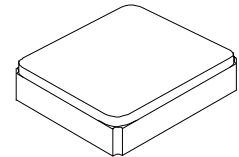


- *Designed for Front End GPS, Beidou, and Glonass Applications*
- *Steep Rejection*
- *2.0 x 1.6 x 1.0 mm Surface-Mount Case*
- *No Matching Circuit Required*
- *Complies with Directive 2002/95/EC (RoHS)*
- *Moisture Sensitivity Level: 1*
- *AEC-Q200 Qualified*

SF2463H

**1582.4 MHz
SAW Filter**



SM2016-4

Absolute Maximum Ratings

Rating	Value	Units
Maximum Input Power	+20	dBm
DC Voltage	0	VDC
Operable Temperature Range	-45 to +125	°C
Specification Temperature Range	-40 to +85	°C
Storage Temperature	-40 to +85	°C
Solder Reflow Temperature, 5 Cycles Maximum	260 °C for 10 s	

Electrical Characteristics

Characteristic 25°C	Sym	NOTE	MIN	TYPICAL	MAX -40 ~ +85°C	MAX -40 ~ +125°C	Units
Center Frequency	f _C				1582.4		MHz
Insertion Loss, 1559.05 to 1563.15 MHz	IL			1.3	2.0	2.0	dB
Insertion Loss, 1573.37 to 1577.47 MHz				1.0	2.0	2.0	
Insertion Loss, 1597.78 to 1605.66 MHz				1.0	2.2	2.4	
VSWR 1559.05 to 1563.15 MHz				1.6	2.1	2.1	
VSWR 1573.37 to 1577.47 MHz				1.3	2.1	2.1	
VSWR 1597.78 to 1605.66 MHz				1.6	2.1	2.3	
Variation of Group Delay (1597.78 to 1605.66)				5	14	16	ns
Attenuation Referenced to 0 dB:							
50 to 824 MHz			45	50			dB
824 to 925 MHz			45	50			
1427 to 1453 MHz			39	43			
1710 to 1785MHz			35	38			
1850 to 1910 MHz			40	50			
1920 to 1980 MHz			40	43			
2400 to 2500 MHz			34	38			
2500 to 2570 MHz			30	37			
2570 to 3000 MHz			30	34			
Source impedance	Z _S			50			Ω
Load impedance	Z _L			50			Ω
Temperature Coefficient				-36			ppm/
Standard Reel Quantity	Reel Size - 7 inch				2000 pieces/reel		
	Reel Size - 13 inch				10000 pieces/reel		

Single-ended Input / Output Impedance Match	No matching network required for operation at 50 ohms
Package Size	SM2016-4
Lid Symbolization (Y=year, W=week)	A5, <u>YW</u>



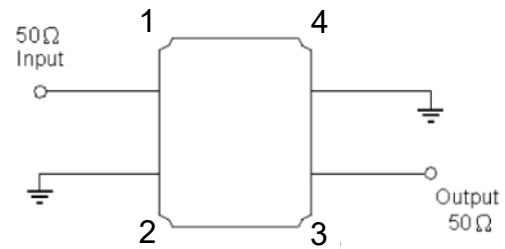
CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

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.

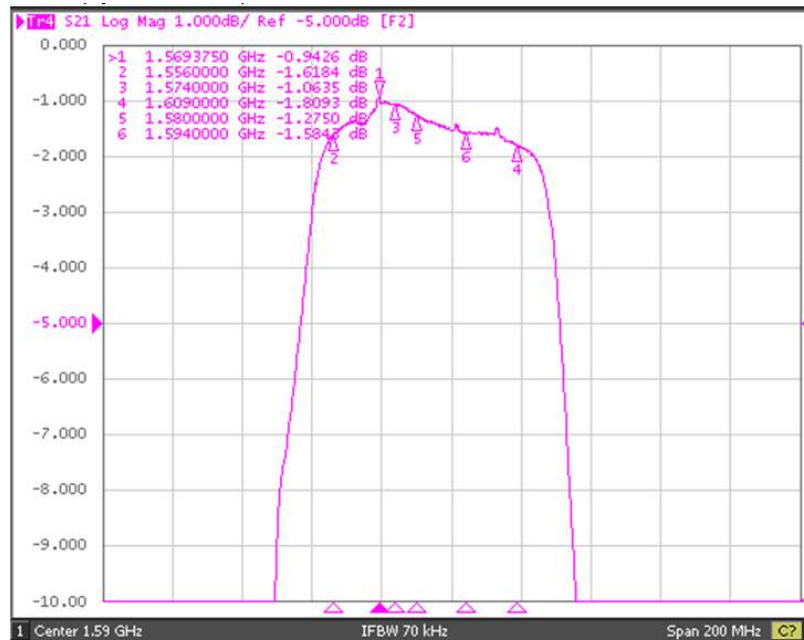
Electrical Connections

Connection	Terminals
Input	1
Output	3
Ground	All others

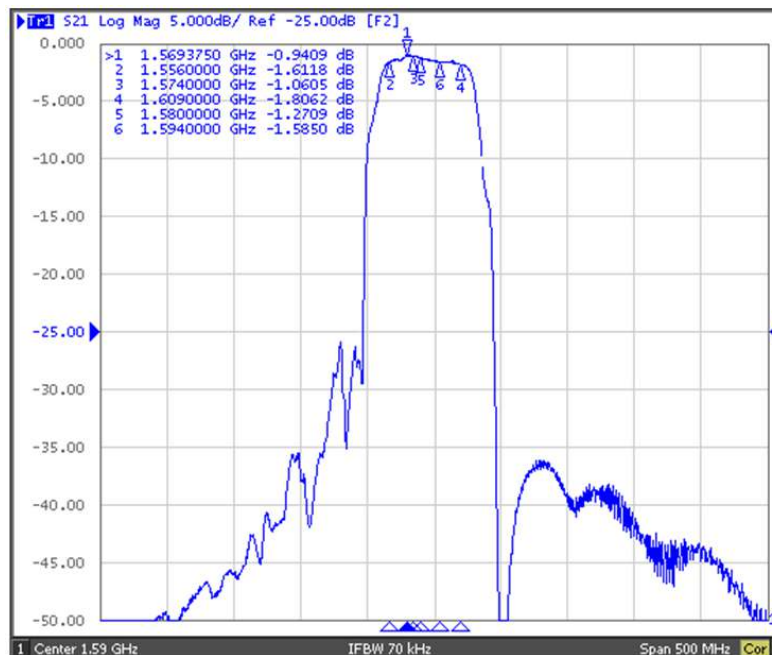


Frequency Characteristics

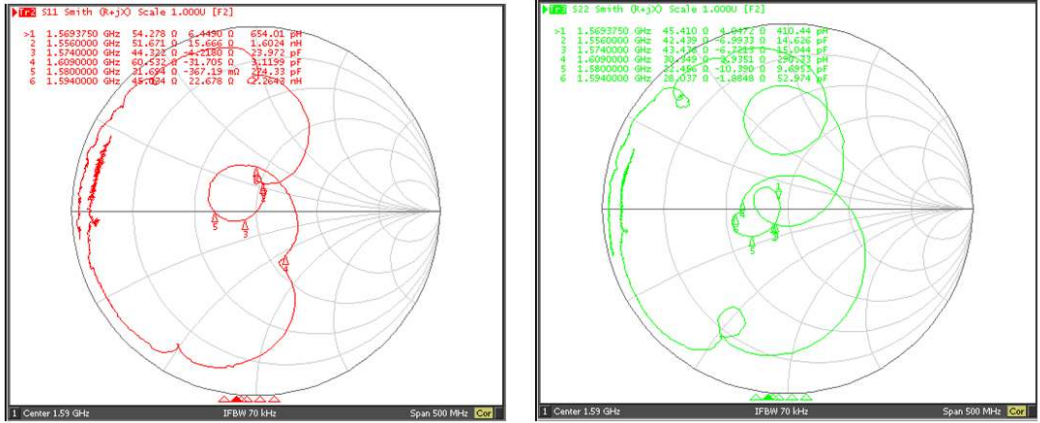
S21 Response: span 200 MHZ



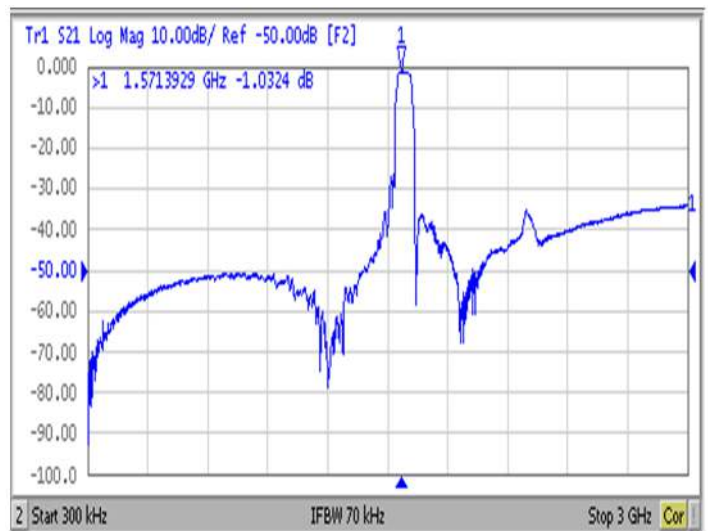
S21 Response: span 500 MHZ



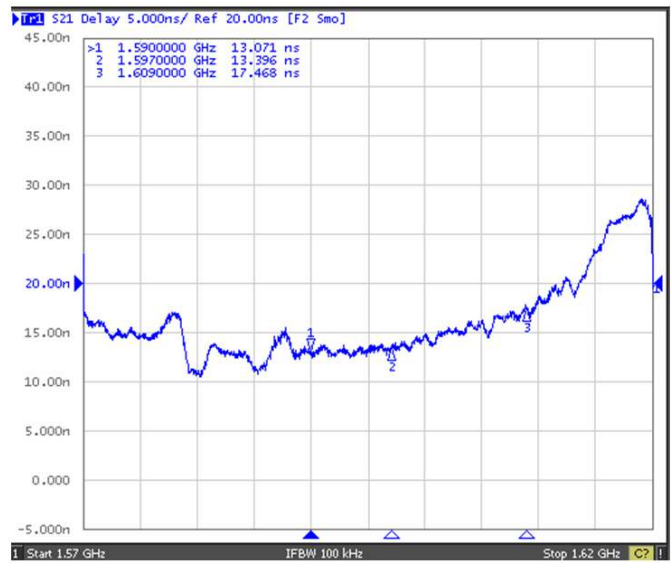
S11/S22 Response



S21 Response: (span 3 GHz)



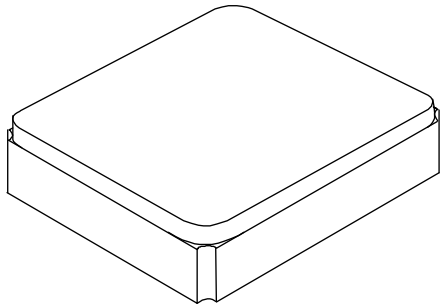
G-Delay Response: (Span 50 MHz)



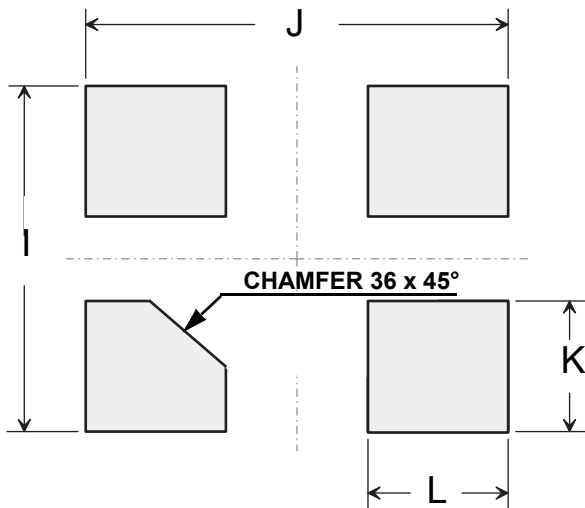
SM2016-4 Case

4-Terminal Ceramic Surface-Mount Case

2.0 X 1.6 mm Nominal Footprint



PCB PAD LAYOUT



Dimensions in mm

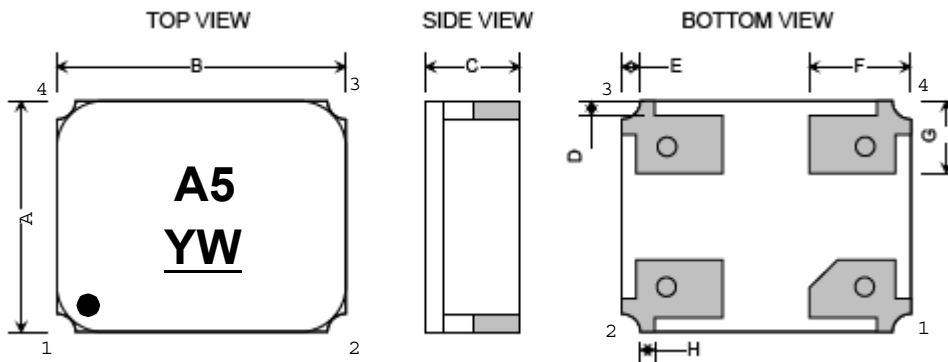
All pads have the same dimensions

Case Dimensions

Dimension	mm		
	Min	Nom	Max
A	1.57	1.60	1.73
B	1.97	2.00	2.13
C	0.55	0.65	0.75
D		0.10	
E		0.10	
F		0.70	
G		0.50	
H		0.10	
I		1.80	
J		2.20	
K		0.60	
L		0.80	

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_2O_3 Ceramic



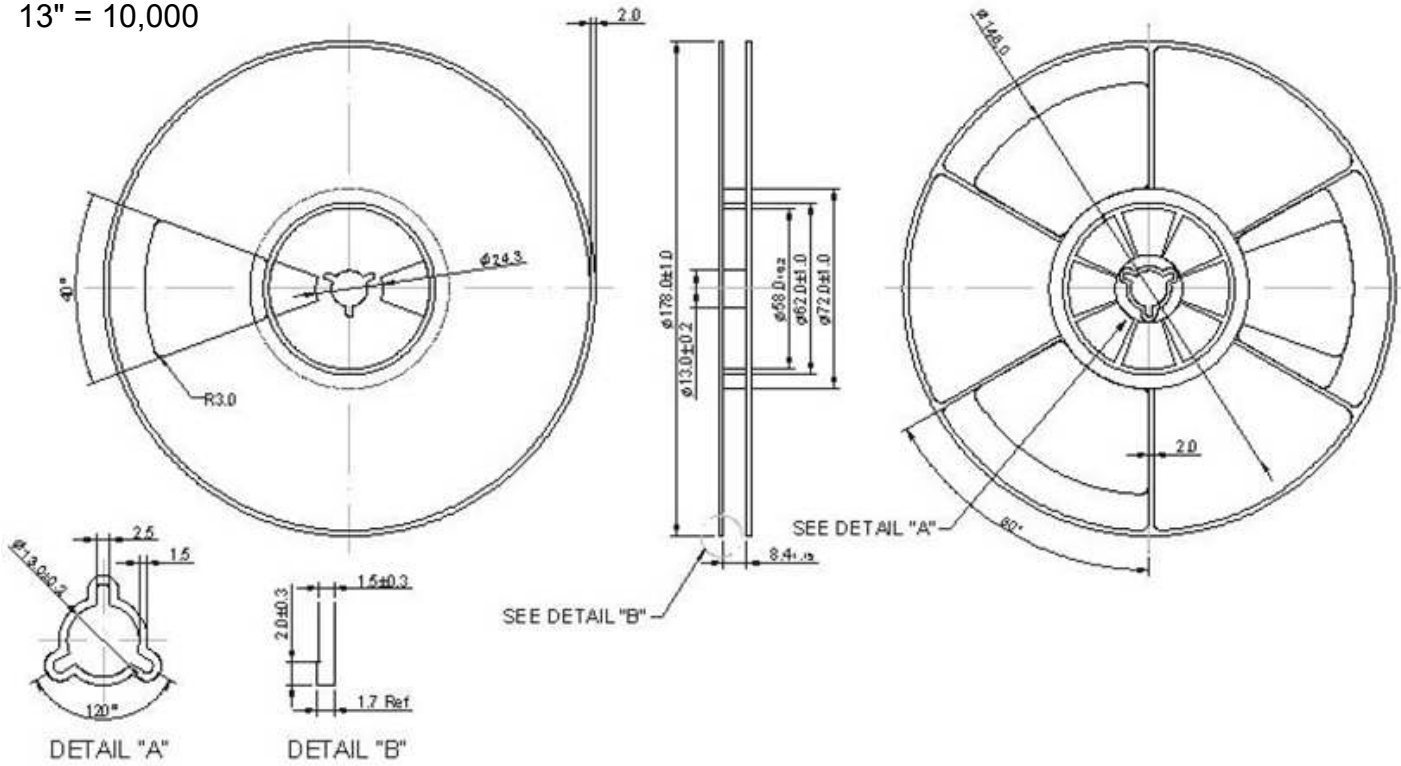
Reel Dimensions

Reel Count:

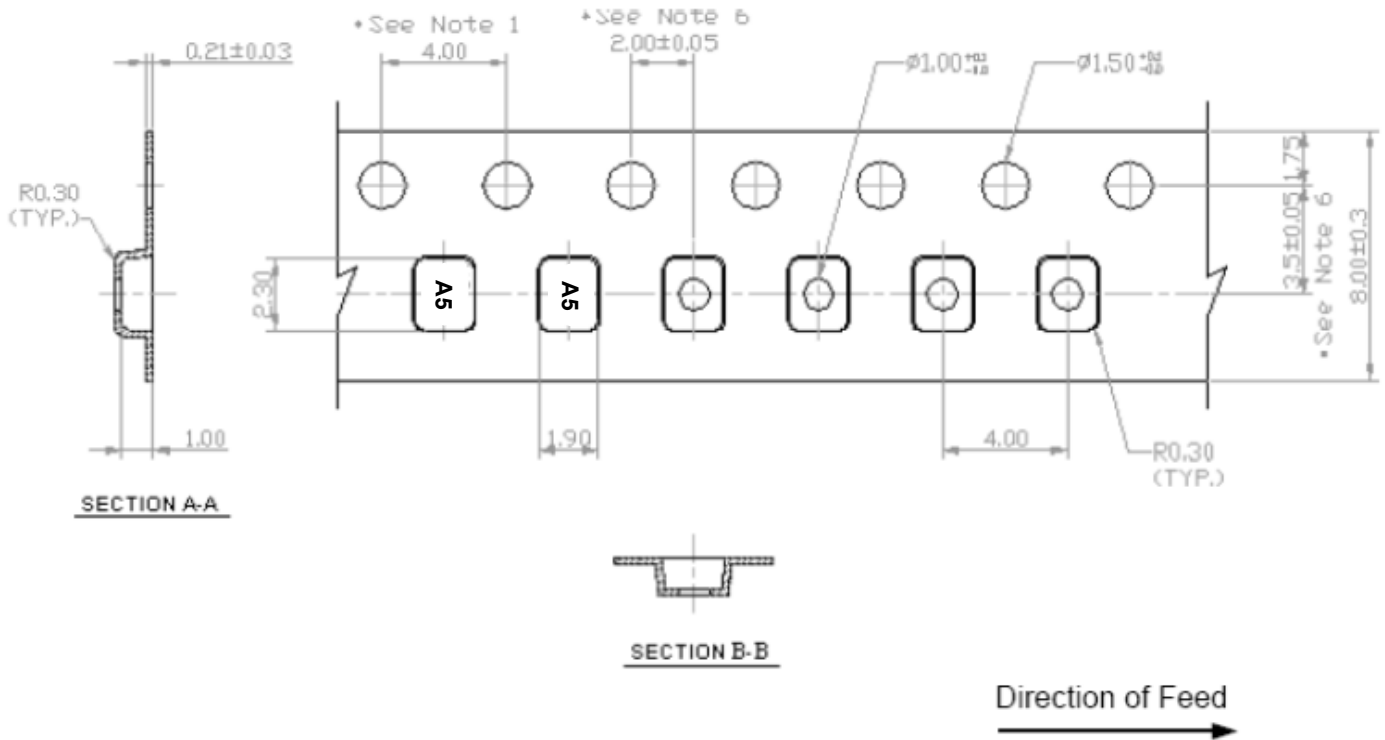
7" = 2000

13" = 10,000

Tape and Reel Standard per ANSI/EIA-481



Tape Dimensions



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.

