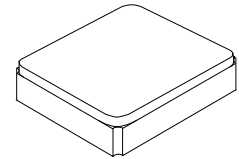


**SF2236G**

**1642.5 MHz**  
**SAW Filter**



**SM2520-4**

- *Low-loss SAW Filter*
- *2.5 x 2.0 x 1.0 mm Surface-Mount Case*
- *No Matching Circuit Required*
- *Complies with Directive 2002/95/EC (RoHS)*
- *Moisture Sensitivity Level: 1*

**Absolute Maximum Ratings**

Rating	Value	Units
Maximum Input Power	12	dBm
Maximum DC Voltage on any Non-ground Terminal	5	VDC
Storage Temperature Range in Tape and Reel	-40 to +85	°C
Maximum Soldering Profile, 5 cycles maximum	265 °C for 10 s	

**Electrical Characteristics**

Characteristic	Sym	Notes	Min	Typ	Max	Units
Nominal Operating Frequency	$f_C$			1642.5		MHz
Passband Insertion Loss, 1625 to 1660 MHz	IL			2.1	3.5	dB
Amplitude Ripple, 1625 to 1660 MHz				0.9	2.0	dB <sub>p,p</sub>
Attenuation Referenced to 0 dB:						dB
DC to 1500 MHz			21	28		
1525 to 1559 MHz			30	34		
1700 to 2050 MHz			30	33		
2050 to 3500 MHz			25	33		
VSWR, 1625 to 1660 MHz				1.5:1	2.3:1	
Source impedance	$Z_S$			50		$\Omega$
Load impedance	$Z_L$			50		$\Omega$
Operating Temperature Range	$T_A$		-40		+90	°C

**Electrical Connections**

Connection	Terminals
Input	1
Output	3
Ground	All others

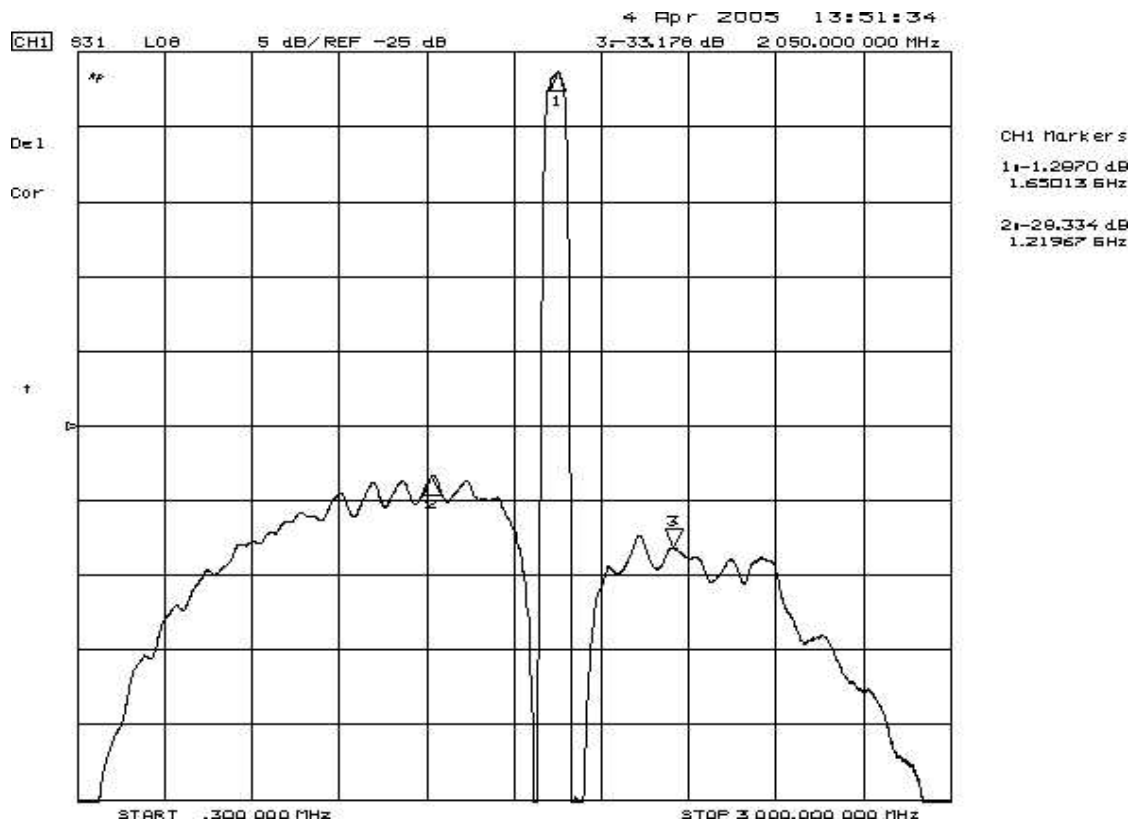
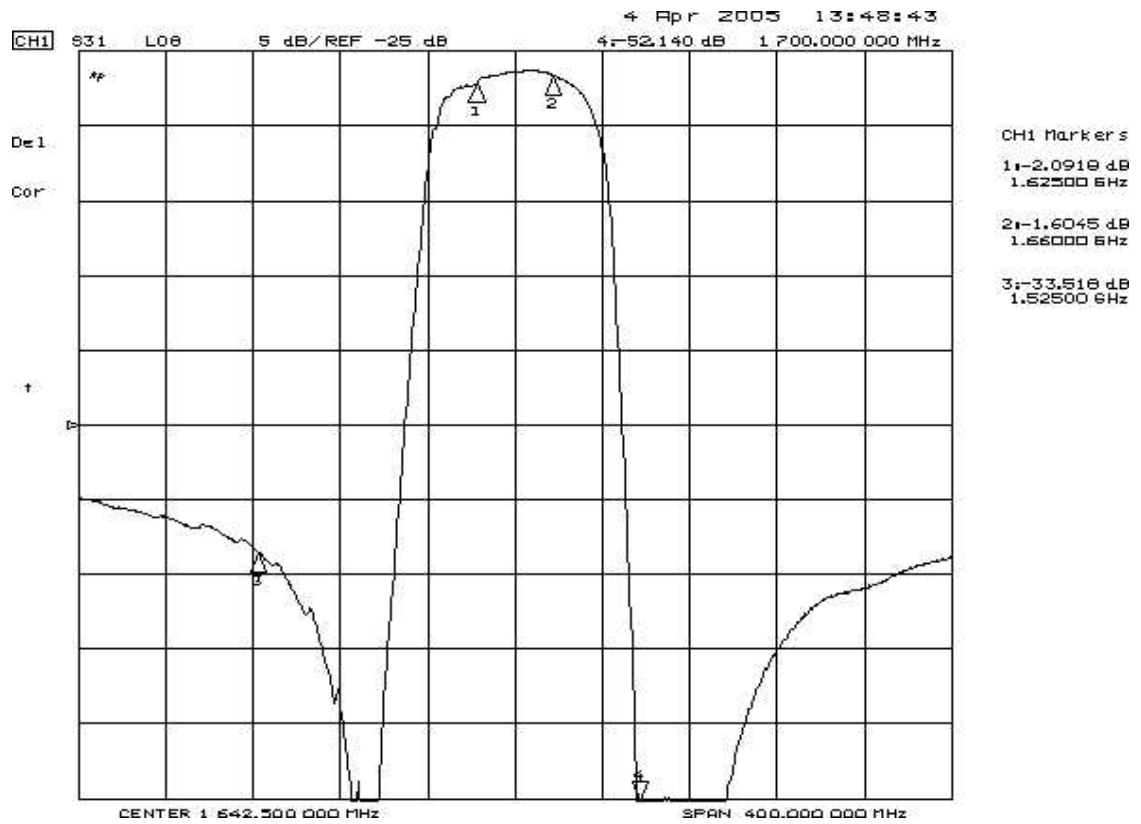


**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

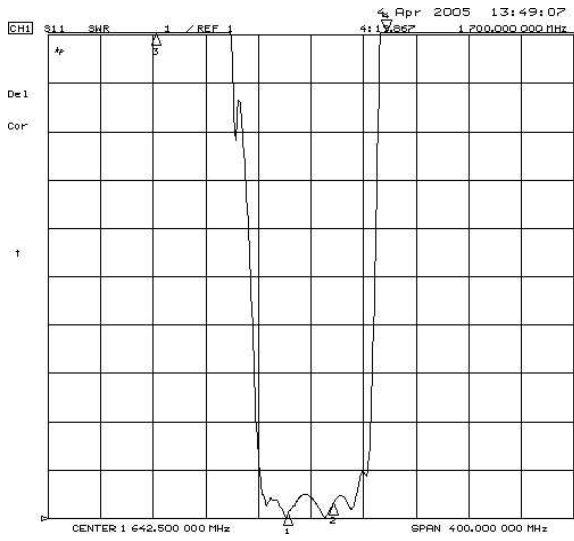
**NOTES:**

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.

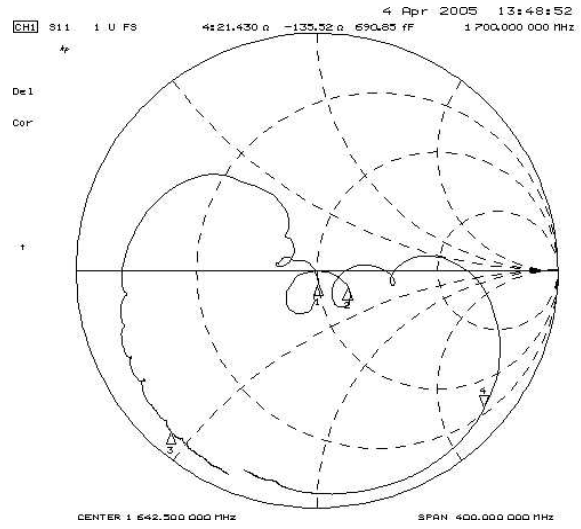
# Filter Amplitude Plots



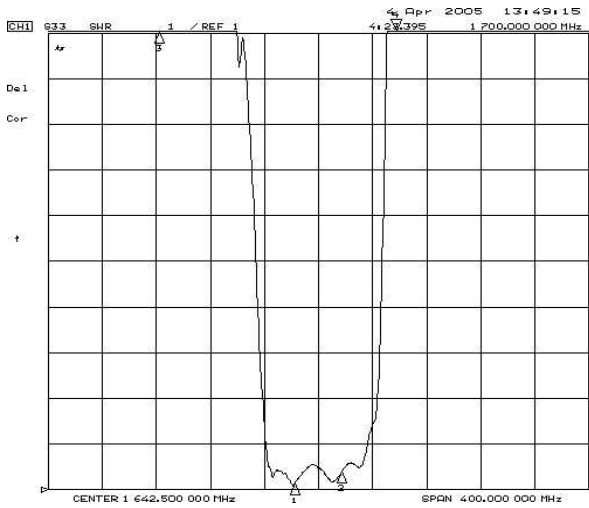
# Filter Impedance Plots



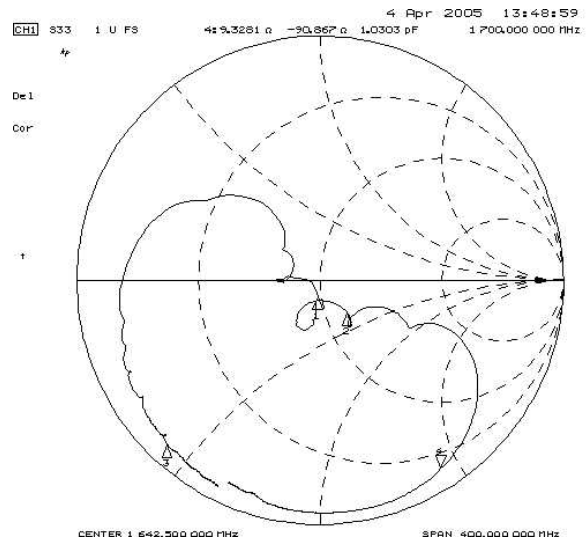
CHI Markers  
 1: 1.1166  
 1.62500 GHz  
 2: 1.3424  
 1.65000 GHz  
 3: 21.266  
 1.62500 GHz



CHI Markers  
 1: 50.346 a  
 -3.3703 a  
 1.62500 GHz  
 2: 61.863 a  
 -9.2388 a  
 1.65000 GHz  
 3: 2.7744 a  
 -25.359 a  
 1.62500 GHz



CHI Markers  
 1: 1.1501  
 1.62500 GHz  
 2: 1.4148  
 1.65000 GHz  
 3: 24.140  
 1.62500 GHz

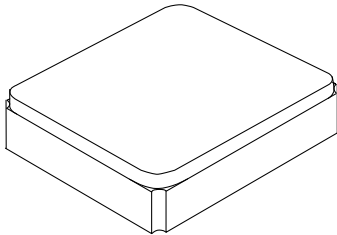


CHI Markers  
 1: 40.490 a  
 -6.7378 a  
 1.62500 GHz  
 2: 59.977 a  
 -16.250 a  
 1.65000 GHz  
 3: 2.4639 a  
 -21.698 a  
 1.62500 GHz

# SM2520-4 Case

## 4-Terminal Ceramic Surface-Mount Case

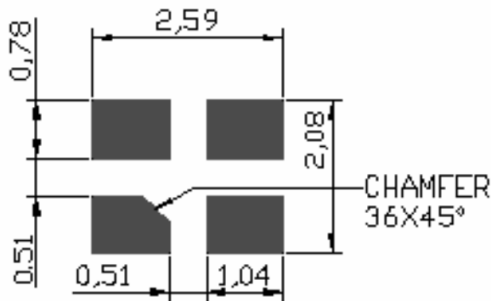
### 2.5 X 2.0 mm Nominal Footprint



#### Case Dimensions

Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	1.88	2.0	2.12	0.074	0.079	0.083
B	2.38	2.5	2.62	0.094	0.098	0.103
C	-	-	1.00	-	-	0.039
D	0.67	0.80	0.83	0.026	0.031	0.033
E	0.80	0.95	1.10	0.031	0.037	0.433
F	0.55	0.70	0.85	0.022	0.028	0.033
G	0.50	0.60	0.70	0.020	0.024	0.028

#### PCB Footprint (mm)

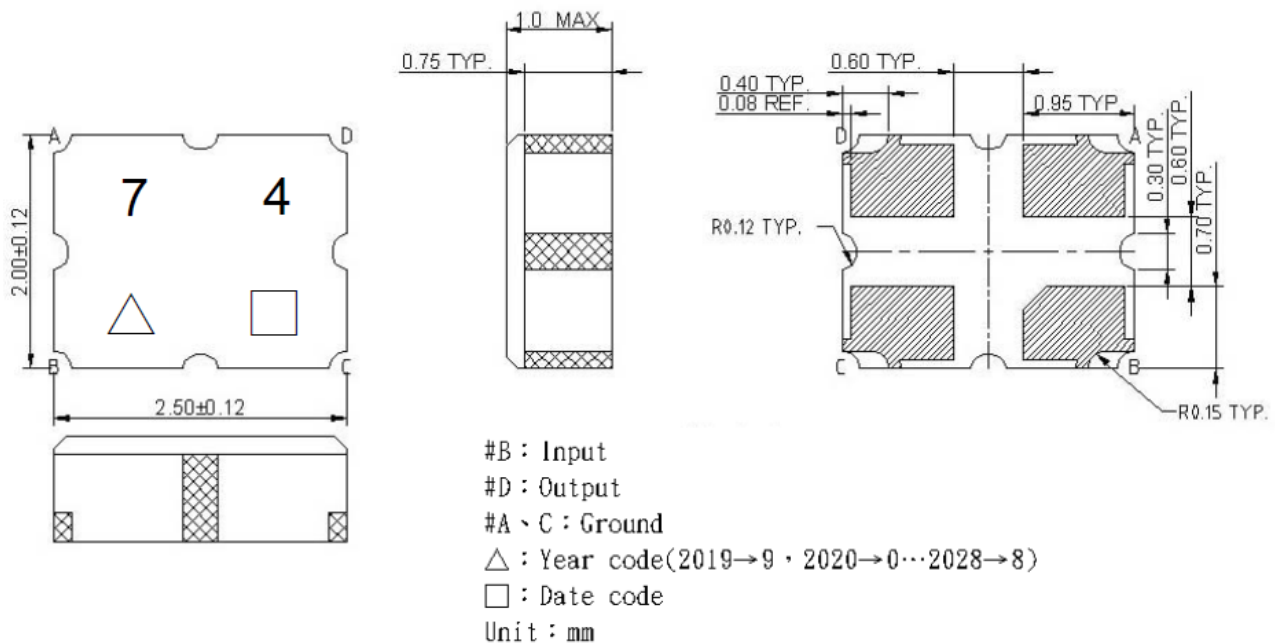


#### Electrical Connections

Connection		Terminals
Port 1	Single-ended Input	1
Port 2	Single-ended Output	3
	Ground	All others

#### Case Materials

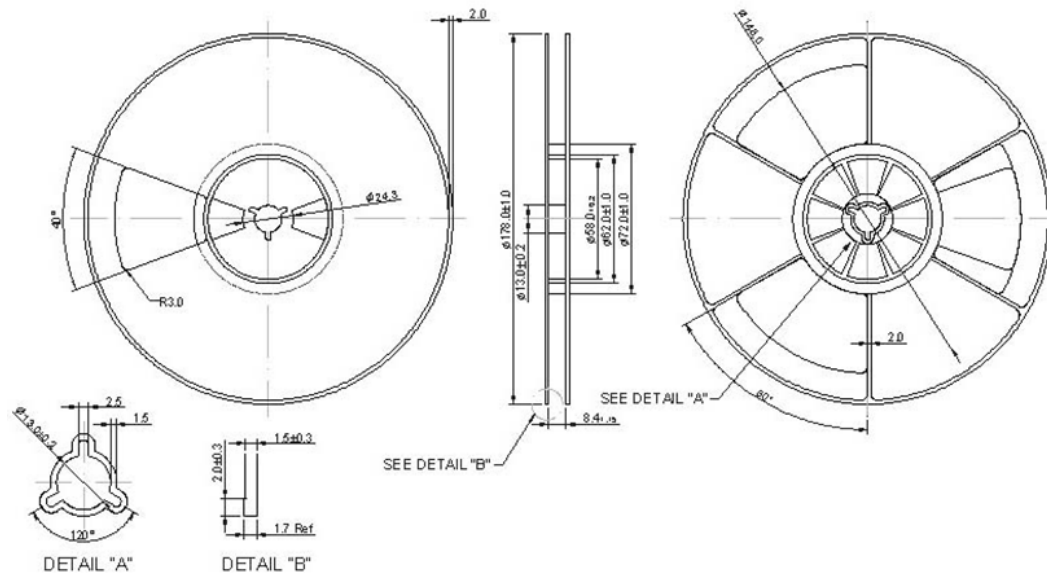
Materials	
Solder Pad Plating	0.3 to 1.0 μm Gold over 1.27 to 8.89 μm Nickel
Lid Plating	2.0 to 3.0 μm Nickel
Body	Al <sub>2</sub> O <sub>3</sub> Ceramic



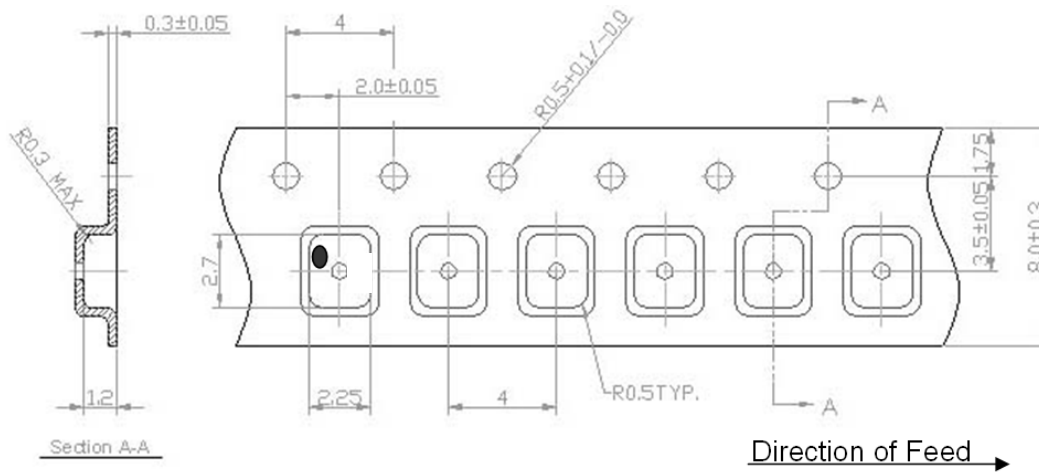
Tape and Reel Standard per ANSI/EIA-481

Reel Count:  
7" = 500  
13" = 3000

### Reel Dimension



### Tape Dimension



## 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.

