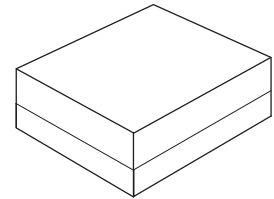


- **Miniature High Performance SAW Filter**
- **Low Passband Loss**
- **Hermetic 1.4 x 1.1 mm Surface-mount Case**
- **Complies with Directive 2002/95/EC (RoHS)**
- **Moisture Sensitivity Level : 2A**



**SF2330K**

**1890 MHz  
SAW Filter**



**SM1411-5**

**Absolute Maximum Ratings**

Rating	Value	Units
Maximum Input Power Level 25 kHRS@+55°C	17	dBm
Maximum Input Power Level 22 kHRS@+55°C	18	dBm
Maximum Input Power Level 4 kHRS@+55°C	24	dBm
DC Voltage	5	VDC
Operating Temperature	-10 to +70	°C
Storage Temperature	-40 to +85	°C

**Electrical Characteristics**

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	$f_c$			1890		MHz
Insertion Loss, 1881.792 to 1897.344 MHz	$IL_{MAX}$			2.2	3.5	dB
VSWR (1881.792 to 1897.344 MHz)				1.6	2.3	
Terminating Source Impedance	$Z_S$			50		$\Omega$
Terminating Load Impedance	$Z_L$			50		
Amplitude Ripple, 1881.792 to 1897.344 MHz				0.8	2.2	dB
Attenuation (Reference level from 0 dB)						dB
10 to 1600 MHz			30	36		
1600 to 1830 MHz			30	35		
1920 to 1980 MHz			25	38		
2730 to 2820 MHz			30	40		
Package Size			SMD 1.4x1.1			mm
Lid Symbolization			2			

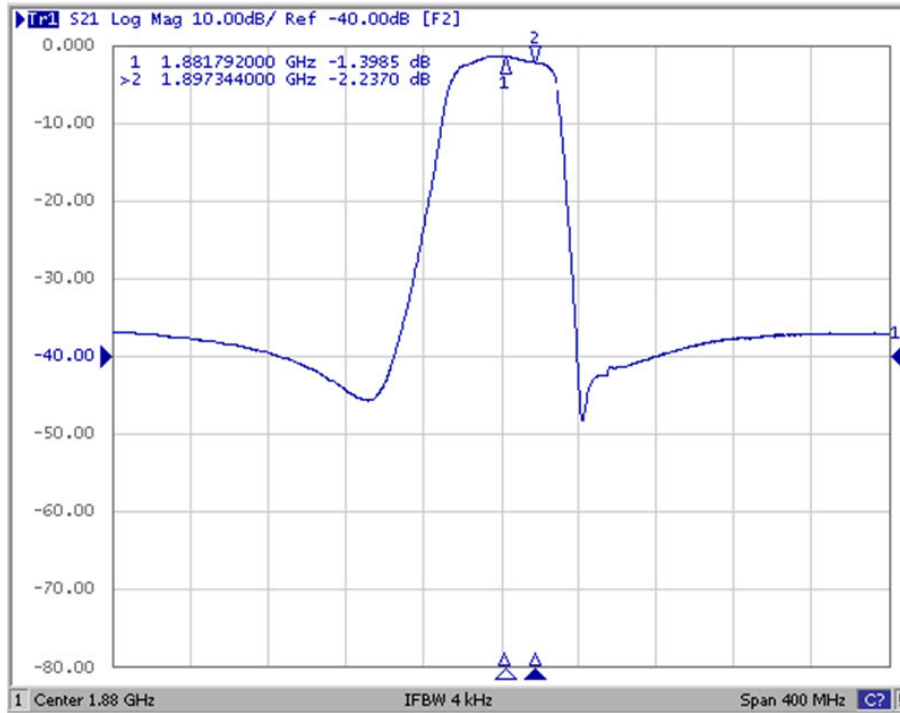
 **CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

**NOTES:**

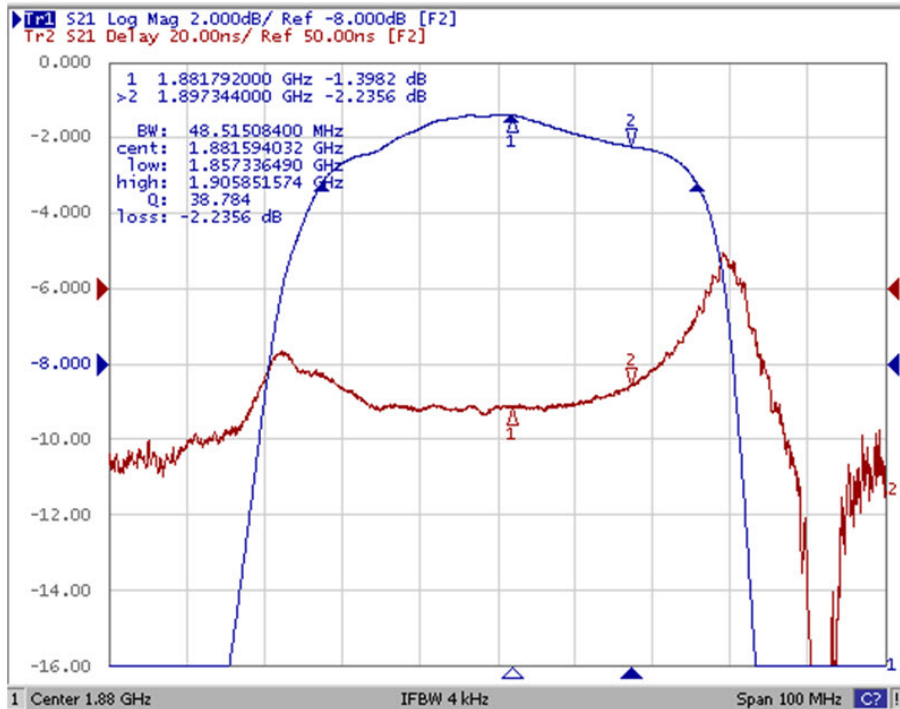
1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.

# Frequency Characteristics:

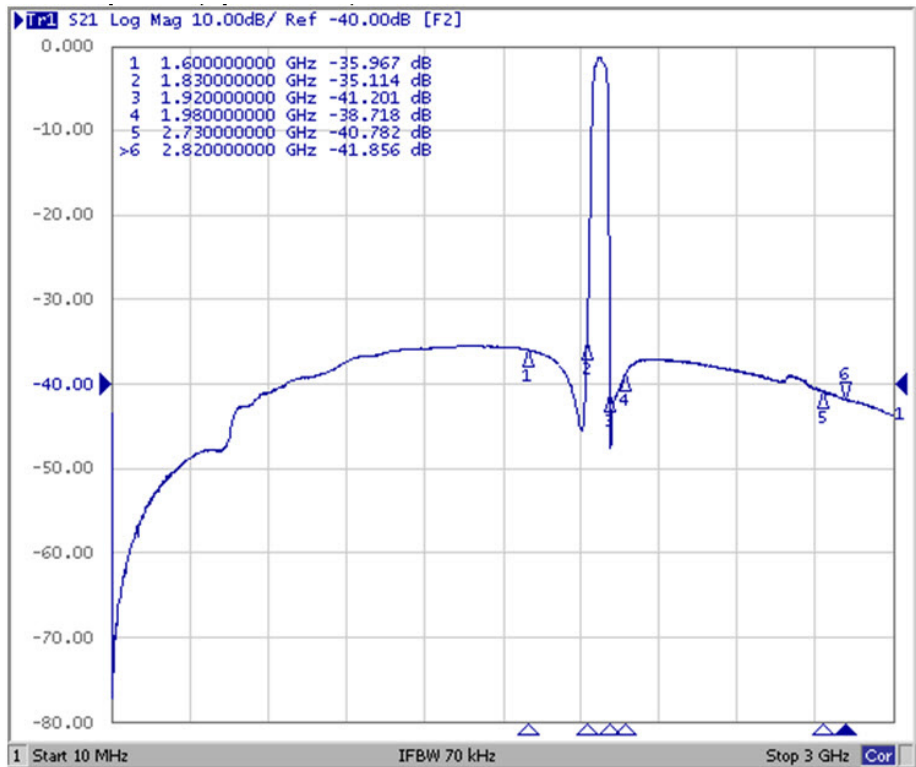
## S21 Response (span 400 MHz)



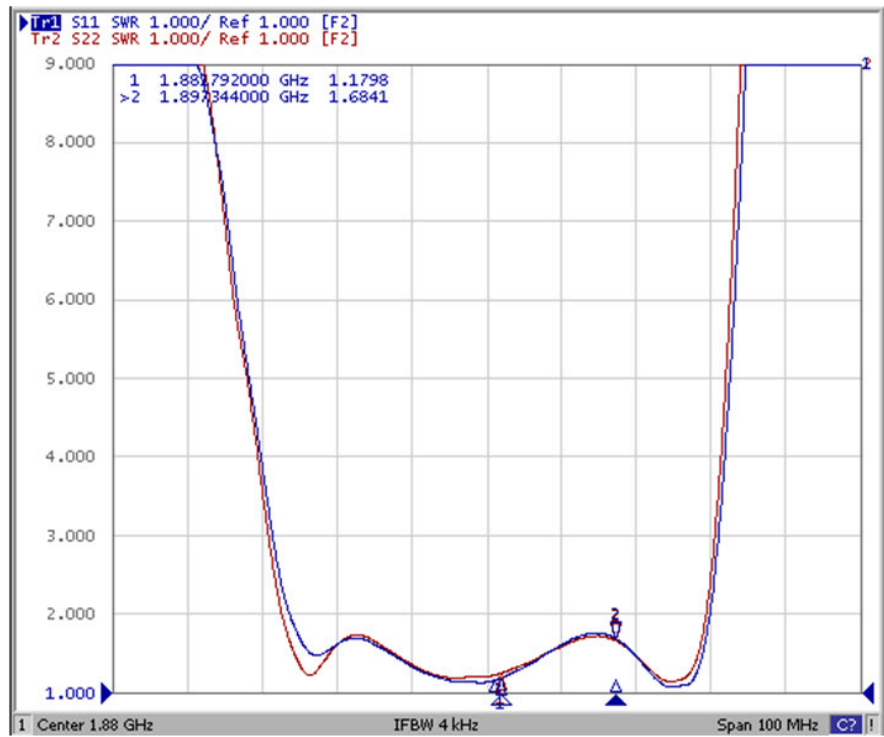
## S21 Response (span 100 MHz)



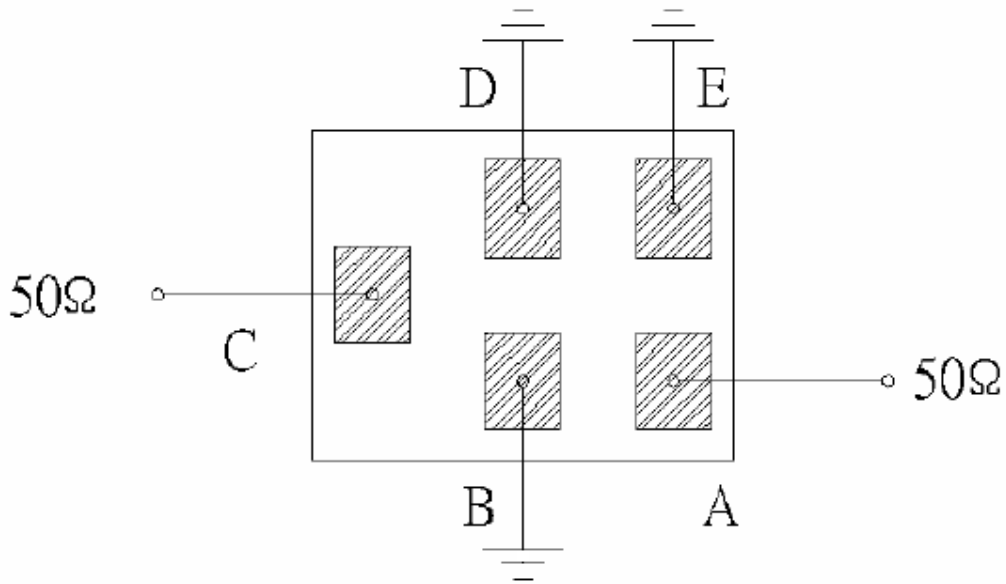
## S21 Response (span 3GHz)



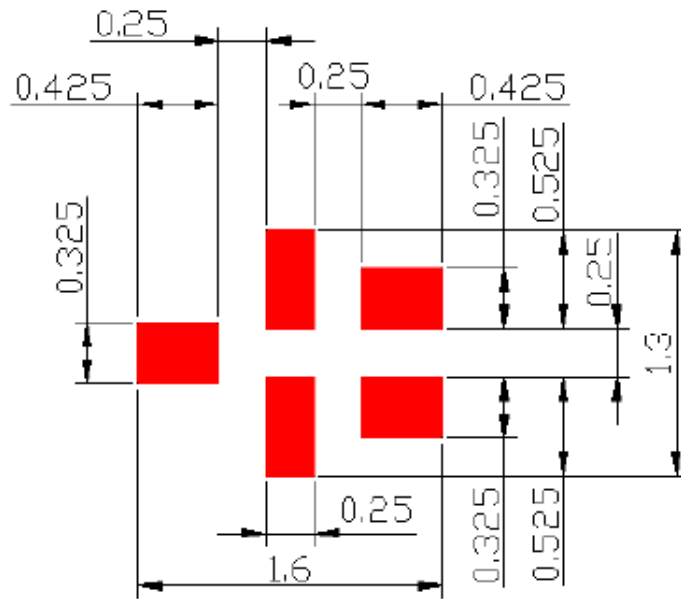
## S11 and S22 Response (span 100 MHz)



**Measurement Circuit:**

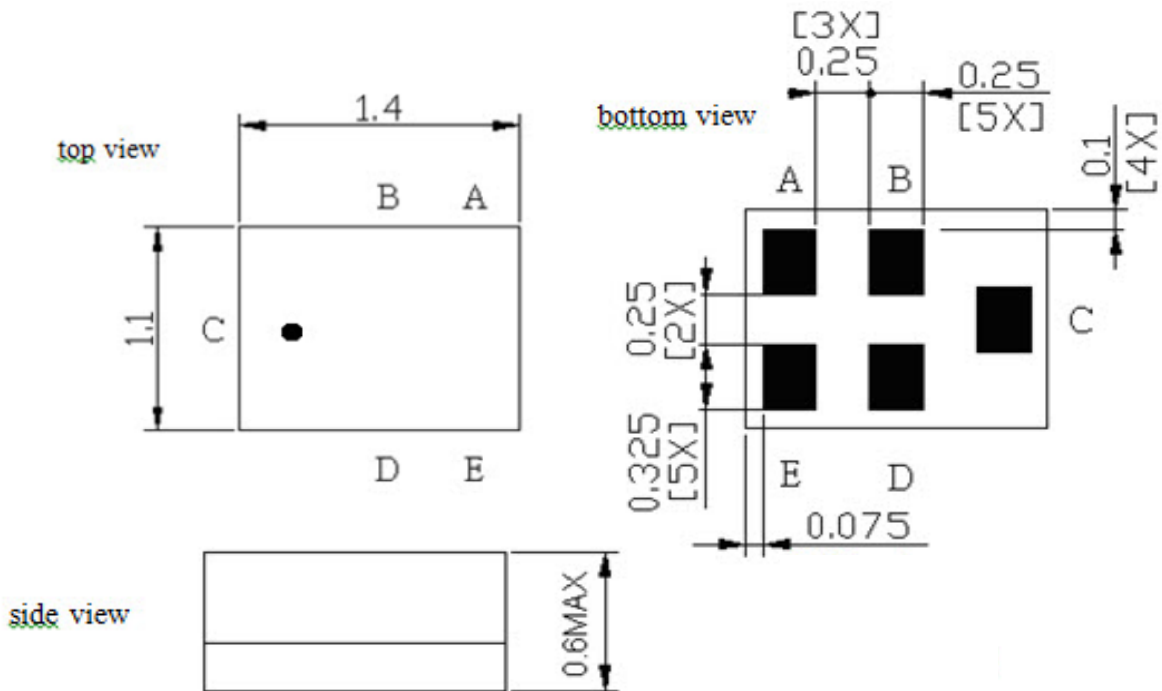


**PCB Footprint :**



: Land Pattern  
 Unit : mm

## Outline Drawing:



□ : Year/Month Code (Follow the table)

YEAR/Month	1	2	3	4	5	6	7	8	9	10	11	12
2013	A	B	C	D	E	F	G	H	J	K	L	M
2014	N	P	Q	R	S	T	U	V	W	X	Y	Z
2015	a	b	c	d	e	f	g	h	j	k	l	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
2019	a	b	c	d	e	f	g	h	j	k	l	m
2020	n	p	q	r	s	t	u	v	w	x	y	z



## Recommended Reflow Profile

1. Preheating shall be fixed at 150~180°C for 60~90 seconds.
2. Ascending time to preheating temperature 150°C shall be 30 seconds min.
3. Heating shall be fixed at 220°C for 50~80 seconds and at 260°C +0/-5°C peak (10 seconds).
4. Time: 5 times maximum.

