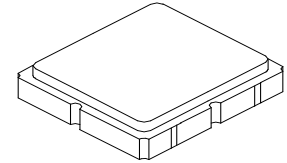


SF2281D

**313.15/314.00 MHz
Dual SAW Filter**



SM3838-8

- **Low Insertion Loss Dual SAW Filter**
- **3.8 x 3.8 mm Surface-mount Case**
- **Single-ended Input and Output**
- **Complies with Directive 2002/95/EC (RoHS)**
- **Moisture Sensitivity Level: 1**
- **AEC-Q200 Qualified**

Absolute Maximum Ratings

Rating	Value	Units
Maximum Input Power	+10	dBm
Maximum DC Voltage Between any Two Terminals	3	VDC
Storage Temperature Range in Tape and Reel	-40 to +85	°C
Operating Temperature Range	-40 to +85	°C
Suitable for Lead-free Soldering - Maximum Soldering Profile	260 °C for 30 s	

Electrical Characteristics

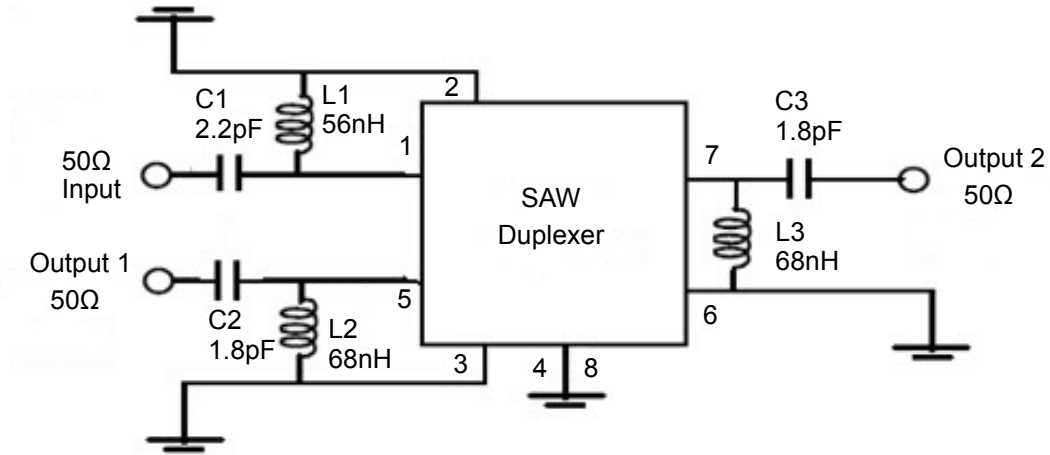
Characteristic	Sym	Note	Min	Typ	Max	Units
Band 1 Center Frequency	f_{C1}			313.15		MHz
Band 1 Insertion Loss, 313.05 to 313.25 MHz				3.5	4.5	dB
Band 1 Amplitude Ripple, 313.05 to 313.25 MHz				0.7	1.2	dB
Band 1 VSWR, 313.05 to 313.25 MHz				1.6	2.3	
Band 1 Attenuation Referenced to 0 dB:						dB
313.90 to 314.10 MHz			26	30		
$f_{C1} + 2.00$ MHz			25	30		
$f_{C1} - 2.00$ MHz			30	35		
Band 2 Center Frequency	f_{C2}			314.00		MHz
Band 2 Insertion Loss, 313.90 to 314.10 MHz				3.5	4.5	dB
Band 2 Amplitude Ripple, 313.90 to 314.10 MHz				0.5	1.2	dB
Band 2 VSWR, 313.90 to 314.10 MHz				1.6	2.3	
Band 2 Attenuation Referenced to 0 dB:						dB
313.05 to 313.25 MHz			26	30		
$f_{C2} + 2.00$ MHz			25	30		
$f_{C2} - 2.00$ MHz			30	35		

Case Style	SM3838-8 3.8 x 3.8 mm Nominal Footprint	
Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator	A28, <u>YWWS</u>	
Standard Reel Quantity	Reel Size 7 Inch	500 Pieces/Reel
	Reel Size 13 Inch	3000 Pieces/Reel

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

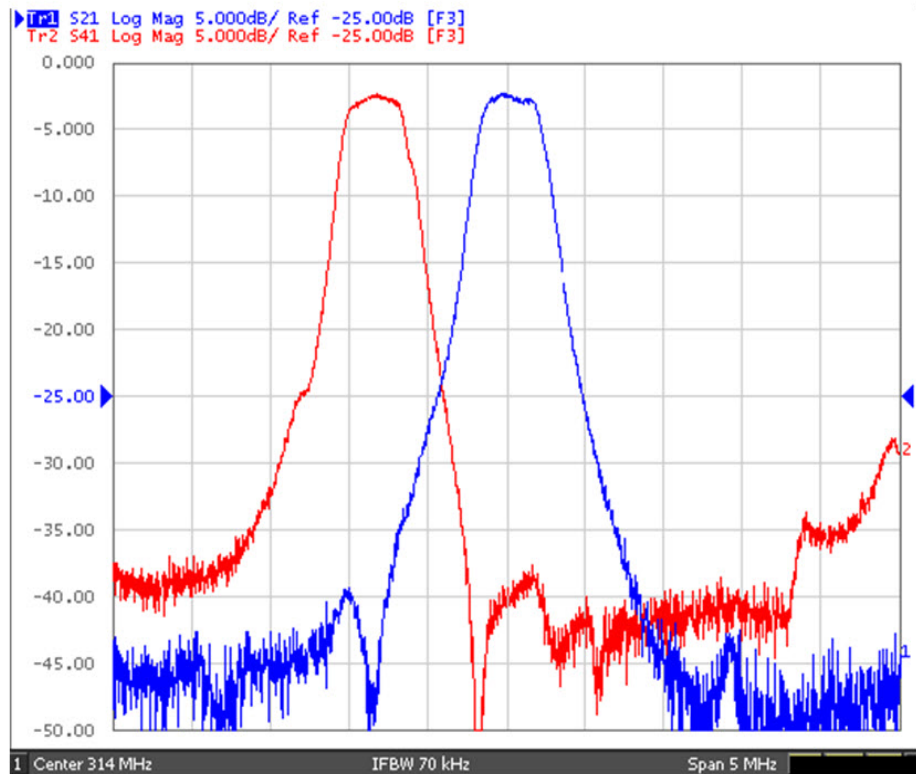
1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

Measurement Circuit

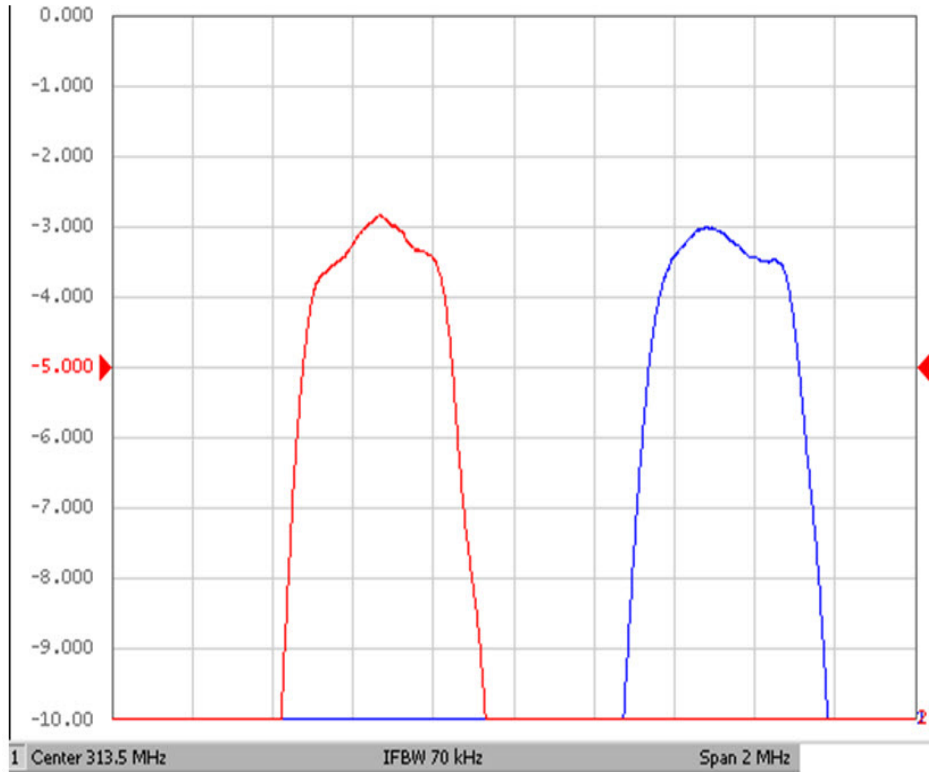


Frequency Characteristics

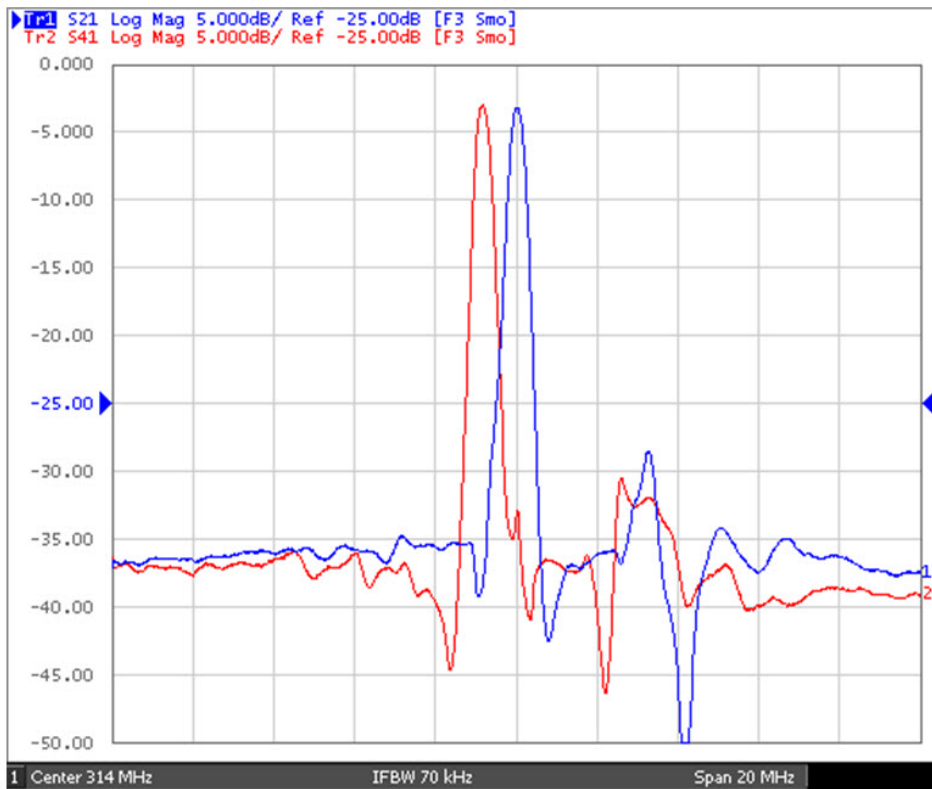
S21: Span 5MHz



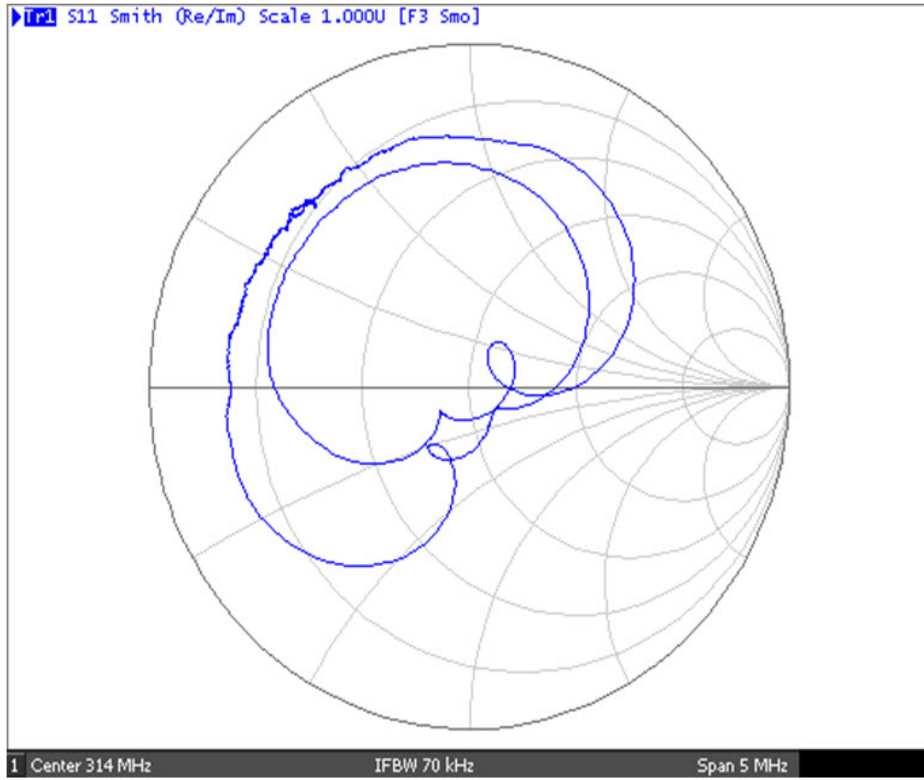
S21: Span 5MHz



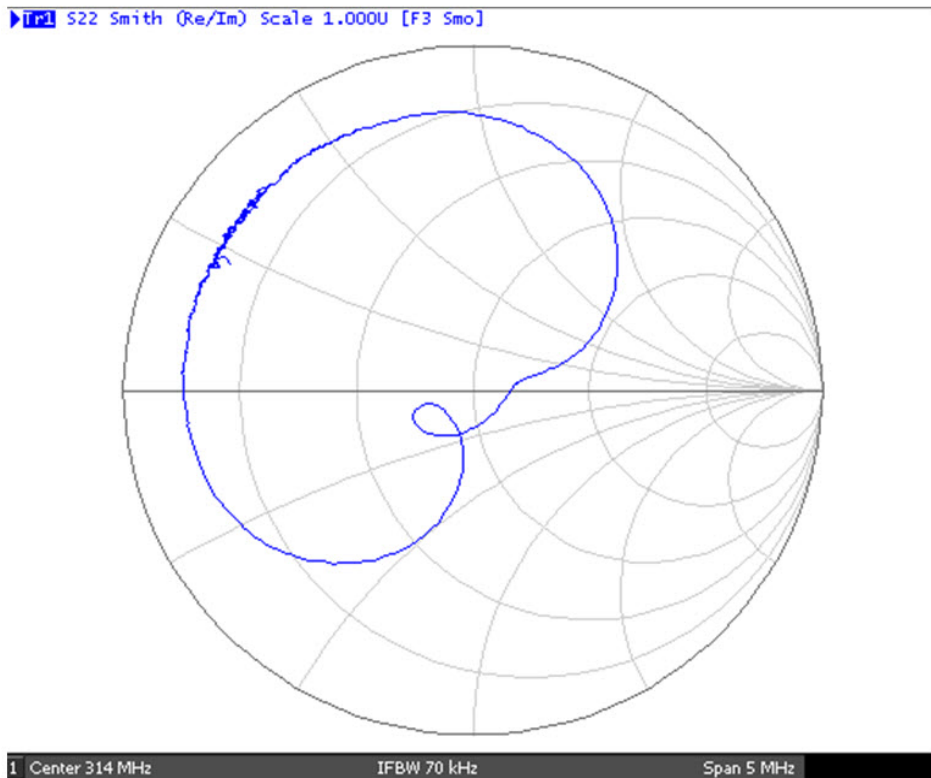
S21: Span 20MHz



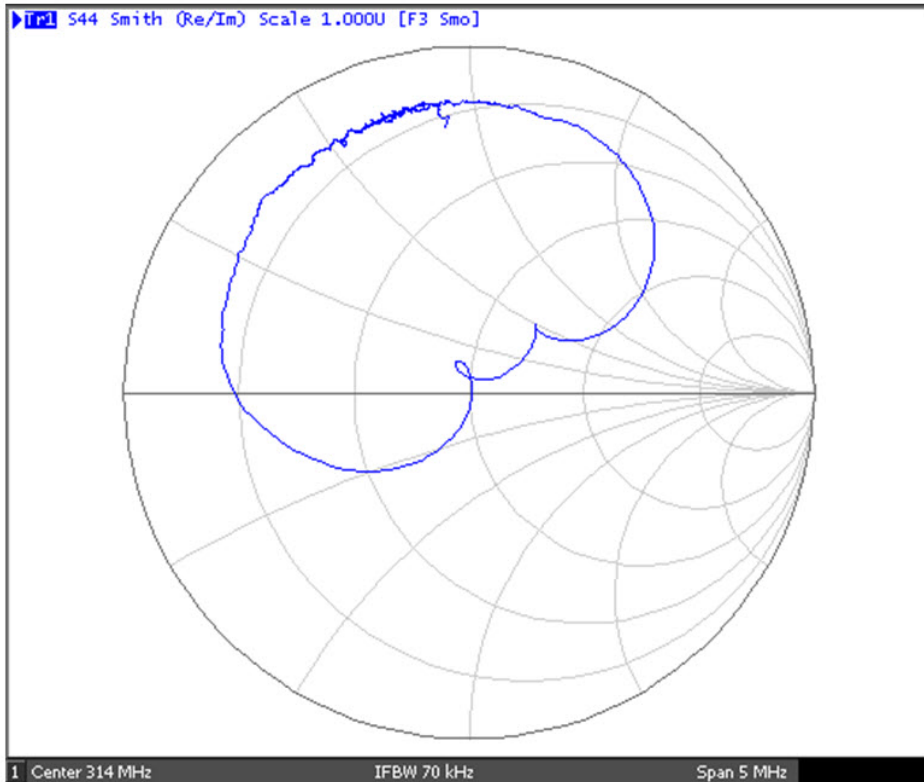
S11 (I/P)



S22: (O/P-2)



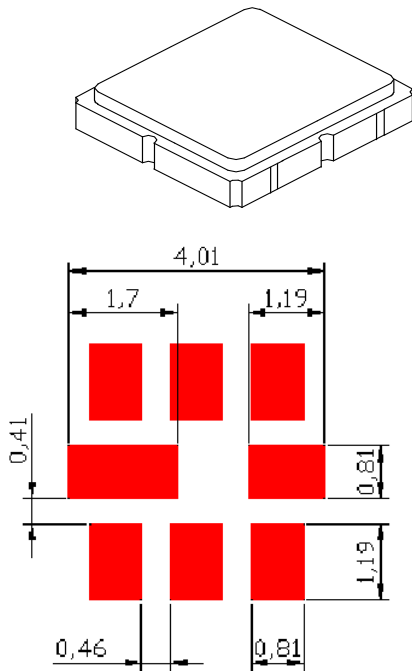
S44 (O/P_1)



SM3838-8 Case

8-Terminal Ceramic Surface-mount Case

3.8 X 3.8 mm Nominal Footprint



Typical PCB Footprint

Case Dimensions

Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	3.6	3.8	4.0	0.142	0.150	0.157
B	3.6	3.8	4.0	0.142	0.150	0.157
C	1.05	1.20	1.40	0.041	0.047	0.055
D	0.95	1.10	1.25	0.037	0.043	0.049
E	0.90	1.00	1.10	0.035	0.040	0.043
F	0.50	0.60	0.70	0.020	0.024	0.028
G	2.39	2.54	2.69	0.090	0.100	0.110
H	-	1.50	-	-	0.069	-

Electrical Connections

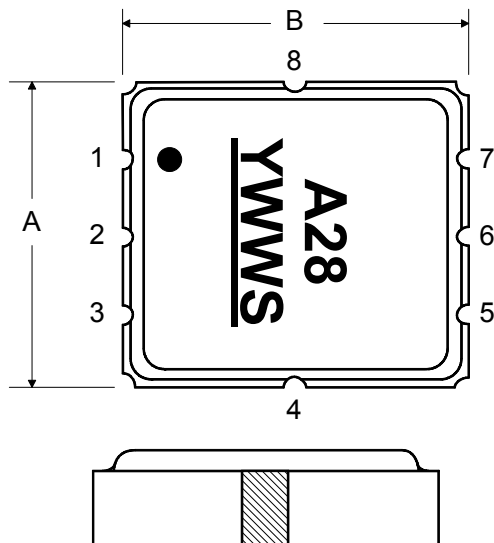
Pin	Connection
1	Input
2,3,6	RF Ground
4,8	Case Ground
5	Band 1 Output
7	Band 2 Output

Dot Indicates Pin 1

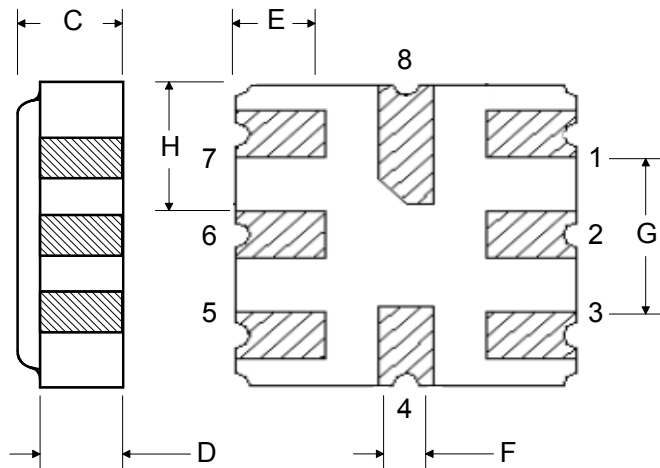
Materials

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

TOP VIEW



BOTTOM VIEW



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.

