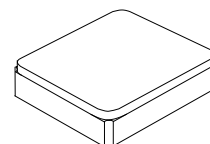


- RF Filter Designed for Front End GPS Applications
- Low Insertion Loss
- Improved Rejection
- 2.0 x 1.6 mm Surface-mount Case
- Complies with Directive 2002/95/EC (RoHS)
- AEC-Q200 Qualified

RoHS
Compliant

SF1186H-3

**1575.42 MHz
SAW Filter**



SM2016-4

Absolute Maximum Ratings

Rating	Value	Units
Input Power Level	+10	dBm
Maximum DC Voltage on any Non-grounded Terminal	3	VDC
Filter Operating Temperature Range	-40 to +105	°C
Filter Storage Temperature Range	-55 to +105	°C
Storage Temperature Range in Tape & Reel	-40 to +85	°C
Maximum Soldering Profile	265°C for 10 s	

Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	f_C			1575.42		MHz
Maximum Insertion Loss, 1574.42 to 1576.42 MHz	IL_{MAX}			1.2	1.8	dB
Amplitude Ripple, 1574.42 to 1576.42 MHz				0.1	0.5	dB
VSWR, 1574.42 to 1576.42 MHz				1.2	1.9	
Attenuation:						dB
100 to 960 MHz			26	29		
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		
Temperature Coefficient of Frequency				-36		ppm/°C
Source impedance	Z_S			50		Ω
Load impedance	Z_L			50		Ω

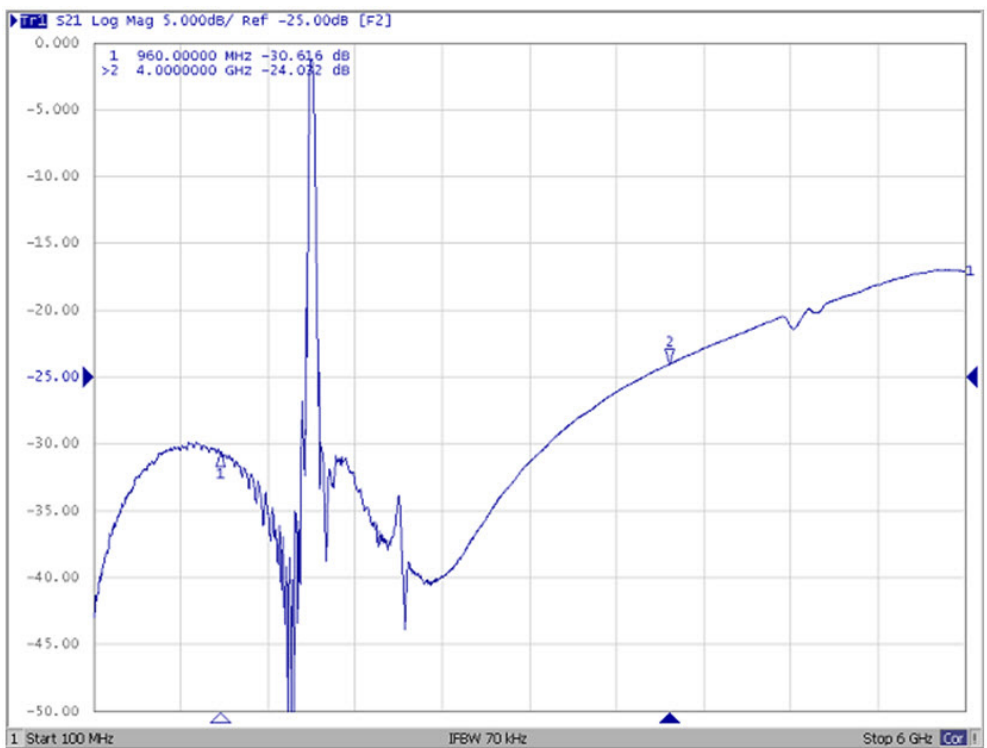
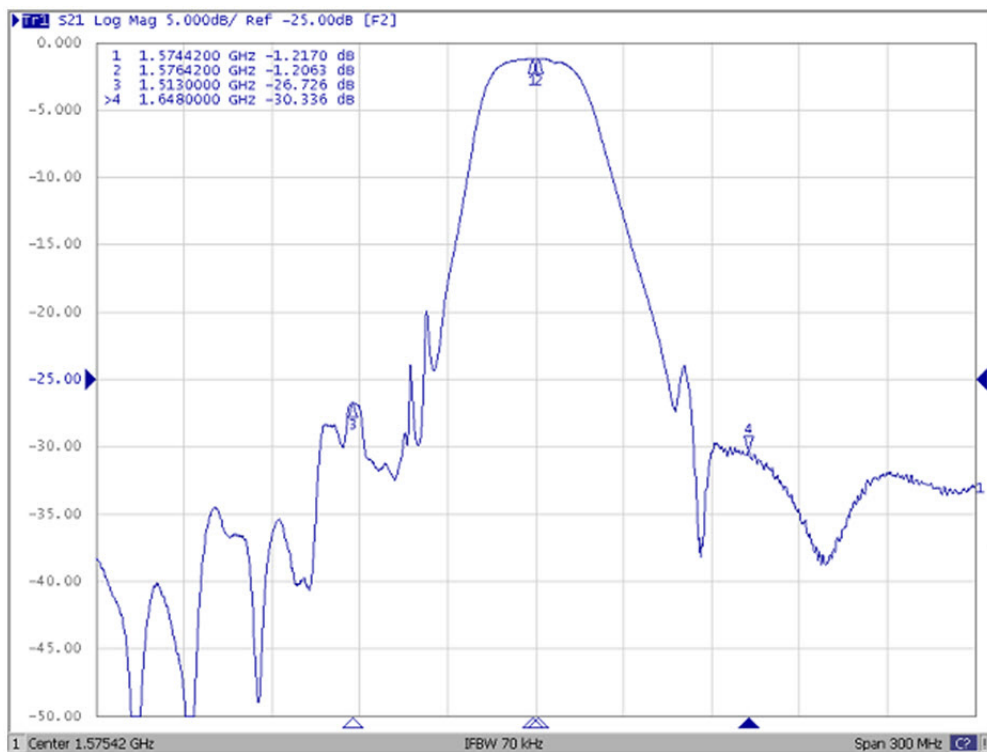
Single-ended Input / Output Impedance Match	No matching network required for operation at 50 ohms
Case Style	SM2016-4
Lid Symbolization: Y = Year, W = Week	3A, <u>YW</u>

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

NOTES:

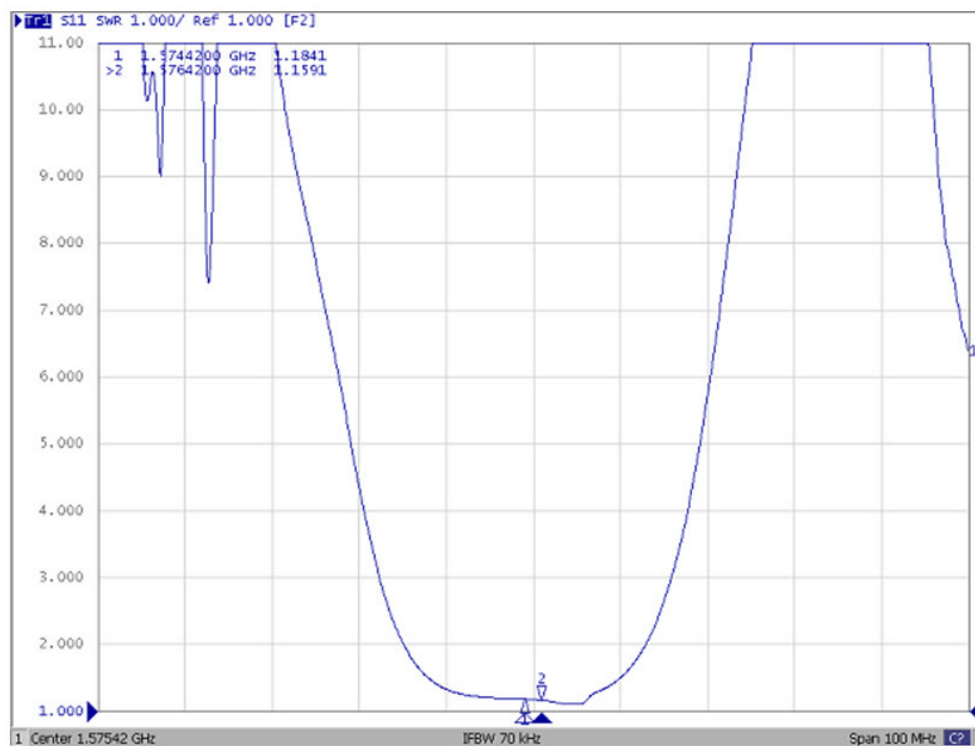
1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

Frequency Characteristics

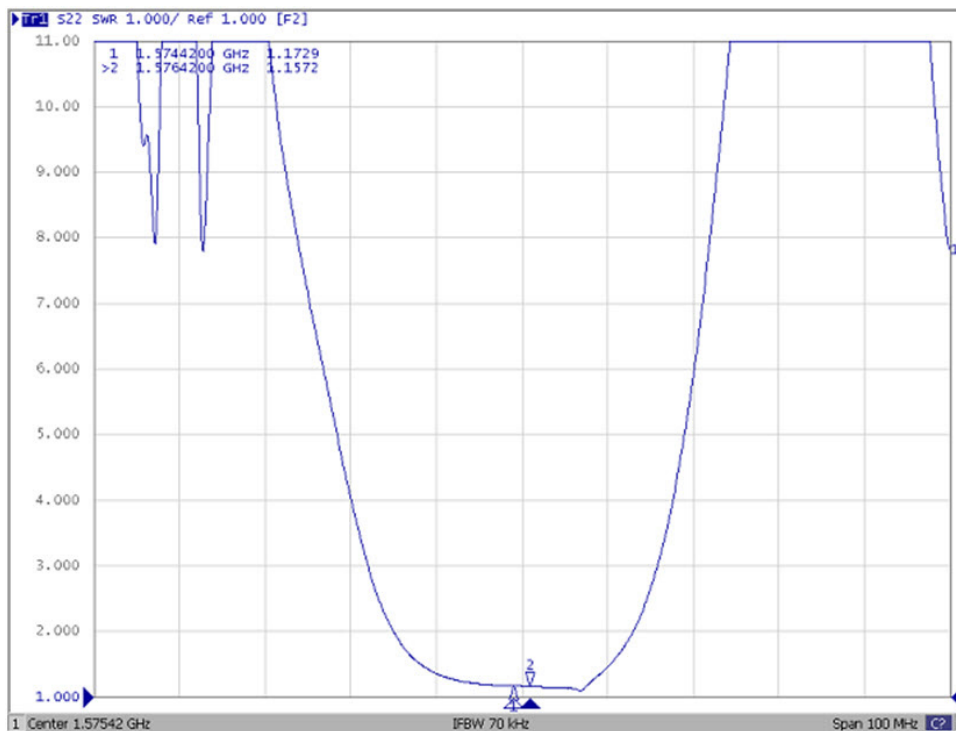


Reflection Functions

S11



S22



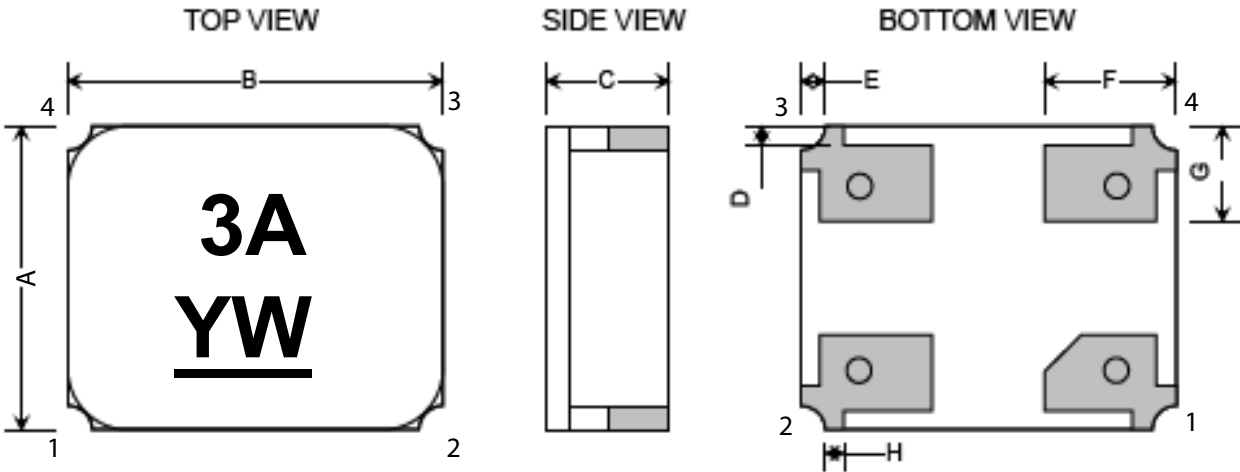
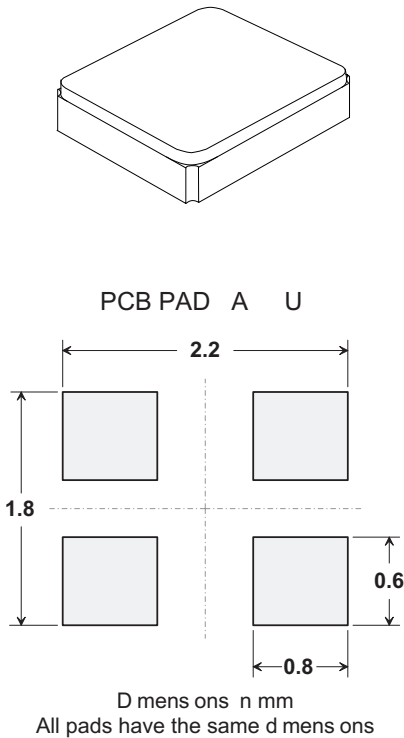
SM2016-4 Case

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				
B		2.00				
C		0.90				
D		0.10				
E		0.10				
F		0.70				
G		0.50				
H		0.10				



Tape and Reel Standard per ANSI/EIA-481

1. REEL DIMENSION

Technical drawing of a circular mechanical part, showing three views: front, side, and back, along with two detail views (A and B).

Front View: Shows a circular flange with a central hub. Dimensions include a 60° sector, R3.0, Ø24.5, and 2.0.

Side View: Shows a cross-section of the part. Dimensions include Ø178.0, 9.11, 6.03, 6.65, 6.71, and 8.4.

Back View: Shows the reverse side of the flange. Dimensions include Ø24.5, 2.0, and 8.4.

Detail A: A close-up of the central hub, showing a 120° angle and dimensions 2.6, 1.6, and Ø3.00±0.2.

Detail B: A close-up of the flange edge, showing dimensions 2.0±0.3, 1.6±0.3, and 1.7 Ref.

Technical drawing of a bridge deck cross-section. The drawing includes the following dimensions and details:

- Overall Width:** 8.00 ± 0.03
- Deck Thickness:** 0.21 ± 0.03
- Top Flange Thickness:** 2.00 ± 0.05
- Top Flange Width:** 4.00
- Top Flange Reinforcement:**
 - Top: $\phi 1.00 \pm 0.05$
 - Bottom: $\phi 1.50 \pm 0.05$
- Deck Height:** 3.5 ± 0.05
- Bottom Flange Thickness:** 2.30
- Bottom Flange Width:** 4.00
- Bottom Flange Reinforcement:** $\phi 1.00 \pm 0.05$
- Bottom Flange Shape:** R0.30 (TYP.)
- Section A-A:** Indicated by a vertical line on the left side of the drawing.
- Section B-B:** Indicated by a horizontal line at the bottom of the drawing.

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.

