

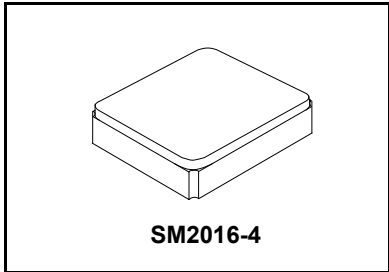


- Designed for Front End GPS, Beidou, and Glonass Applications
- Steep Rejection
- 2.0 x 1.6 x 1.0 mm Surface-Mount Case
- No Matching Circuit Required
- Complies with Directive 2002/95/EC (RoHS)
- Moisture Sensitivity Level: 1
- AEC-Q200 Qualified

RoHS
Compliant

SF2316H

1583 MHz
SAW Filter



Absolute Maximum Ratings

Rating	Value	Units
Maximum Input Power	+20	dBm
DC Voltage	3	VDC
Operating Temperature	-40 to +105	°C
Storage Temperature Range in Tape and Reel	-40 to +85	°C
Storage Temperature Range without Tape and Reel	-40 to +105	°C
Maximum Soldering Profile (5 cycles maximum)	260 °C for 10 s	

Electrical Characteristics

Characteristic 25°C	Sym	Typical	-40 to +85°C MAX	-40 to +105°C MAX	Units
Center Frequency	fC	1583	-	-	MHz
Insertion Loss, 1559.1 to 1563.1 MHz	IL	1.8	2.1	2.3	dB
Insertion Loss, 1573.42 to 1577.42 MHz		1.4	1.6	1.8	
Insertion Loss, 1597.55 to 1605.89 MHz		1.7	2.1	2.5	
Amplitude Ripple, 1559.1 to 1563.1 MHz		0.5	0.8	1.0	
Amplitude Ripple, 1571.42 to 1577.42 MHz		0.2	0.5	0.7	
Amplitude Ripple, 1597.55 to 1605.89 MHz		0.3	0.6	1.0	
Variation of Group Delay 1597.78 to 1605.66		5	14	16	ns
VSWR 1559.1 to 1563.1 MHz		1.7	2.0	2.2	
VSWR 1573.42 to 1577.42 MHz		1.8	2.0	2.2	
VSWR 1597.55 to 1605.89 MHz		2.0	2.2	2.4	
Attenuation Referenced to 0 dB:			MIN	MIN	dB
10 to 824 MHz		50	43	43	
824 to 925 MHz		50	45	43	
1427 to 1463 MHz		32	25	25	
1710 to 1785 MHz		40	34	34	
1850 to 1980 MHz		40	35	35	
2400 to 2570 MHz		30	25	25	
2570 to 3000 MHz		27	23	23	
Source impedance	Z _S	50			Ω
Load impedance	Z _L	50			Ω
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)	5C, YW



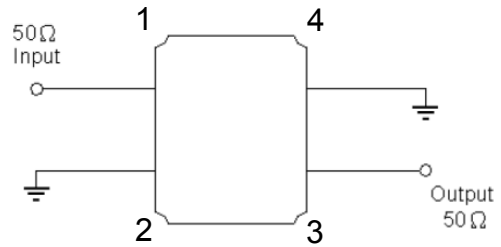
CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

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.

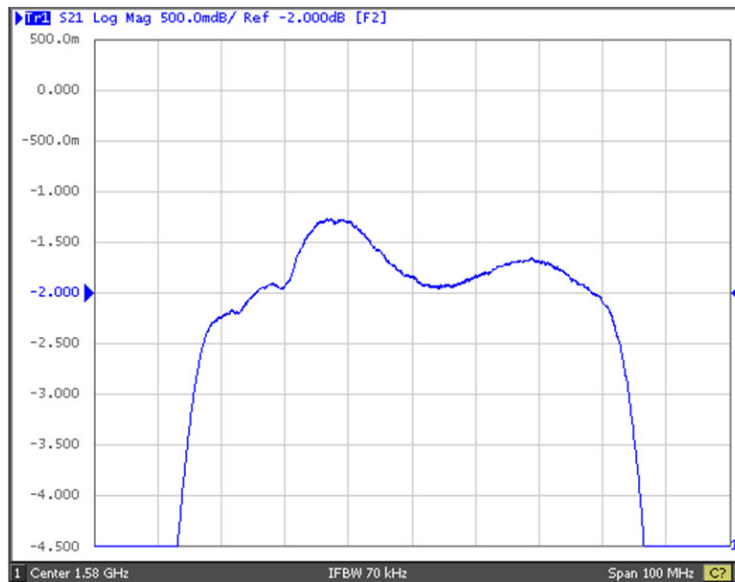
Electrical Connections

Connection	Terminals
Input	1
Output	3
Ground	All others

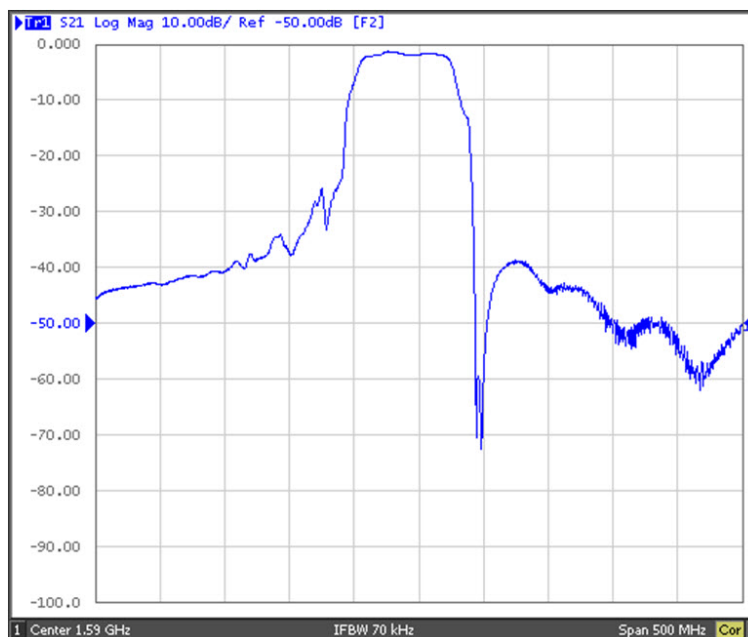


Frequency Characteristics

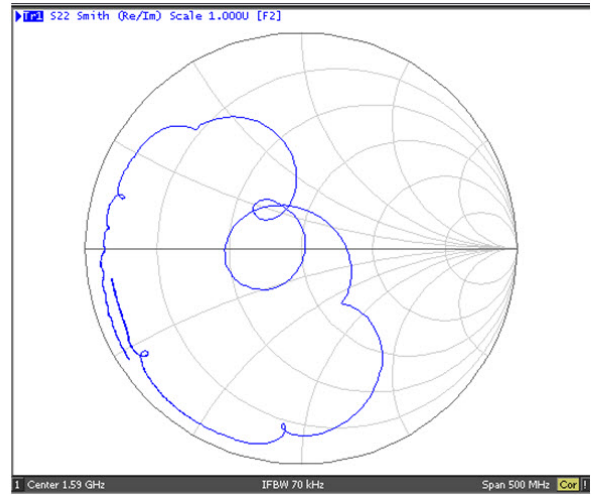
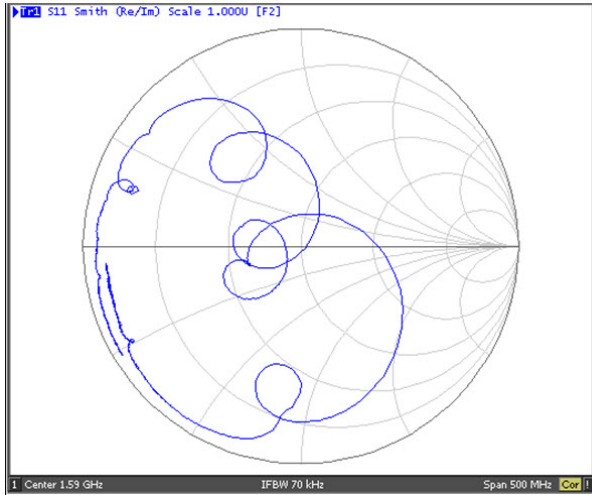
S21 Response: span 100 MHz



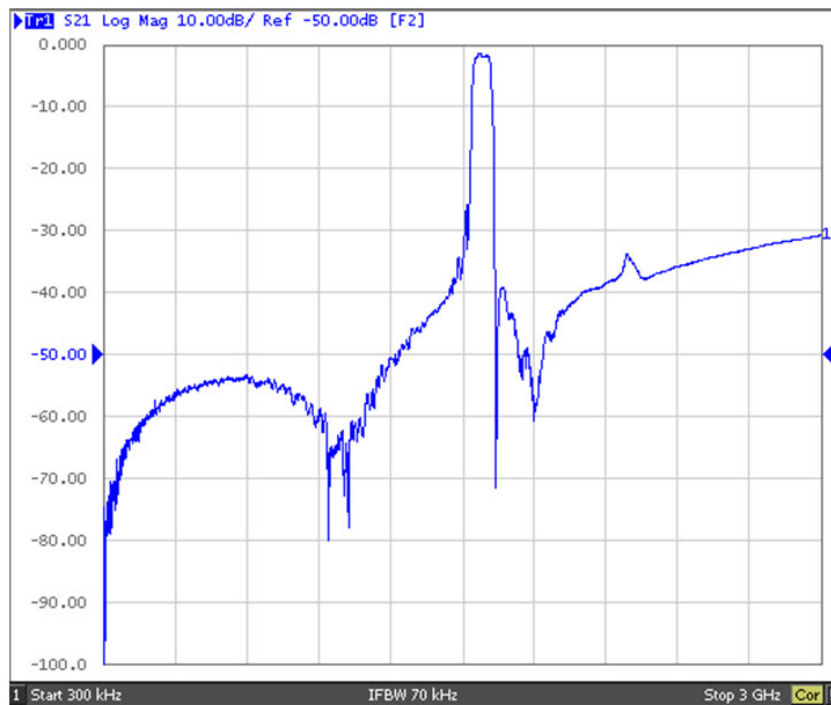
S21 Response: span 500 MHz

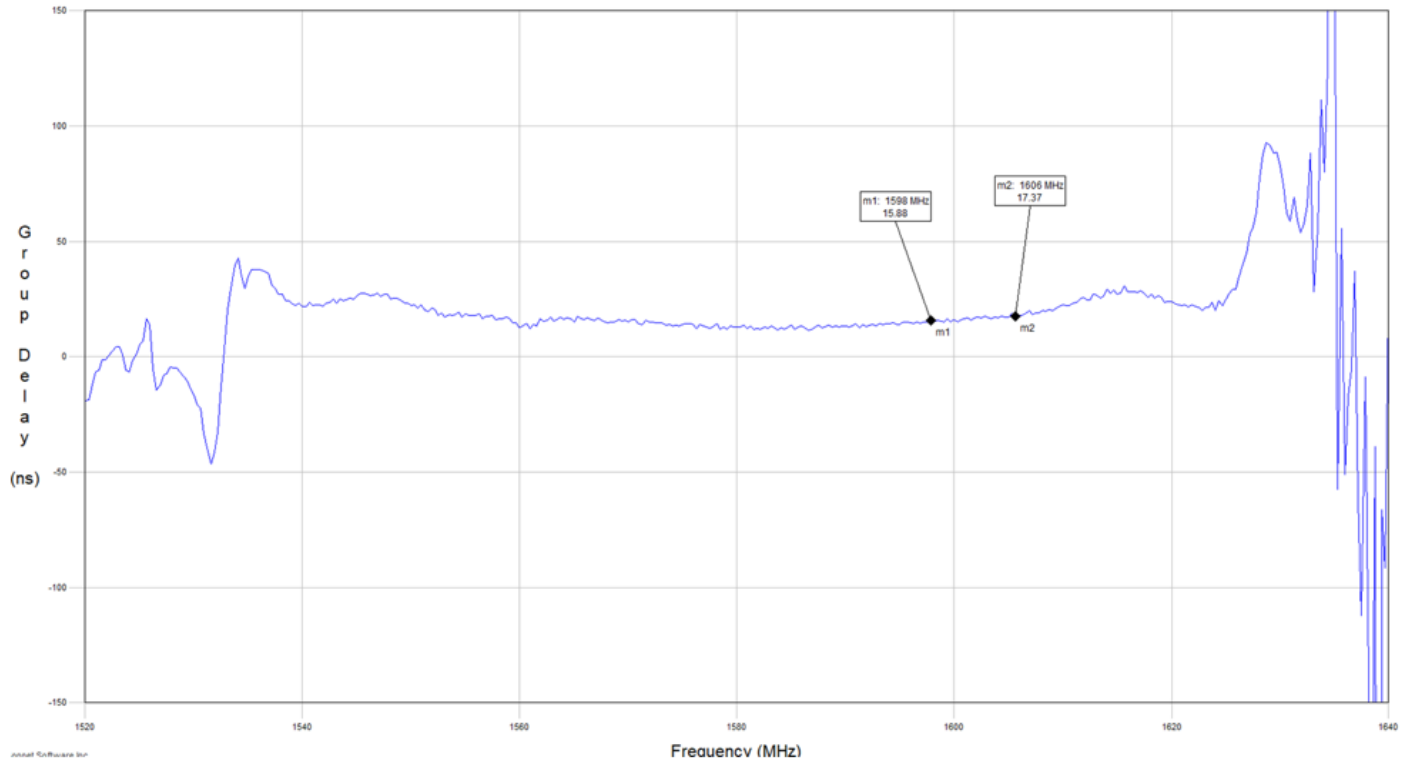


S11/S22 Response



S21 Response

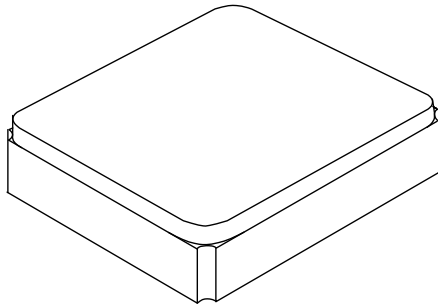




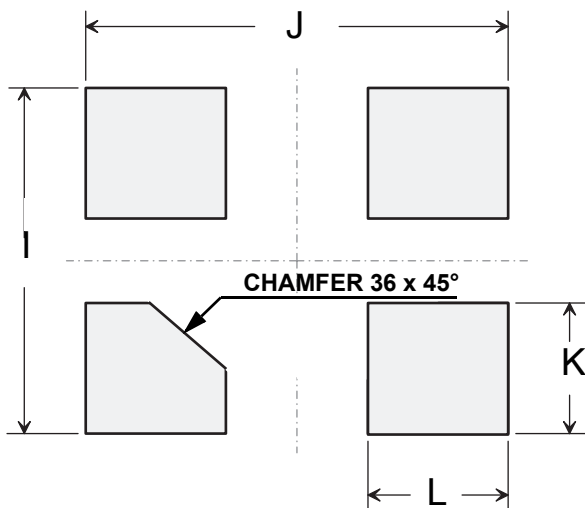
SM2016-4 Case

4-Terminal Ceramic Surface-Mount Case

2.0 X 1.6 mm Nominal Footprint



PCB PAD LAYOUT

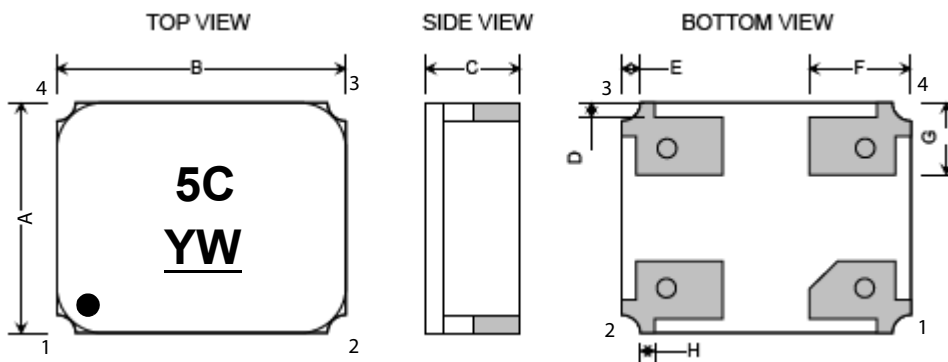


Dimensions in mm
All pads have the same dimensions

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	
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
Pb Free	



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.

