

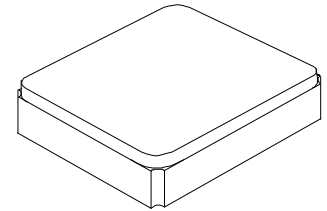
- **RF Filter Designed for Front End GPS Applications**
- **Low Insertion Loss**
- **Improved Rejection**
- **2.0 x 1.6 mm Surface-Mount Case**
- **Complies with Directive 2002/95/EC (RoHS)**
- **Tape and Reel Standard per ANSI/EIA-481**
- **Moisture Sensitivity Level: 1**
- **AEC-Q200 Qualified**

**Absolute Maximum Ratings**

Rating	Value	Units
Maximum Incident Power in Passband	+10	dBm
Maximum DC Voltage Between any Two Terminals	3	VDC
Operating Temperature Range	-40 to +85	°C
Storage Temperature Range	-55 to +95	°C
Maximum Soldering Profile	265°C for 10 s	

**SF1186H-2**

**1575.42 MHz  
SAW Filter**



**SM2016-4**

**Electrical Characteristics**

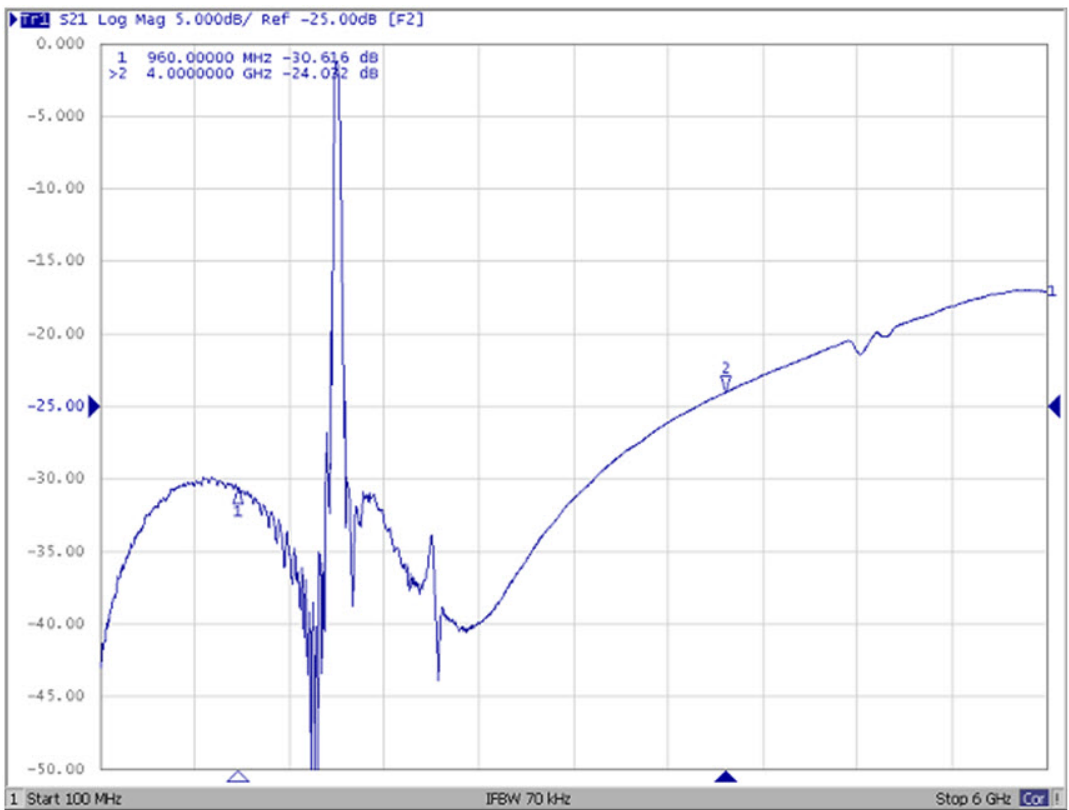
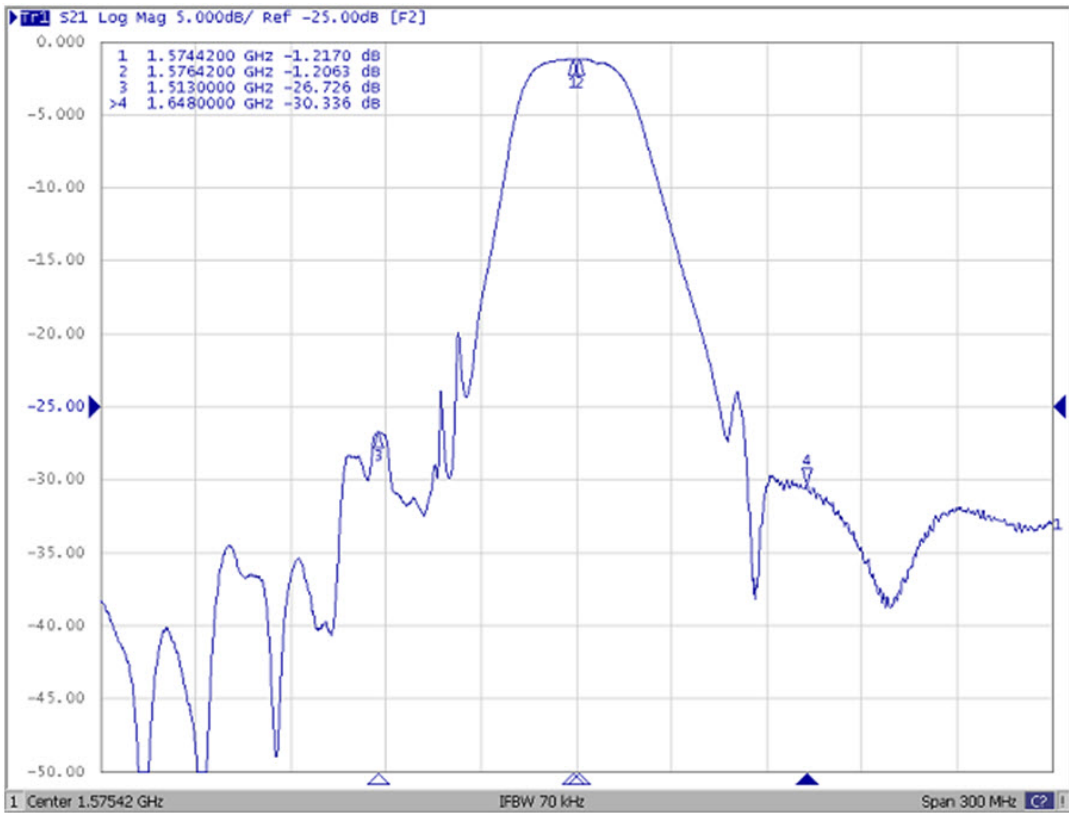
Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	$f_c$		1575.42			MHz
Maximum Insertion Loss	$I_{LMAX}$	1574.42 to 1576.42 MHz		1.2	1.6	dB
		1573.42 to 1577.42 MHz		1.2	1.8	
Amplitude Ripple		1574.42 to 1576.42 MHz		0.1	0.5	dB
		1573.42 to 1577.42 MHz		0.1	0.7	
VSWR		1574.42 to 1576.42 MHz		1.2	1.9	
		1573.42 to 1577.42 MHz		1.2	2.0	
Attenuation (Reference to 0 dB)		100 to 960 MHz	26	29		dB
		960 to 1460 MHz	27	30		
		1460 to 1513 MHz	22	26		
		1648 to 1710 MHz	22	30		
		1710 to 1990 MHz	25	30		
		1990 to 2300 MHz	25	33		
		2300 to 4000 MHz	21	24		
4000 to 6000 MHz	13	16				
Source impedance	$Z_s$			50		$\Omega$
Load impedance	$Z_L$			50		$\Omega$
Single-ended Input / Output Impedance Match	No matching network required for operation at 50 ohms					
Case Style	SM2016-4					
Lid Symbolization ( Y=year, W=week)	2Y, <u>YW</u>					

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

**NOTES:**

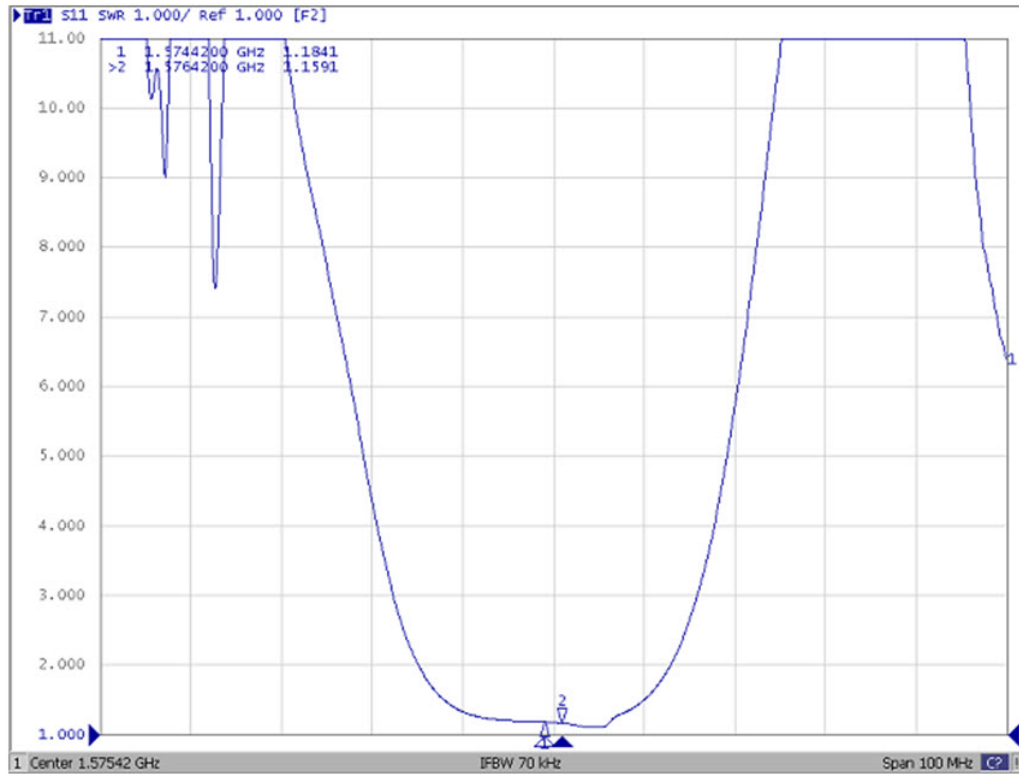
1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

# Frequency Characteristics

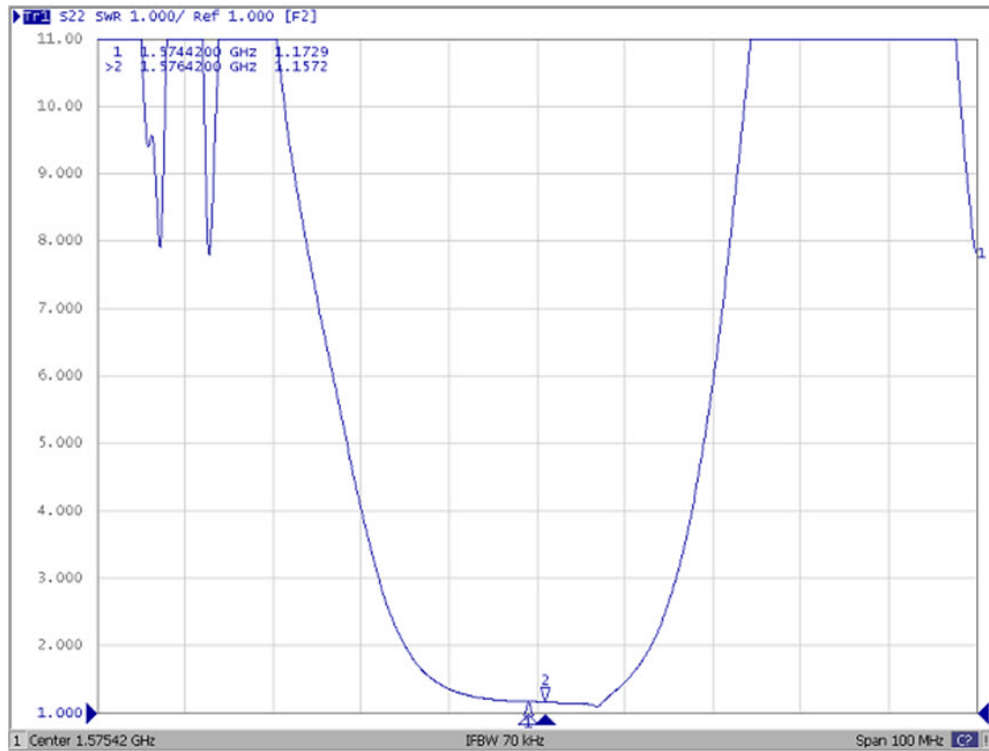


## Reflection Functions

S11



S22



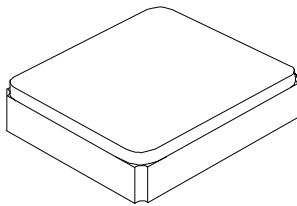
# SM2016-4 Case

## 4-Terminal Ceramic Surface-Mount Case 2.0 X 1.6 mm Nominal Footprint

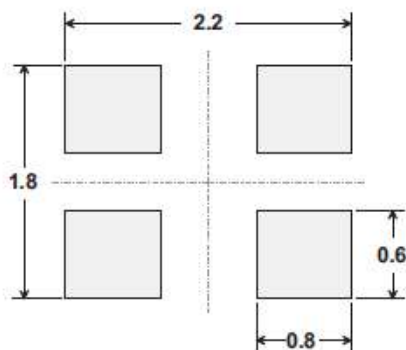
### Electrical Connections

Connection	Terminals
Input	1
Output	3
Ground	2, 4

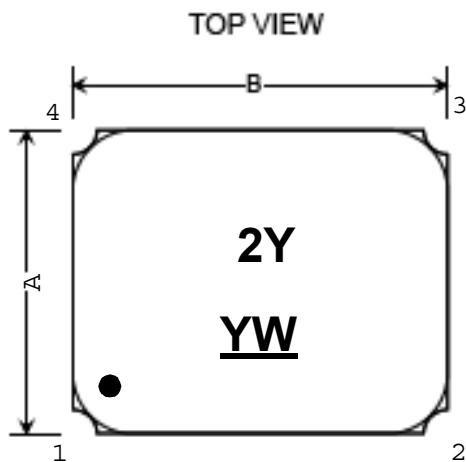
Dimensions	Millimeters			Inches		
	Min	Nom	Max	Min	Nom	Max
A		1.60			0.062	
B		2.0			0.078	
C		0.90			0.035	
D		0.10			0.003	
E		0.10			0.003	
F		0.70			0.027	
G		0.50			0.019	
H		0.10			0.003	



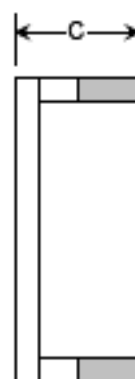
PCB PAD LAYOUT



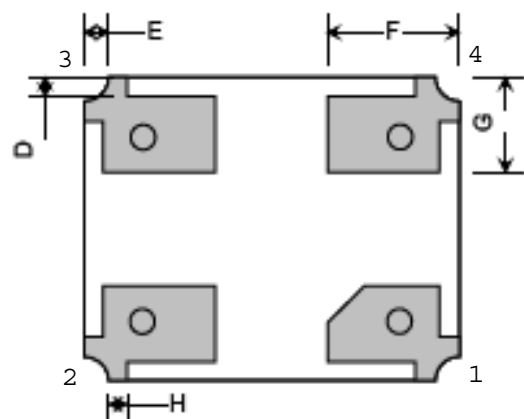
Dimensions in mm  
All pads have the same dimensions



SIDE VIEW



BOTTOM VIEW

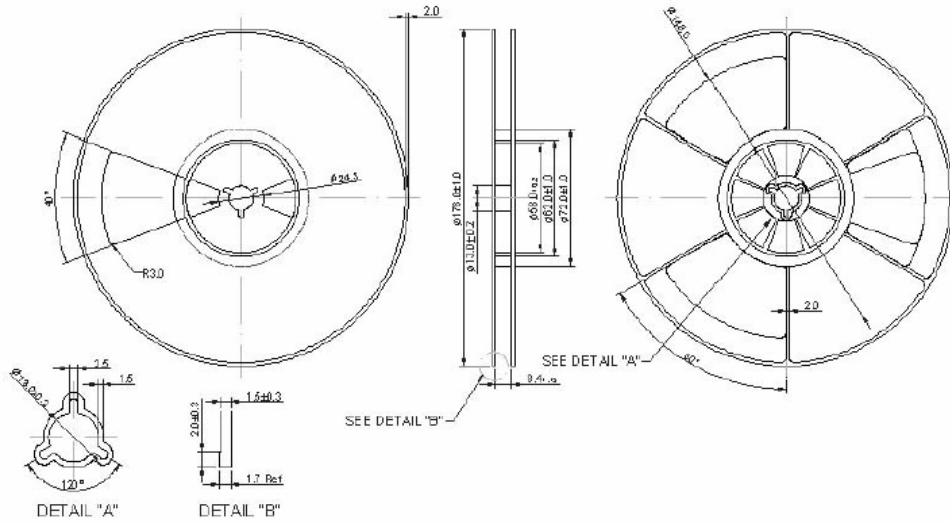


**F. PACKING:**

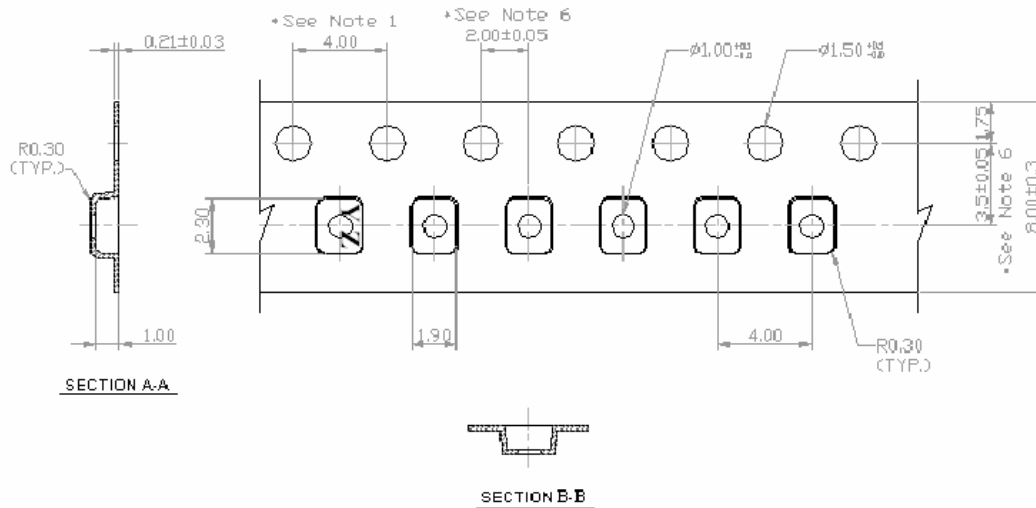
**1. REEL DIMENSION**

( Reel Count : 7"=2000 typ. ; 13"=10000 typ.)

**Tape and Reel Standard per ANSI/EIA-481**



**2. 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.

