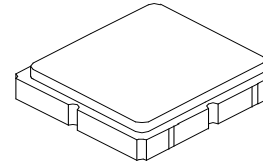


**SF2197E**

**847 MHz  
SAW Filter**



**SM3030-6**

- **Low Loss SAW Filter**
- **Surface-mount 3.0 x 3.0 mm Package**
- **Complies with Directive 2002/95/EC (RoHS)**
- **Moisture Sensitivity Level: 1**

**Absolute Maximum Ratings**

Rating	Value	Units
Input Power Level	10	dBm
DC Voltage on any Non-ground Terminal	3	V
Operable Temperature Range	-45 to +105	°C
Specification Temperature Range	-40 to +85	°C
Storage Temperature Range in Tape and Reel	-40 to +85	°C
Maximum Soldering Profile, 5 cycles/10 seconds maximum	265	°C

**Electrical Characteristics**

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	$f_C$			847		MHz
Insertion Loss, 832 to 862 MHz	IL			2.8	4.5	dB
Amplitude Ripple, 832 to 862 MHz				1.2	2.0	dB <sub>p-p</sub>
VSWR, 832 to 862 MHz				1.6	2.5	
Attenuation, 0 dB Reference:						dB
DC to 800 MHz			45	55		
800 to 815 MHz			30	45		
815 to 821 MHz			10	30		
895 to 940 MHz			30	37		
940 to 1500 MHz			45	58		
1500 to 2000 MHz			35	45		
Source Impedance	$Z_S$			50		$\Omega$
Load Impedance	$Z_L$			50		
Case Style	SM3030-6 3.0 x 3.0 mm Nominal Footprint					
Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator	927, <u>YWWS</u>					
Standard Reel Quantity	Reel Size 7 Inch					500 Pieces/Reel
	Reel Size 13 Inch					3000 Pieces/Reel

**Electrical Connections**

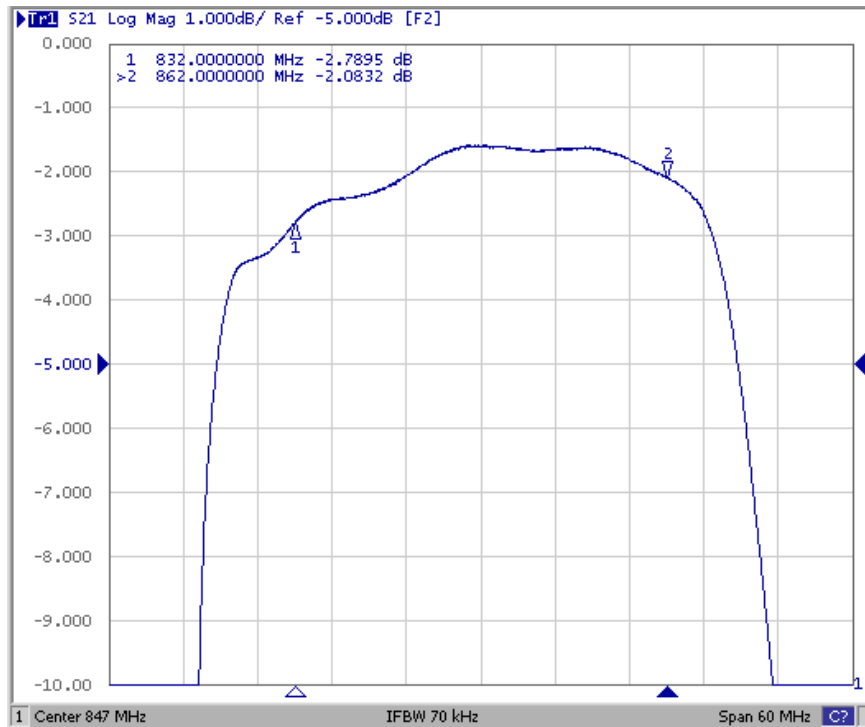
Connection	Terminals
Input	2
Output	5
Case Ground	All others

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

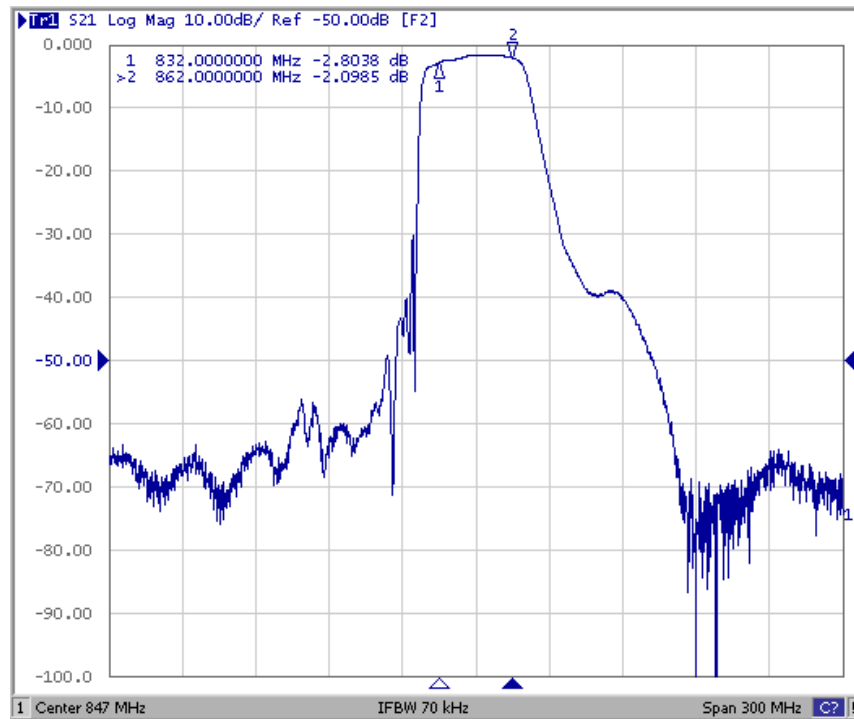
**NOTES:**

1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

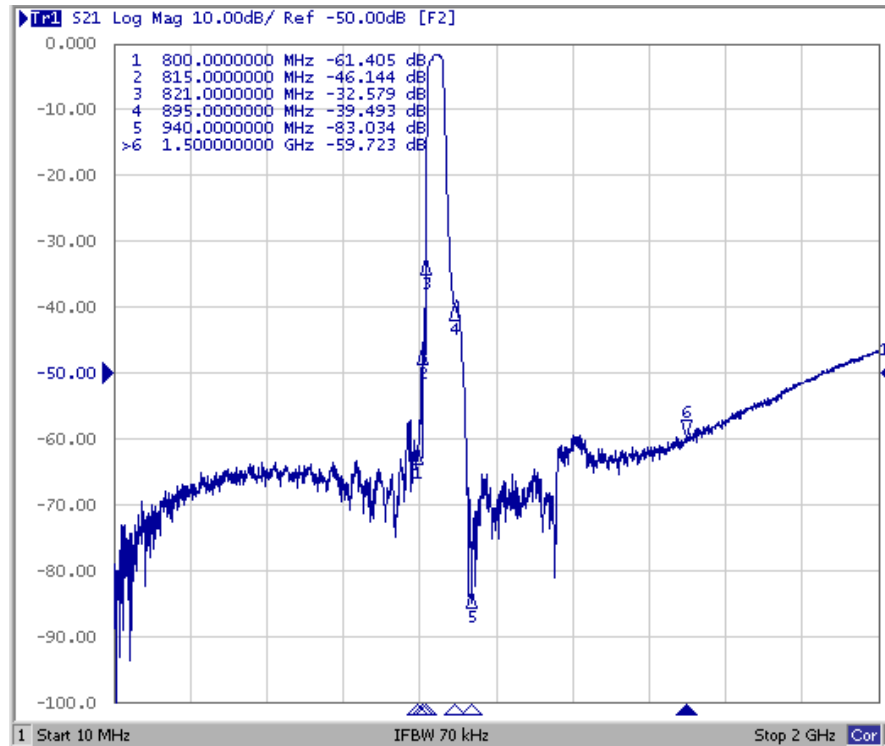
## Filter Passband Response, 817 to 877 MHz



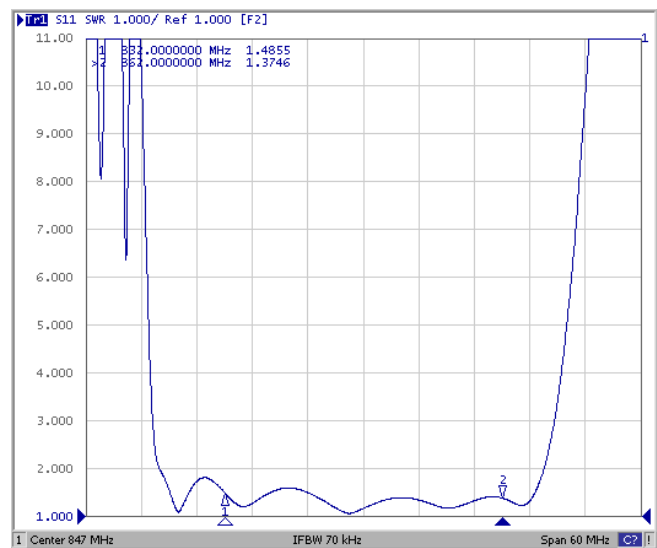
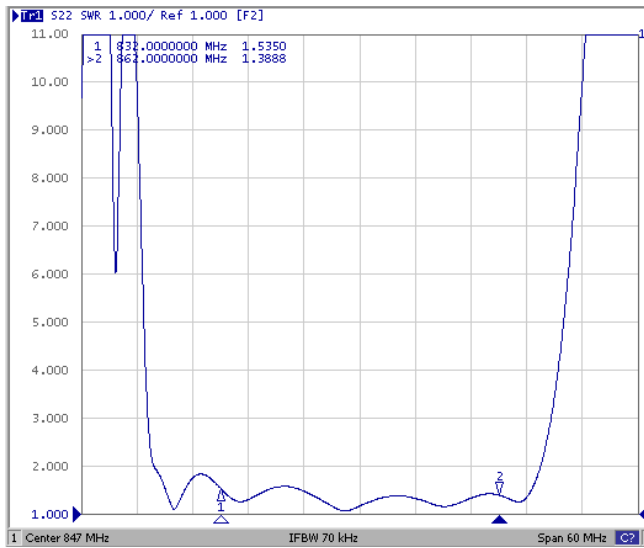
## Filter Rejection Plot, 697 to 997 MHz



## Filter Broadband Response, 10 to 2000 MHz



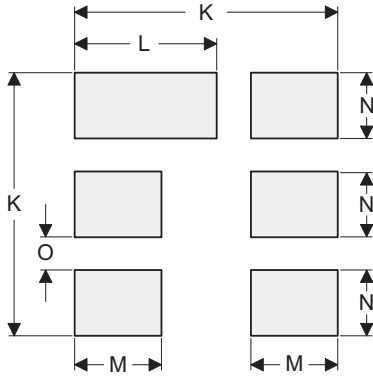
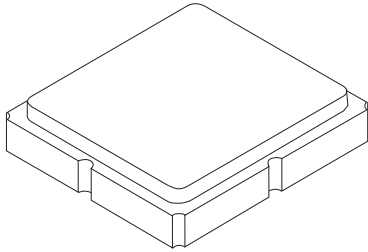
## Filter Input and Output VSWR Plots



# SM3030-6 Case

## 6-Terminal Ceramic Surface-Mount Case

### 3.0 X 3.0 mm Nominal Footprint



PCB Footprint Top View

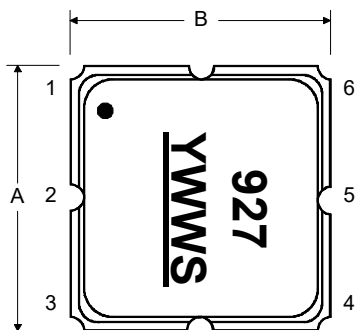
#### Case and PCB Footprint Dimensions

Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	2.87	3.00	3.13	0.113	0.118	0.123
B	2.87	3.00	3.13	0.113	0.118	0.123
C	1.12	1.25	1.38	0.044	0.049	0.054
D	0.77	0.90	1.03	0.030	0.035	0.040
E	2.67	2.80	2.93	0.105	0.110	0.115
F	1.47	1.60	1.73	0.058	0.063	0.068
G	0.72	0.85	0.98	0.028	0.033	0.038
H	1.37	1.50	1.63	0.054	0.059	0.064
I	0.47	0.60	0.73	0.019	0.024	0.029
J	1.17	1.30	1.43	0.046	0.051	0.056
K		3.20			0.126	
L		1.70			0.067	
M		1.05			0.041	
N		0.81			0.032	
O		0.38			0.015	

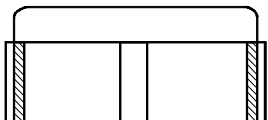
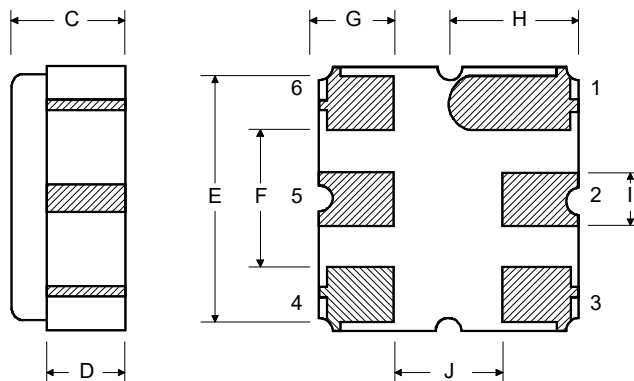
#### Case Materials

Materials	
Solder Pad Plating	0.3 to 1.0 $\mu$ m Gold over 1.27 to 8.89 $\mu$ m Nickel
Lid Plating	2.0 to 3.0 $\mu$ m Nickel
Body	Al <sub>2</sub> O <sub>3</sub> Ceramic

Top View

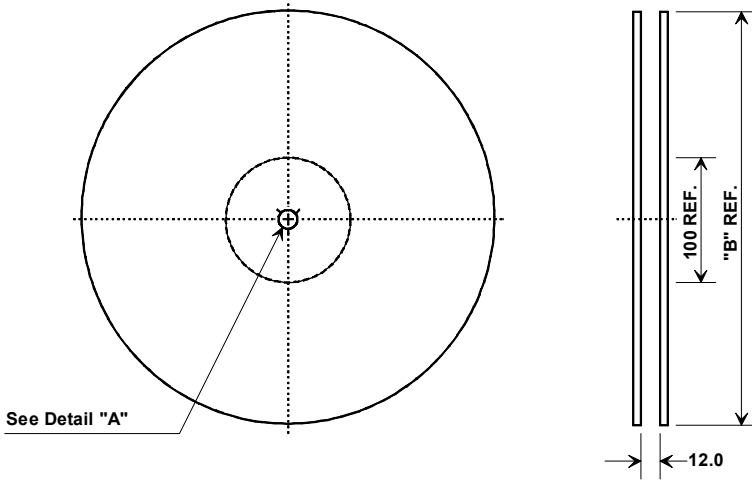


Bottom View

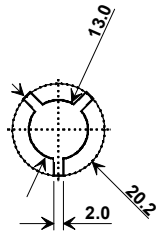


## Tape and Reel Specifications

Tape and Reel Standard per ANSI/EIA-481

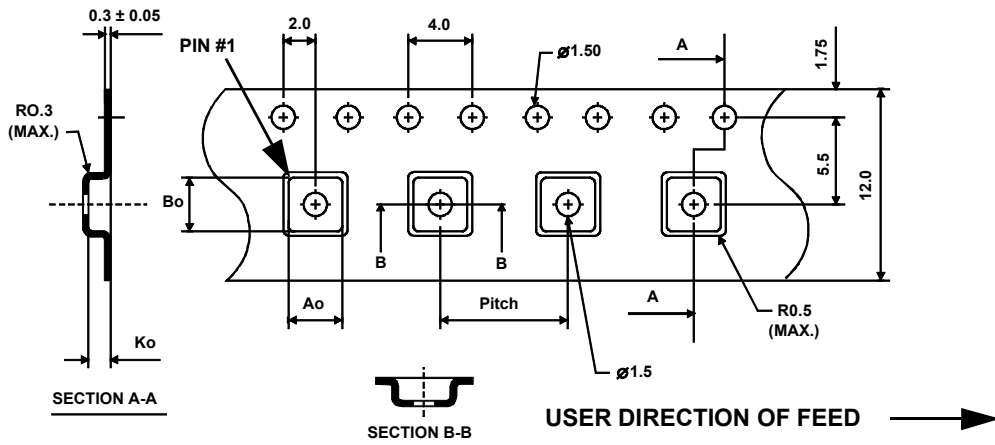


"B"		Quantity Per Reel
Inches	millimeters	
7	178	500
13	330	3000



### COMPONENT ORIENTATION and DIMENSIONS

Carrier Tape Dimensions	
Ao	3.35 mm
Bo	3.35 mm
Ko	1.40 mm
Pitch	8.0 mm
W	12.0 mm



## 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.

