



## SAW BANDPASS FILTER

**PART NO.: ACTFH005-0881SA-1109**

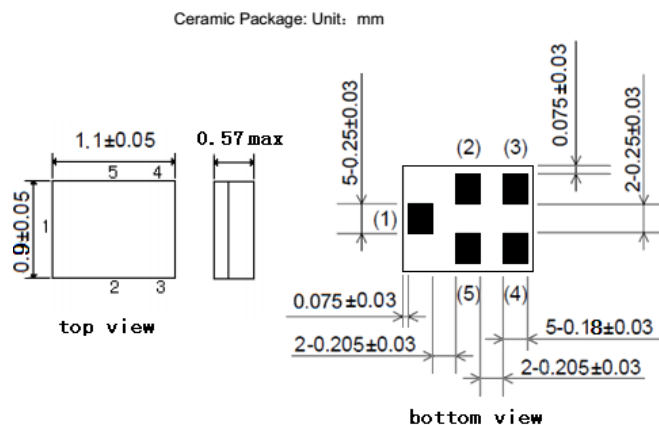
<b>Product Type:</b>	<b>Customer:</b>
SAW filter for GSM850/BAND5 Rx.	
	<b>Customer Part NO.:</b>
	<b>Issued Date:</b>

## Features

SAW filter for GSM850/BAND5 Rx.

- 1 High stability and reliability with good performance and no adjustment.
- 2 Single ended to Single ended.
- 3 Narrow and sharp pass band characteristics. RoHS compatible.
- 4 Low insertion loss and deep stop band attenuation for interference.
- 5 Low – loss SAW filter for GSM850/BAND5 Rx.
- 6 Package size 1.1mm\*0.9mm

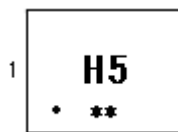
## Package Dimensions



## Pin Configuration

1	Input
4	Output
2,3,5	Ground

## Marking



Top View, Laser Marking

"H5": Part number

"1": Terminal1

The first "\*": Month Code (The code shown below varies in a 4-year cycle)

Month	1	2	3	4	5	6	7	8	9	10	11	12
2016/2020	n	p	q	r	s	t	u	v	w	x	y	z
2017/2021	A	B	C	D	E	F	G	H	J	K	L	M
2018/2022	N	P	Q	R	S	T	U	V	W	X	Y	Z
2019/2023	a	b	c	d	e	f	g	h	i	j	k	m

The second "\*": Date Code

<b>data</b>	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	
code	A	B	C	D	E	F	G	H	J	K	
<b>data</b>	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	
code	L	M	N	P	Q	R	S	T	U	V	
<b>data</b>	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
code	W	X	Y	Z	a	b	d	e	f	g	h

## Maximum Ratings

DC Voltage (between any Terminals)	$V_{DC}$	10	V
RF Power (in <i>BW</i> )	$P$	10 dBm /3000hr@50°C	
Operating Temperature Range	$T_A$	-30 ~ +85	°C
Storage Temperature Range	$T_{stg}$	-40 ~ +85	°C
ESD Voltage (HB)	$V_{ESD}$	>150V	
Moisture Sensitivity Levels	$MSL$	2A	

## Electrical Characteristics:

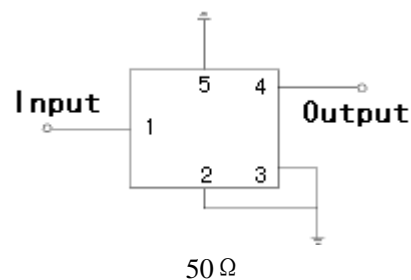
Insertion Loss	$IL$				
869 ... 894 MHz			1.3*	1.8*	dB
869 ... 894 MHz			1.3	2.0	dB
Passband Ripple	$Pr$				
869 ... 894 MHz			1.0	1.5	dB
VSWR	$V_{swr}$				
869 ... 894 MHz			1.5	2.0	
Absolute Attenuation	$\alpha$				
45 MHz		40	60		dB
779 .... 804 MHz		40	49		dB
824 .... 849 MHz		40	45		dB
1710 .... 1980 MHz		35	43		dB
2400 .... 2483 MHz		33	40		dB
2500 .... 2690 MHz		30	35		dB
3476 .... 3576 MHz		25	33		dB
5150 .... 5850 MHz		20	25		dB
Input / Output Impedance (Nominal)		50			$\Omega$

\*) :Typical value at 25°C

 RoHS Compliant

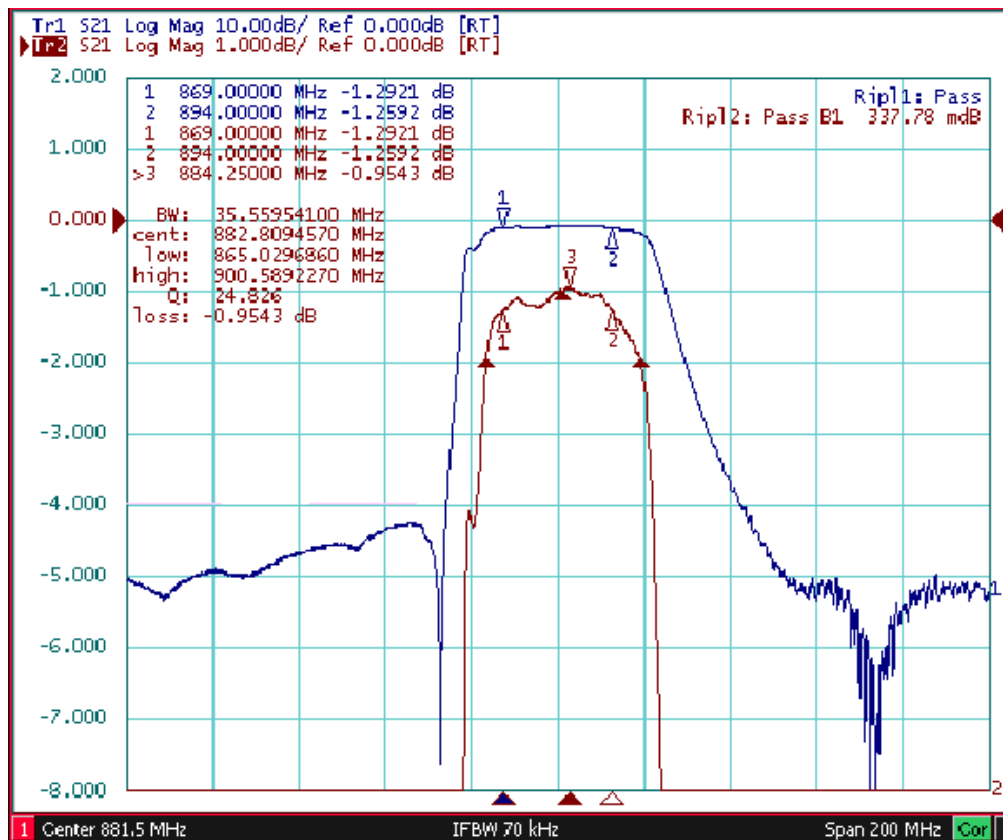
 Electrostatic Sensitive Device

## Test Circuit

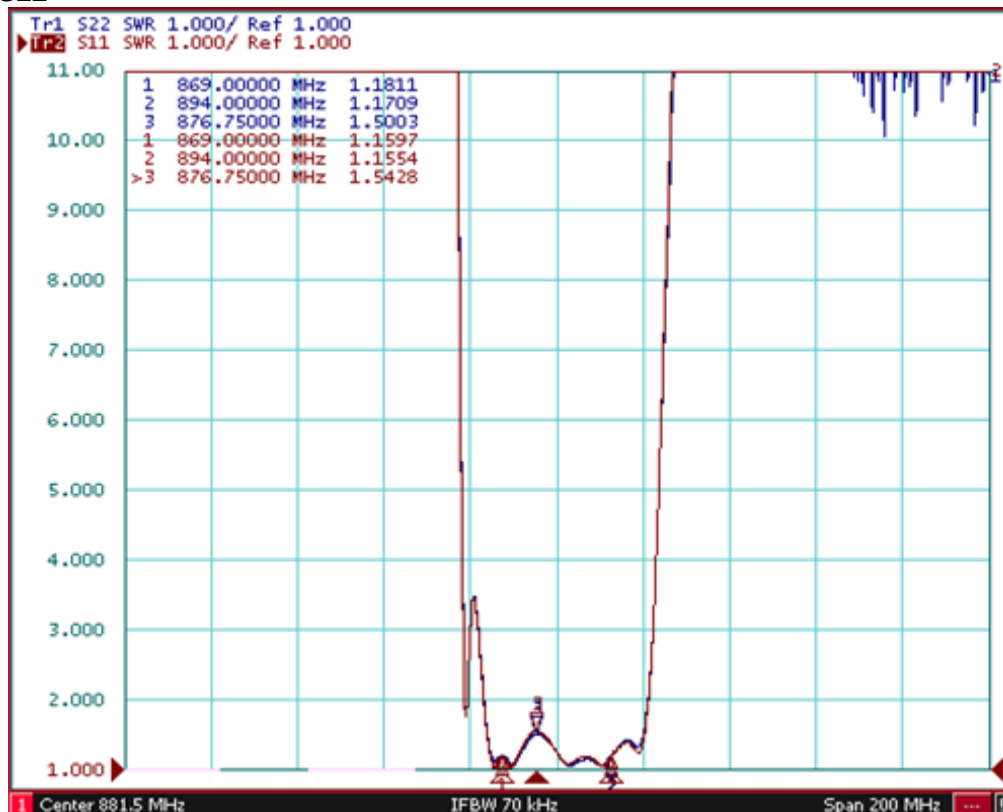


## Typical Frequency Response

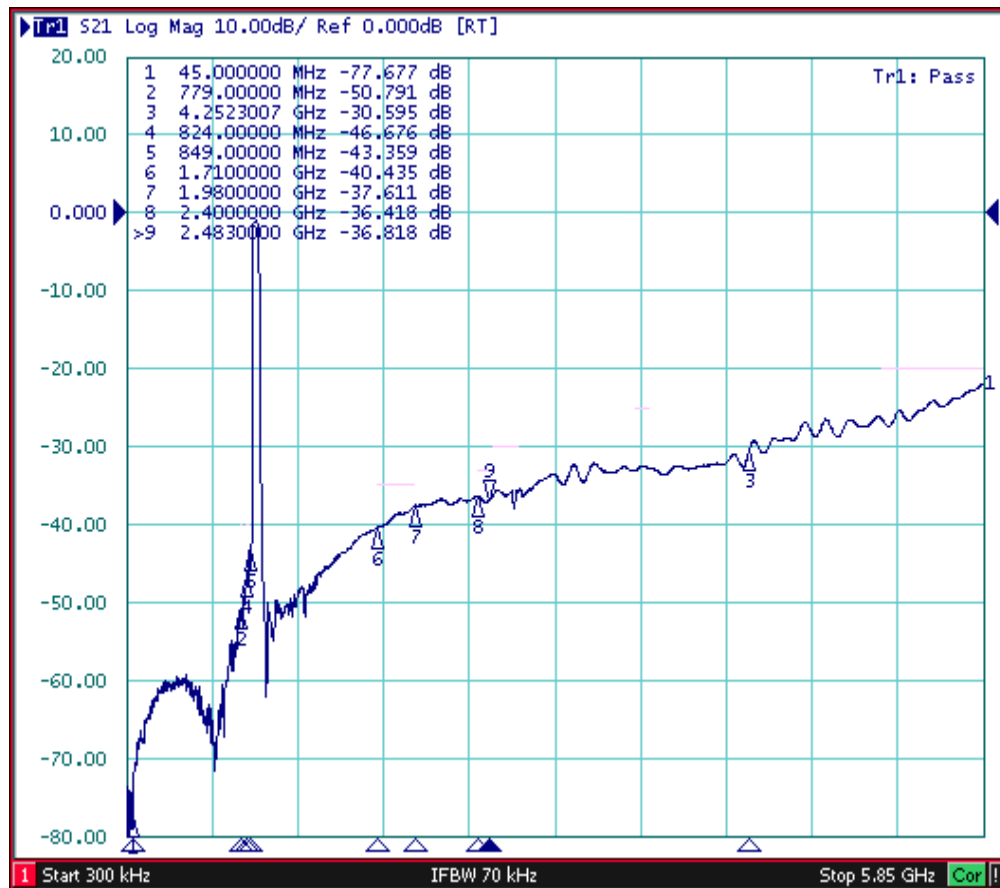
S21



## VSWR S11 S22



Far side



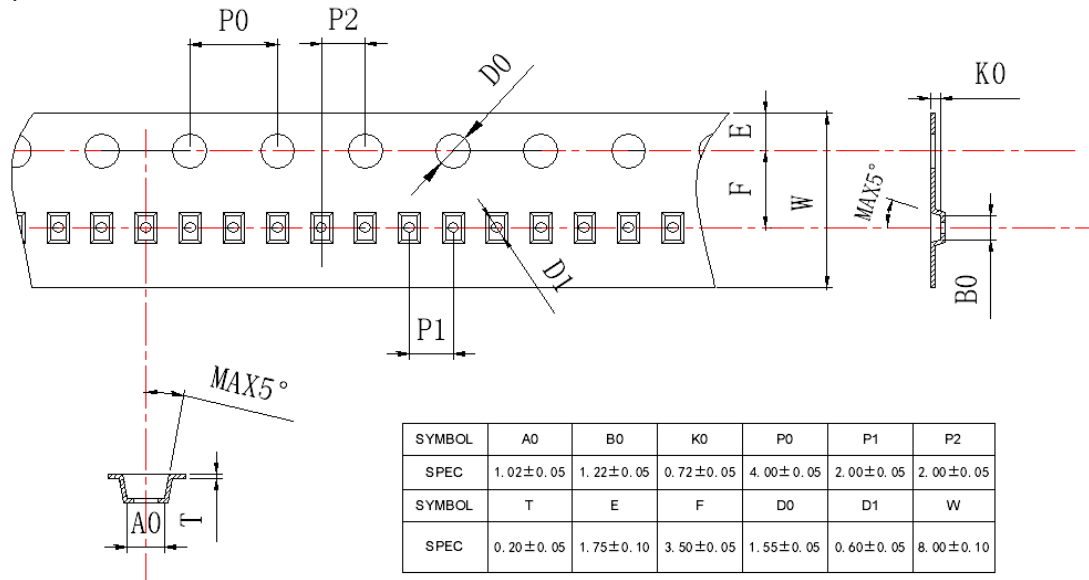
### Stability Characteristics

Item No.	Test Item	STD Reference	Test Conditions	per lot
	Preconditioning	JESD22-A113	1) Temperature Cycling, 5 cycles -40°C to 85°C; 2) Bake, 24 hrs @85±5°C; 3)Moisture Soak, Soak time and conditions per IPC/JEDEC J-STD-020 based on device MSL level; 4) Reflow, 3 reflow cycles; 5) Drying, Room ambient temperature.	All behind
1	Temperature Cycling	JESD22-A104	-40°C / +85°C,5°C/min,15min dwell,<1 min transfer time,500cycles	3*25 pcs
2	High Temperature Storage	JESD22-A103	Temperature=85°C, 1000 hours.	3*25 pcs
3	Temperature Humidity no bias	JEDEC Std A101-B	85°C 85%RH 240 hours	3*25 pcs
4	Human Body Mode ESD	JESD22-A114	Ta=25°C, ≥100V	3 pcs
5	Charge Device Mode ESD	JESD22-C101	Ta=25°C, ≥100V	3 pcs
6	Solderability	JESD22-B102	Wetting: 245°C, 5s.	22 pcs
7	Drop Test	JESD22-B111	1500 Gs, 0.5 millisecond duration, half-sine pulse.	20 pcs
8	Mechanical Shock	JESD-47	Shock pulse of 1500g with pulse duration of 0.5+/-0.1msec (X ,Y & Z); 5 shocks per axis.	3*25 pcs

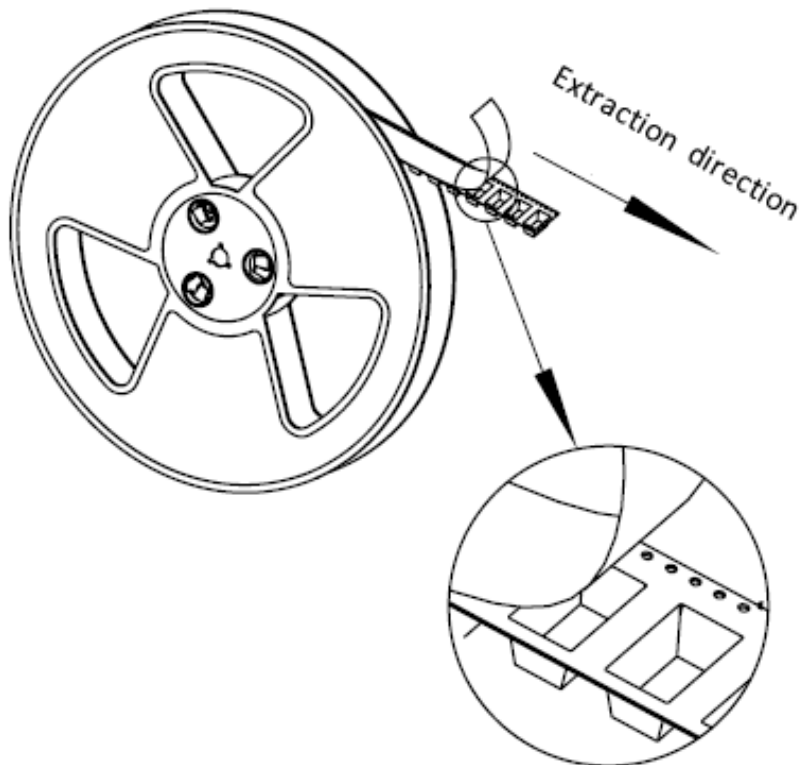
**Requirements:** The SAW filer shall remain within the electrical specifications after tests.

### Packing Information

#### Carrier Tape



#### Reel Dimensions



Material	PS
Unit	mm
Tolerance	±0.20 mm
Quantity	10000/reel

### Outer Packing

Carton Box I	100000	240×210×285	anti-static plastic bag & carton box 1 reel / bag	2.15
Carton Box II	300000	470×310×285	10bags / box (100000 pcs) 30 bags / box (300000pcs)	6.22

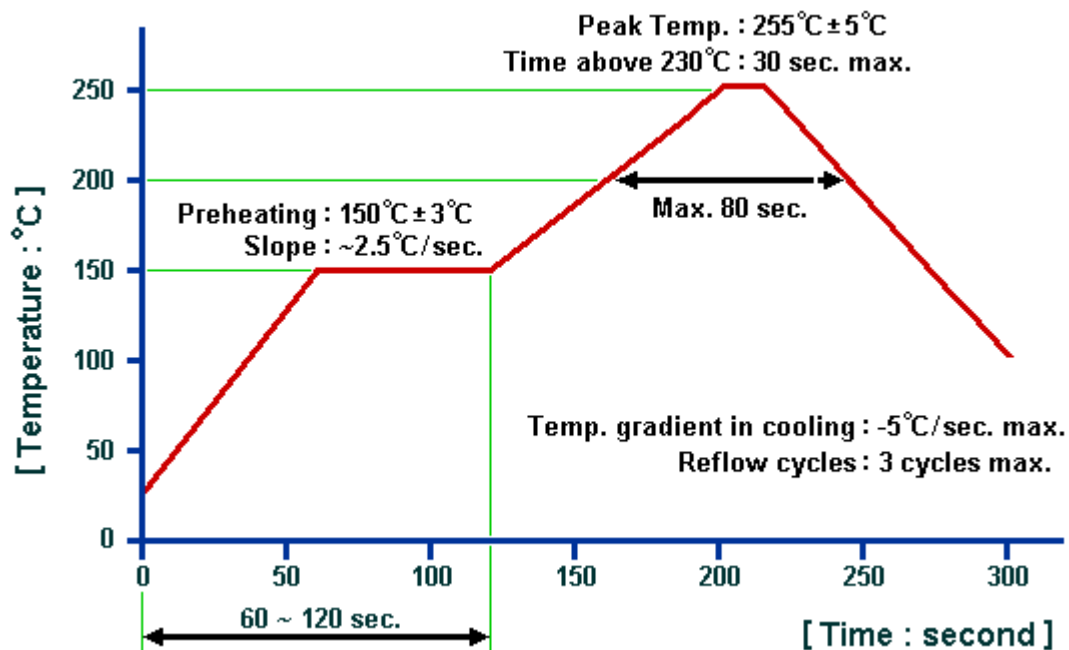
Unit: mm

Unit: kg

### 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.

### 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.