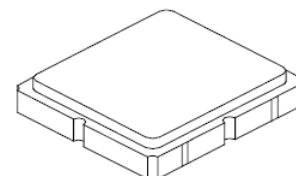


**SF2177E-3**

**1472 MHz  
SAW Filter**



**SM3030-6**

- **Low-loss SAW Filter**
- **Surface-mount 3.0 x 3.0 x 1.4 mm Package**
- **Complies with Directive 2002/95/EC (RoHS)**
- **Moisture Sensitivity Level: 1**
- **AEC-Q200 Qualified**

**Absolute Maximum Ratings**

Rating	Value	Units
Input Power Level	15	dBm
DC Voltage on any Non-ground Terminal	3	V
Operating Temperature Range	-40 to +85	°C
Storage Temperature Range in Tape and Reel	-40 to +85	°C
Solder Reflow Temperature, 10 seconds, 5 cycles maximum	260	°C

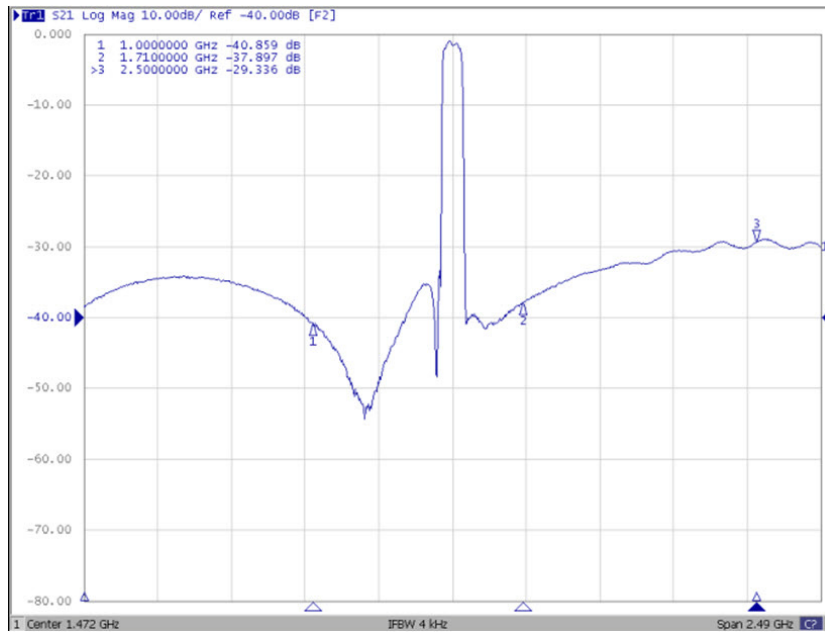
**Electrical Characteristics**

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	F <sub>C</sub>			1472		MHz
Max Insertion Loss, 1452 to 1492 MHz	IL			1.5	2.0	dB
Passband Ripple, 1452 to 1492 MHz				0.7	1.2	dB <sub>p,p</sub>
1dB BW	BW		40	61		MHz
Group Delay Variation, 1452 to 1492 MHz				9.5	15	nsec
VSWR, 1452 to 1942 MHz				1.9	2.2	
Attenuation Referenced to 0 dB						dB
10 to 1000 MHz			30	33		
1710 to 2500 MHz			30	39		
Terminating Source Impedance (single ended)	Z <sub>S</sub>			50		Ω
Terminating Load Impedance (single ended)	Z <sub>L</sub>			50		Ω
Case Style	SM3030-6 3.0 x 3.0 mm Nominal Footprint					
Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator	A90, YWWS					

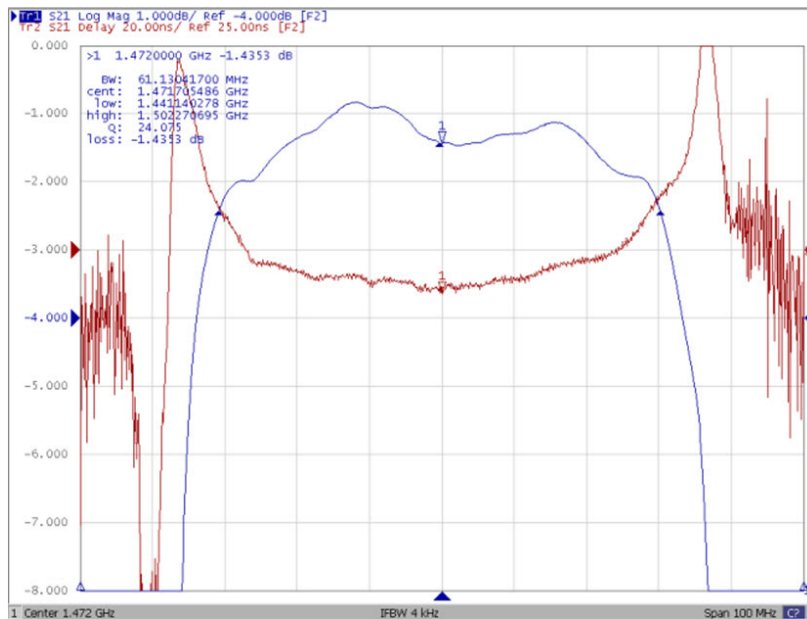
**Electrical Connections**

Connection	Terminals
Input	2
Output	5
Ground	All Others

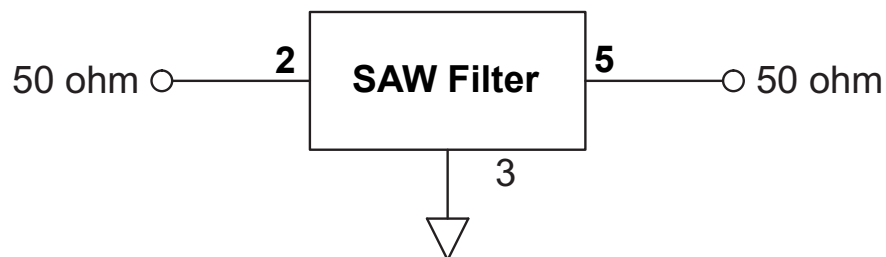
## Filter Wideband Response (span 2490 MHz)



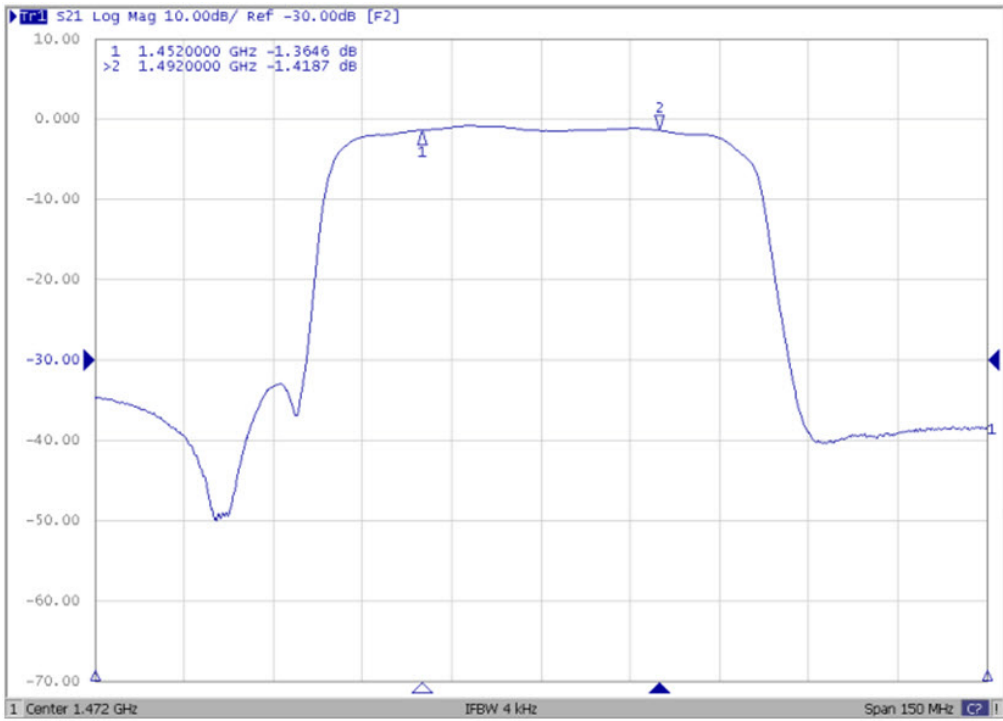
## Filter Passband Response (span 1000 MHz)



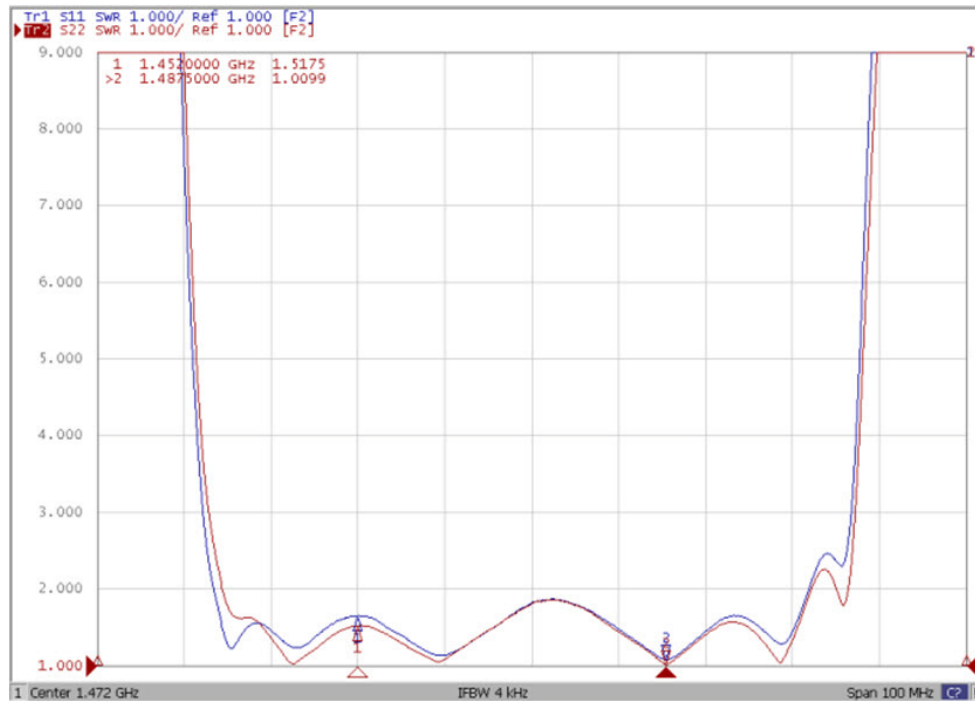
## Filter Test Circuit



## S21 Response (span 150 MHz)

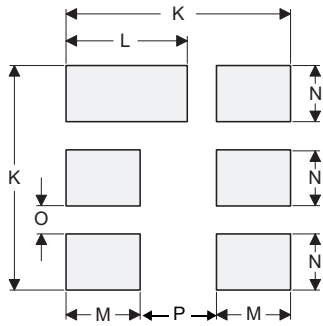
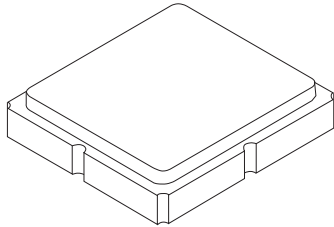


## S11 & S22 VSWR (span 1000 MHz)



# SM3030-6 Case

## 6-Terminal Ceramic Surface-Mount Case 3.0 X 3.0 mm Nominal Footprint



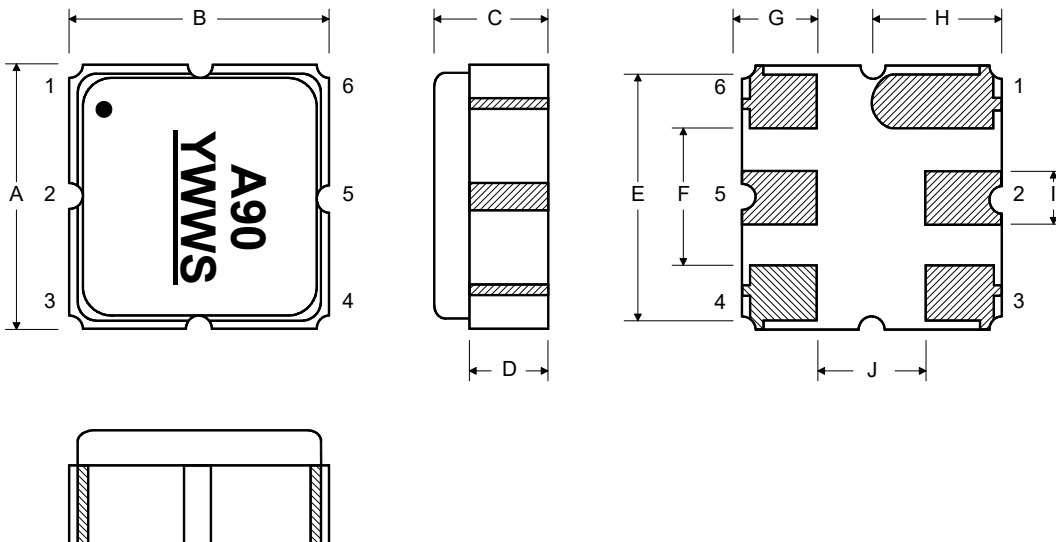
Case and PCB Footprint Dimensions

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	1.4	0.044	0.049	0.055
D	0.77	0.90	1.00	0.030	0.035	0.039
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	
P		1.09			0.042	

Case Materials

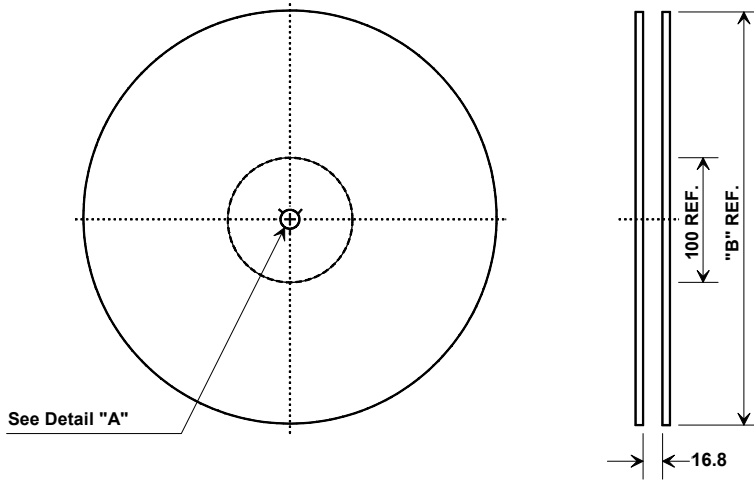
Materials	
Solder Pad Plating	0.3 to 1.0 $\mu$ m Gold over 1.27 to 8.89 $\mu$ m Nickel
Lid Plating	2.0 to 3.0 $\mu$ m Nickel
Body	Al <sub>2</sub> O <sub>3</sub> Ceramic

PCB Footprint Top View

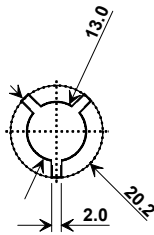


## Tape and Reel Specifications

Tape and Reel Standard per ANSI/EIA-481

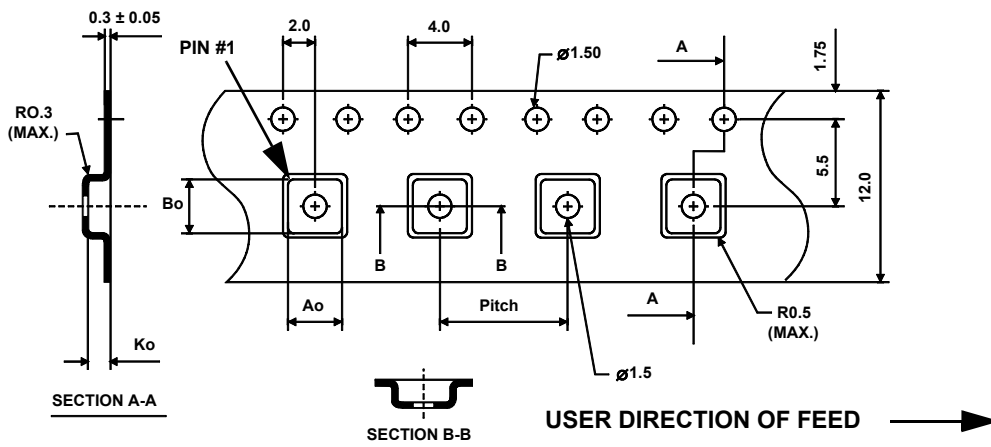


"B"		Quantity Per Reel
Inches	millimeters	
7	178	500
13	330	3000



### COMPONENT ORIENTATION and DIMENSIONS

Carrier Tape Dimensions	
Ao	3.30 mm
Bo	3.30 mm
Ko	1.6 mm
Pitch	8 mm
W	12 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.

