

## SAW BANDPASS FILTER

**PART NO.: ACTFG003-1575.42MLIL-1411**

<b>Product Type:</b>	<b>Customer:</b>
SAW Filter	
<b>Description:</b>	<b>Customer Part NO.:</b>
GPS Low insertion loss filter.	
	<b>Issued Date: 02/07/2015</b>

<b>PREPARED BY</b>	<b>CHECKED BY</b>	<b>APPROVED BY</b>

In line with our ongoing policy of product evolution and improvement, the above specification may subject to change without notice

**ISO9001 Registered**

For quotations or further information please contact us at:

3 The Business Centre, Molly Millars Lane, Wokingham, Berkshire, RG41 2EY, UK

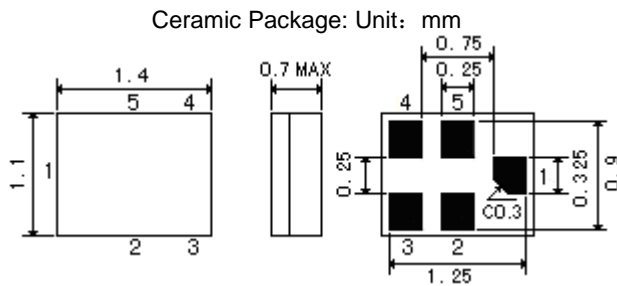
<http://www.actcrystals.com>

## Features

SAW filter for GPS.

- 1 High stability and reliability with good performance and no adjustment.
- 2 Narrow and sharp pass band characteristics. RoHS compatible.
- 3 Low insertion loss and deep stop band attenuation for interference.
- 4 **Very Low – loss** SAW filter GPS.
- 5 Package size 1.4\*1.1

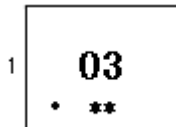
## Package Dimensions



## Pin Configuration

1	Input
4	Output
2,3,5	Ground

## Marking



Top View, Laser Marking

"G3": Part number

"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


## Maximum Ratings

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

### Electrical Characteristics:

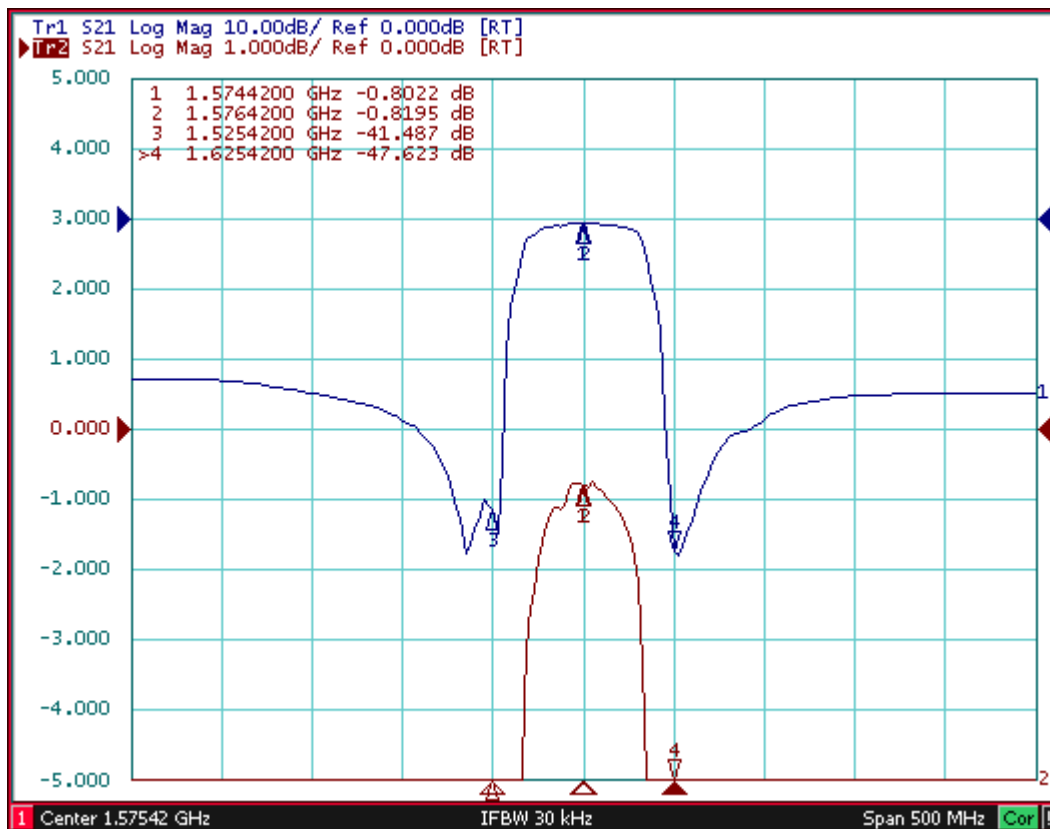
Item		Minimum	Typical	Maximum	Unit
Center Frequency	$f_c$	-	1575.42	-	MHz
Insertion Loss in 1574.42–1576.42MHz	IL	-	0.8	1.0	dB
Insertion Loss in 1561–1576.42MHz	IL	-	1.05	1.3	dB
Amplitude Variation in 1574.42–1576.42MHz			0.1	0.3	dB
Amplitude Variation in 1561–1576.42MHz			0.3	0.5	dB
Absolute Attenuation	$\alpha$				
0 ... 1500.0MHz		23	25	-	dB
1500.0 ... 1525.42 MHz		35	39	-	dB
1625.42 ... 1650.0MHz		35	37		dB
1650.0 ...3000.0 MHz		23	25	--	dB
3000.0 ...6000.0 MHz		20	30	--	dB
VSWR in 1574.42–1576.42MHz		-	1.1	1.4	
VSWR in 1561–1576.42MHz		-	1.3	1.7	

 **RoHS Compliant**

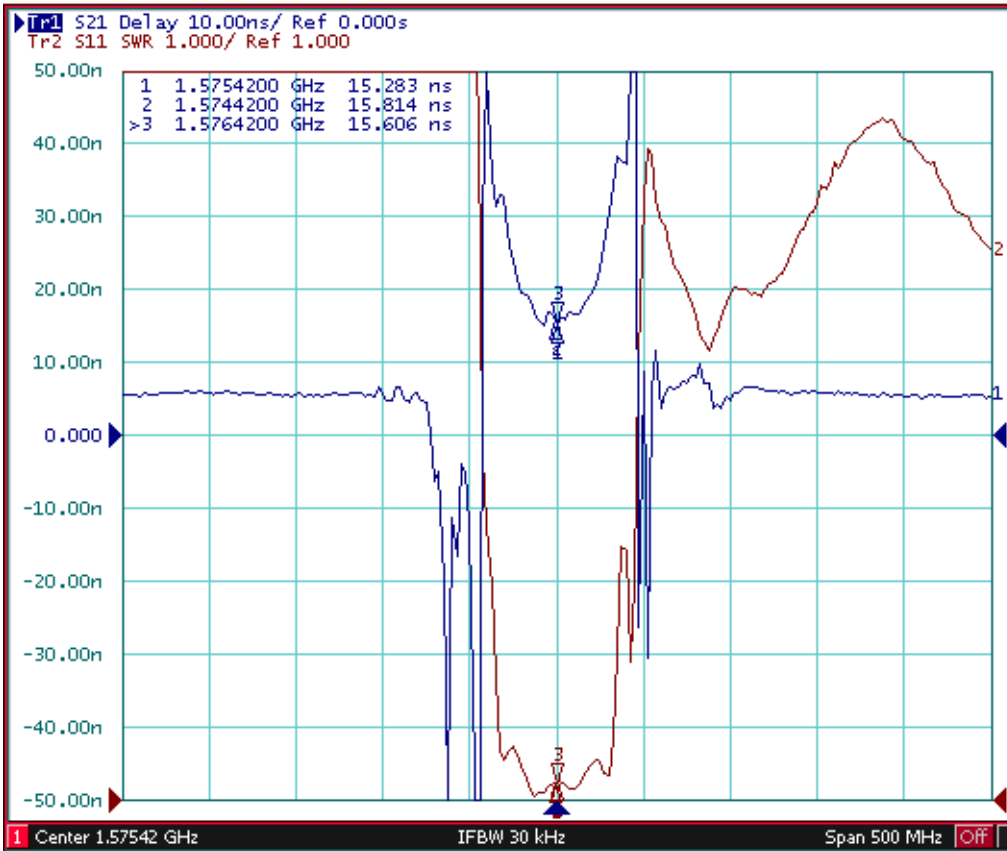
 **Electrostatic Sensitive Device**

### Typical Frequency Response

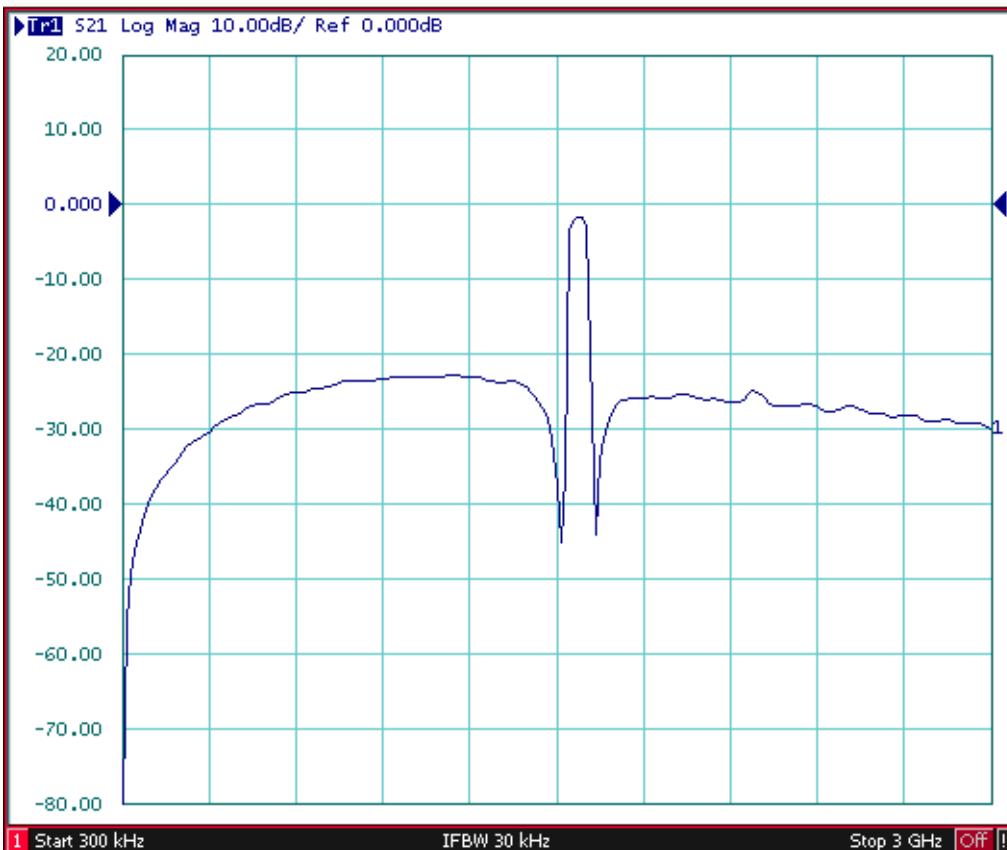
#### S21



### VSWR and Group Delay

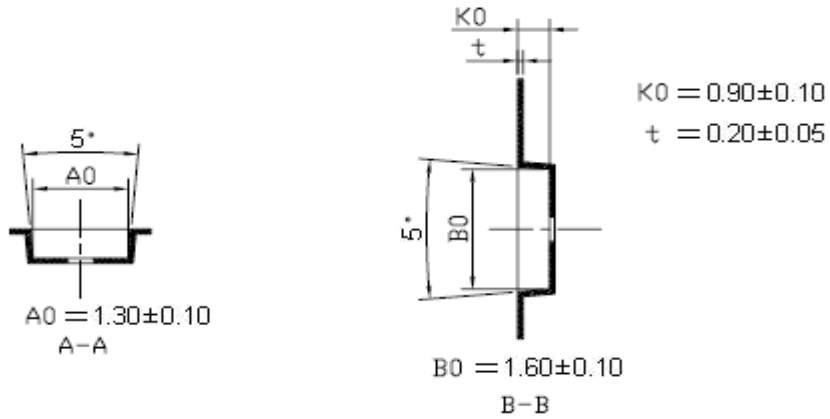
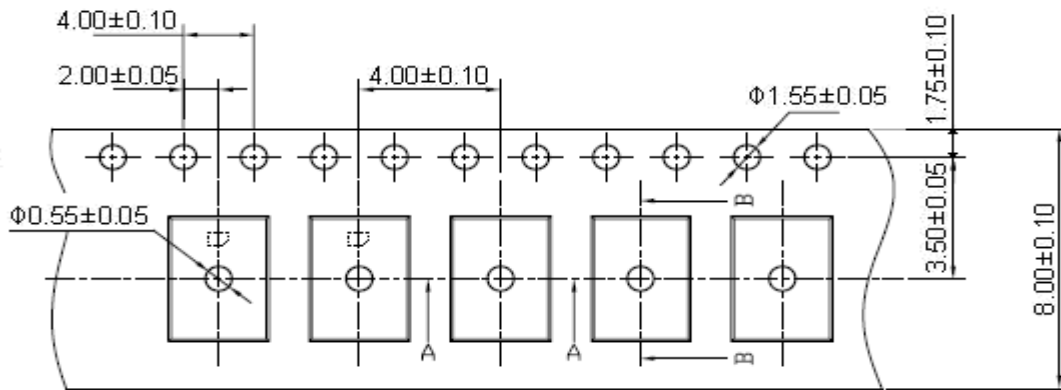


### Far Side

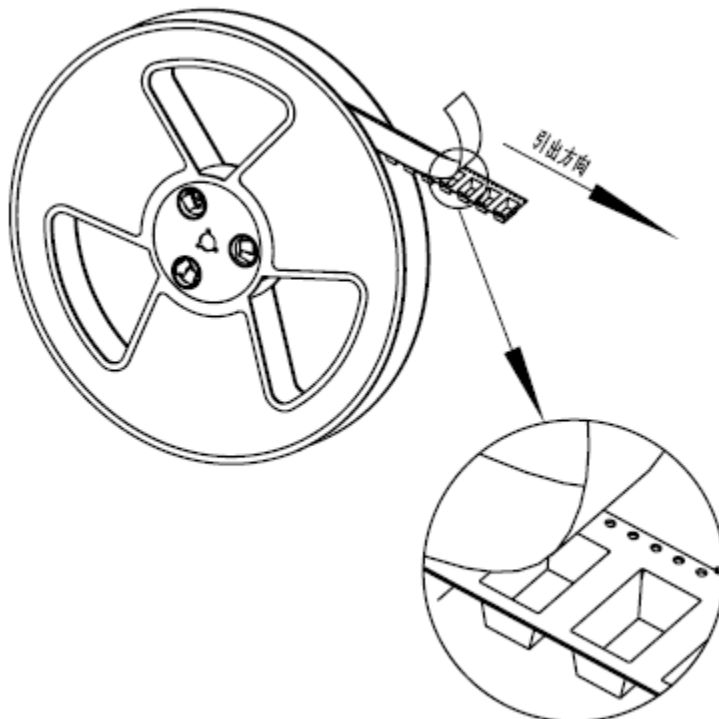


### Packing Information

#### Carrier Tape



#### Reel Dimensions



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

## Stability Characteristics

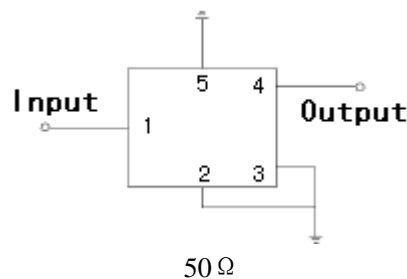
	Test item	Condition of test
1	Mechanical shock	(a) Drops: 3 times on concrete floor (b) Height: 1.0 m
2	Vibration resistance	(a) Frequency of vibration: 10~55Hz (c) Directions: X,Y and Z (b) Amplitude: 1.5 mm (d) Duration: 2 hours
3	Moisture resistance	(a) Condition: 40°C ± 2°C , 93+2 -3% RH. (b) Duration: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

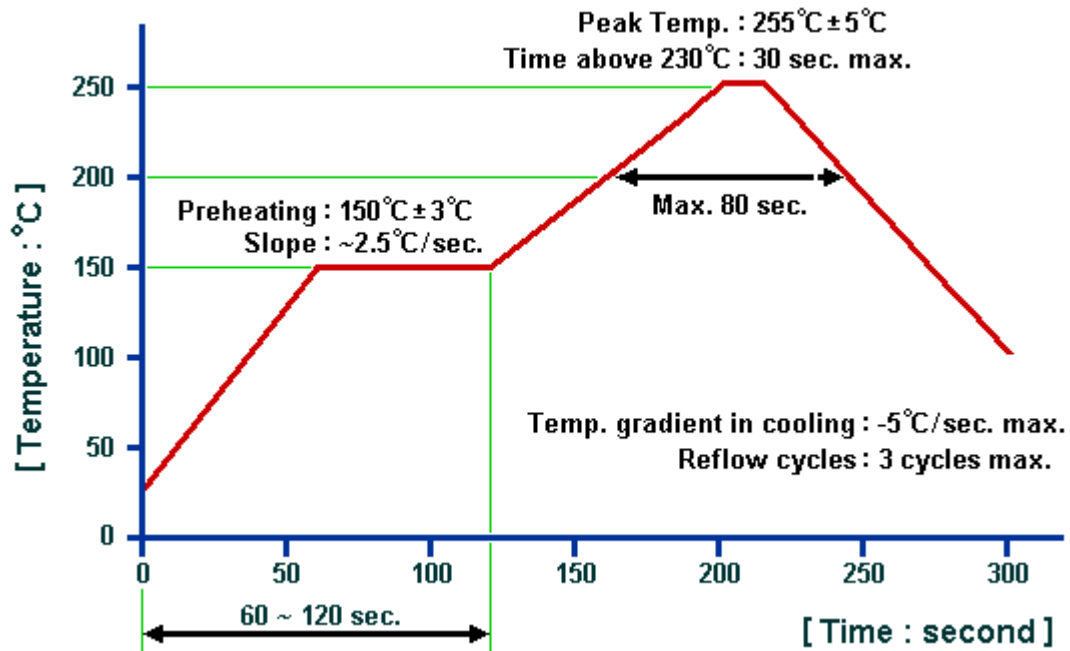
### Remarks

- 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.

### Test Circuit



### Recommended Soldering Profile



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