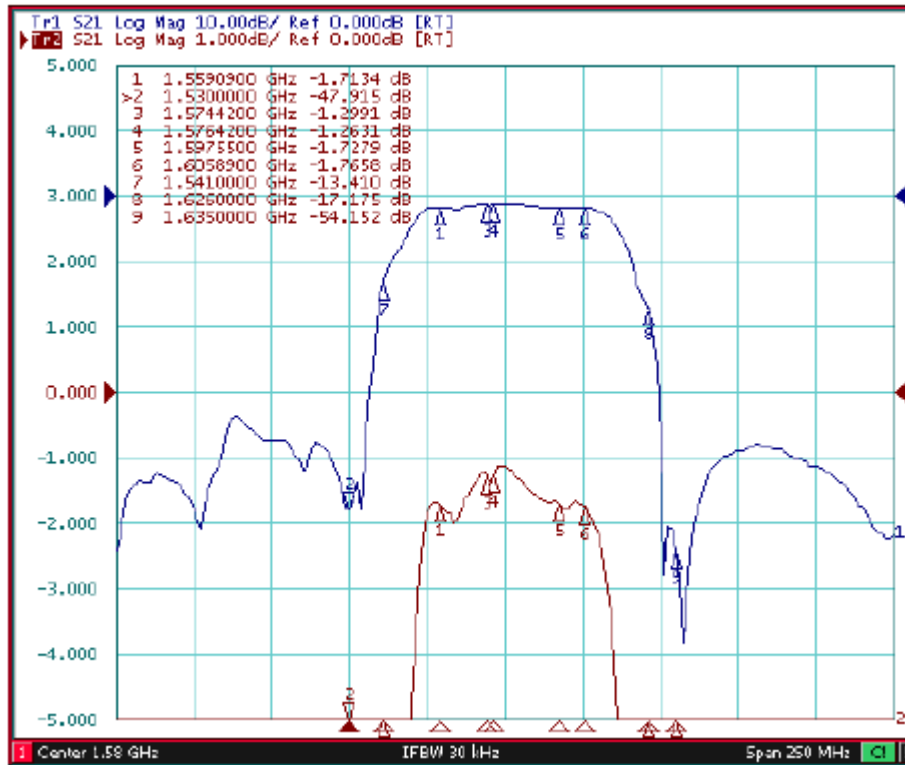
"*": Lot number (The code shown below varies in a 4-year cycle)

Code	1	2	3	4	5	6	7	8	9	10	11	12
2015	a	b	c	d	e	f	g	h	i	j	k	m
2016	n	p	q	r	s	t	u	v	w	x	y	z
2017	A	B	C	D	E	F	G	H	J	K	L	M
2018	N	P	Q	R	S	T	U	V	W	X	Y	Z

 Abundance Enterprise Co.	NO.	Revised DATE	MODIFY CONTENTS	
	1	2016.5.12	NEW UPDATE	
DIMENTION	mm			
SCALE		MODEL	SAW Filter	
TOLERANCE		PART NAME	SF1580-1411A10	
DRAWING NO.		APPV'D BY	CHECK BY	DRAWN BY
SF1580-1411A10		Henkie	Andy	Nathan

3. TYPICAL FREQUENCY RESPONSE

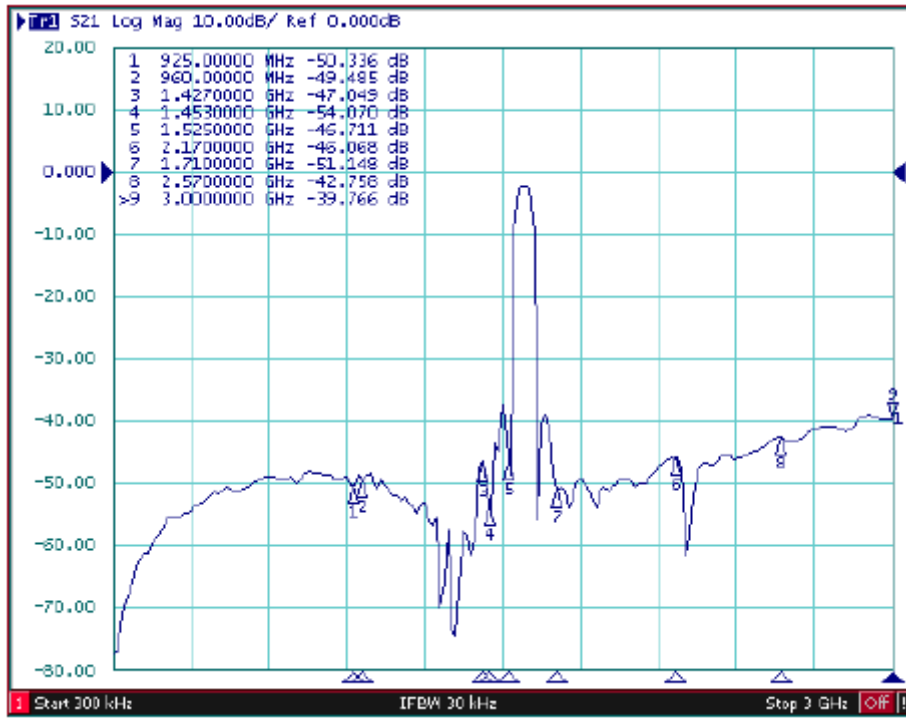
S21



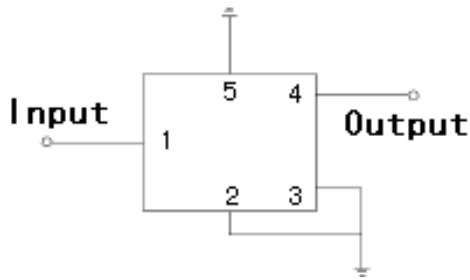
VSWR and Group Delay



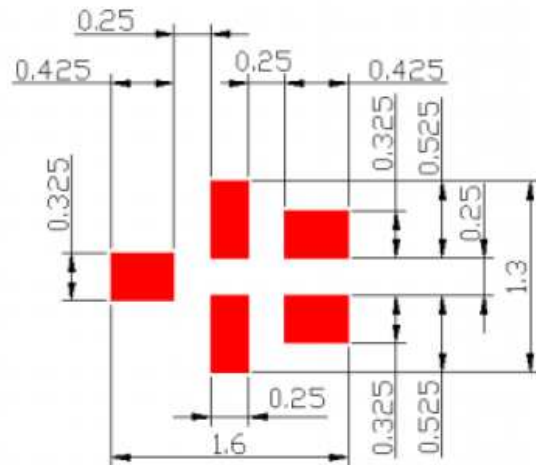
Far Side



4. TEST CIRCUIT



5. RECOMMENDED PCB LAYOUT



■ : Land Pattern
Unit : mm

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6. PERFORMANCE

6-1. Maximum Ratings

Rating		Value	Unit
DC Voltage (between any Terminals)	V_{DC}	10	V
RF Power (in BW)	P	13	dBm
Operating Temperature Range	T_A	-40 ~ +85	°C
Storage Temperature Range	T_{stg}	-40 ~ +85	°C

6-2. Electronic Characteristics

Item		Minimum	Typical	Maximum	Unit
Insertion Loss in 1569.09–1563.09MHz	IL		1.8	2.1	
Insertion Loss in 1575.42–1576.42MHz	IL	-	1.3	1.6	dB
Insertion Loss in 1597.55–1605.89MHz	IL	-	1.8	2.1	dB
Passband Ripple In 1569.09–1563.09MHz	Pr		0.2	0.5	dB
Passband Ripple in 1575.42–1576.42MHz	Pr		0.2	0.4	dB
Passband Ripple in 1597.55–1605.89MHz	Pr		0.3	0.6	dB
VSWR in 1569.09–1563.09MHz	Vswr		1.6	1.9	dB
VSWR in 1575.42–1576.42MHz	Vswr		1.2	1.6	dB
VSWR in 1597.55–1605.89MHz	Vswr		1.3	1.8	dB

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Group delay Ripple in 1569.09–1563.09MHz	α		2	7	Ns
Group delay Ripple in 1575.42–1576.42MHz	α		2	7	Ns
Group delay Ripple in 1597.55–1605.89MHz	α		2	8	Ns
Absolute Attenuation					
0.30 ... 925.0 MHz		45	50		dB
925.0...960.0 MHz		43	50		dB
1427.0...1453.0 MHz		41	47		dB
1453.0...1470.0 MHz		40	45		dB
1470.0...1530.0 MHz		30	35		dB
1530.0 ... 1541.0 MHz		7	13		dB
1626.0 ... 1635.0MHz		10	17		dB
1635.0 ...1700.0 MHz		33	37		dB
1710.0...1785.0 MHz		45	50		dB
1850.0 ...1910.0 MHz		43	48		dB
1920.0...1980.0 MHz		42	48		dB
2110.0...2170.0 MHz		40	45		dB
2300.0 ...2400.0 MHz		40	44		dB
2400.0...2500.0 MHz		39	43		dB
2500.0...2570.0 MHz		38	42		dB
2570.0 ...3000.0 MHz		33	39		dB
Input / Output Impedance (Norminal)		50 Ω			

ⓘ CAUTION: Electrostatic Sensitive Device. Observe precautions for handling!

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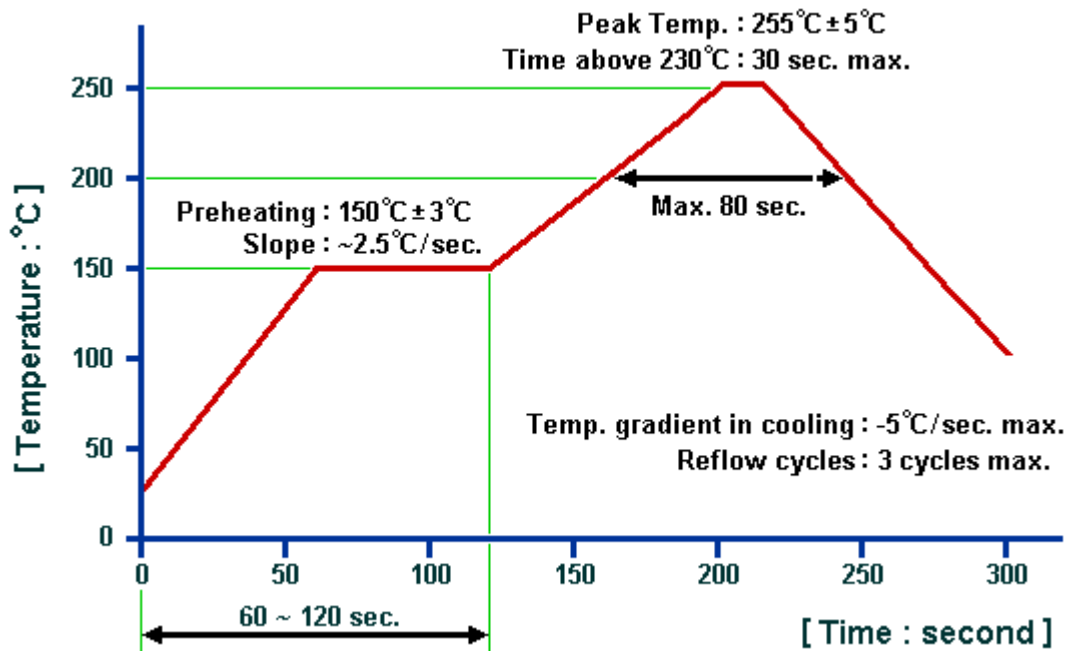
7. STABILITY CHARACTERISTICS

	Test item	Condition of test
1	Mechanical shock	(a) Drops: 3 times on concrete floor (b) Height: 1.0 m
2	Vibration resistance	(a) Frequency of vibration: 10~55Hz (b) (b) Amplitude: 1.5 mm (c) Directions: X,Y and Z (d) Duration: 2 hours
3	Moisture resistance	(a) Condition: 40°C±2°C, 93+2 -3% RH. (b) Duration: 96 hours (c) Wait 4 hours before measurement
4	Climatic sequence	(a) +70°C for 16 hours (b) +55°C for 24 hours, 90~95% R.H. (c) -25°C for 2 hours (d) +40°C for 24 hours, 90~95% R.H. (e) Wait 4 hours before measurement
5	High temperature exposure	(a) Temperature: 85°C (b) Duration: 250 hours (c) Wait 4 hours before measurement
6	Temperature cycling	(a) +85°C for 30 minutes ⇒ -40°C for 30 minutes repeated 120 times (b) Wait 4 hours before measurement

Requirements: The SAW filer shall remain within the electrical specifications after tests.

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8. RECOMMENDED SOLDERING PROFILE

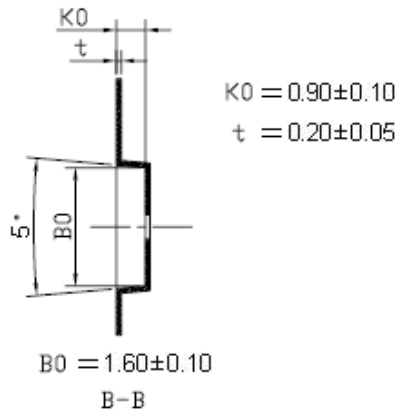
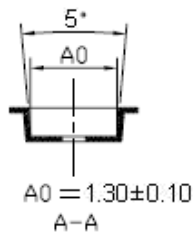
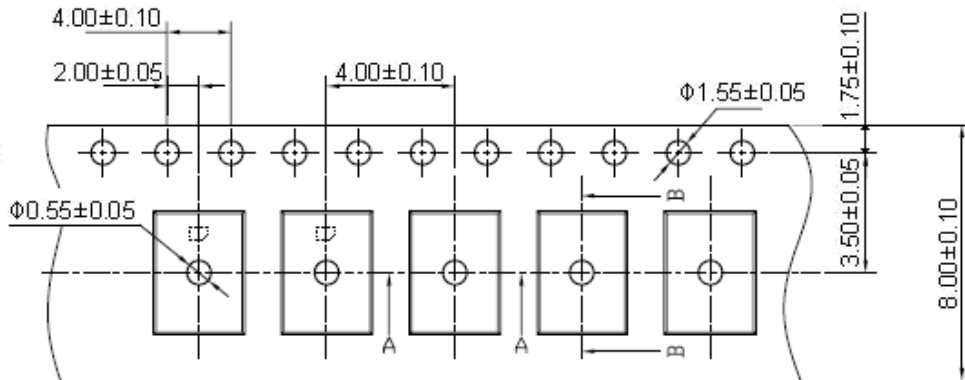


Caution

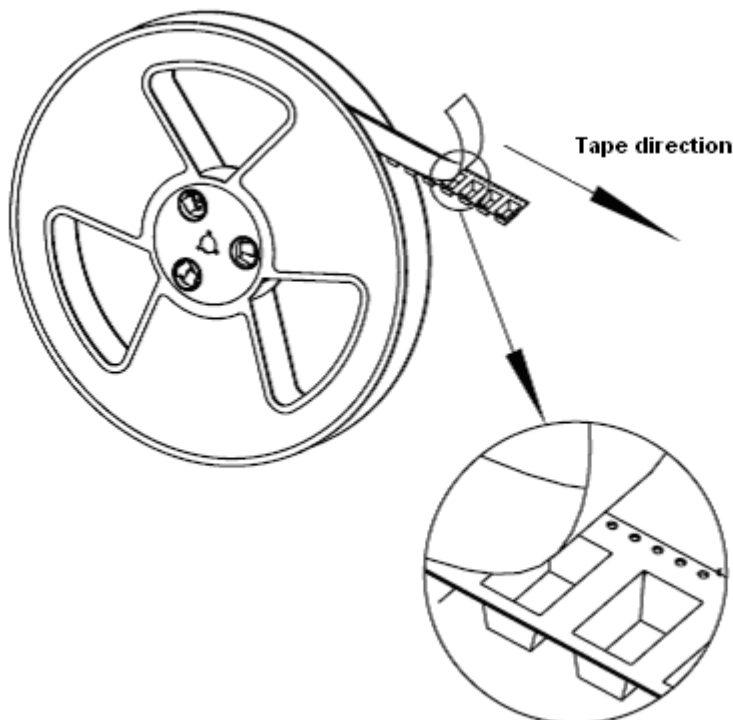
- SAW devices should not be used in any type of fluid such as water, oil, organic solvent, etc.
- Be certain not to apply voltage exceeding the rated voltage of components.
- Do not operate outside the recommended operating temperature range of components.
- Sudden change of temperature shall be avoided, deterioration of the characteristics can occur.
- Be careful of soldering temperature and duration of components when soldering.
- Do not place soldering iron on the body of components.
- Be careful not to subject the terminals or leads of components to excessive force.
- SAW devices are electrostatic sensitive. Please avoid static voltage during operation and storage.
- Ultrasonic cleaning shall be avoided. Ultrasonic vibration may cause destruction of components.

9. PACKING INFORMATION

Carrier Tape



Reel Dimensions



Material	PS
Unit	mm
Tolerance	± 0.20 mm
Quantity	3000/reel

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1. The specifications of this device are subject to change or obsolescence without notice.
2. Typically, equipment utilizing this device requires emissions testing and government approval, which is the responsibility of the equipment manufacturer.

Our liability is only assumed for the Surface Acoustic Wave (SAW) component(s), not for applications, processes and circuits implemented within components or assemblies.