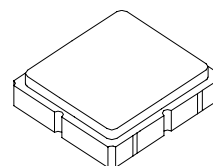




- 310.0 to 319.5 MHz Filter
- Optimized for use with the TRC105 Transceiver
- Balanced 150 ohm IC Interface
- Complies with Directive 2002/95/EC (RoHS) 

RF3603D

316.4 MHz SAW Filter



SM3838-8

Absolute Maximum Ratings

Rating	Value	Units
Input Power Level	+15	dBm
DC Voltage	±5	V
Operating Temperature Range	-40 to +85	°C
Storage Temperature Range in Tape and Reel	-40 to +85	°C
Maximum Soldering Profile, 5 cycles/ 10 seconds maximum	265	°C

Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	f_C			316.4		MHz
1 dB Bandwidth	BW_1			13		MHz
Maximum Insertion Loss, 310.0 to 319.5 MHz	IL_{MAX}			1.8	2.2	dB
Amplitude Ripple, p-p, 310.0 to 319.5 MHz					1.0	
Rejection Referenced to Insertion Loss at 315.0 MHz:						
DC to 306 MHz			37	40		
336 to 366 MHz			18	21		
366 to 966 MHz			52	55		
966 to 1266 MHz			46	49		Ω
1266 to 2000 MHz			28	31		
Source Impedance	Z_S			50		
Balanced Load Impedance	Z_L			150		Ω

Case Style	SM3838-8 3.8 x 3.8 mm Nominal Footprint					
Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator	886, YWWS					
Standard Reel Quantity	Reel Size 7 Inch	500 Pieces/Reel				
	Reel Size 13 Inch	3000 Pieces/Reel				

Electrical Connections

Connection	Terminals
Single-ended Port	6
Balanced Port	1, 3
Case Ground	4, 5, 7, 8
No Connection	2

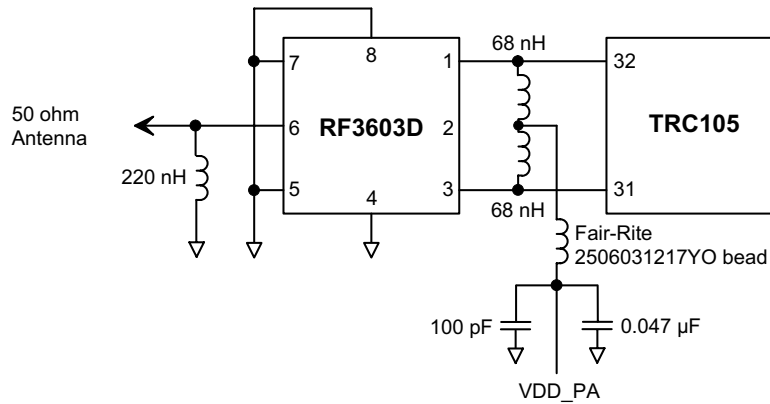


CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

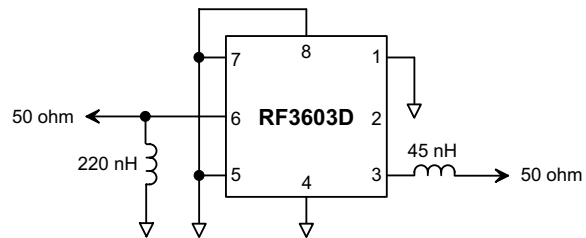
Notes:

1. Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board with impedance matching to 50 Ω and measured with 50 Ω network analyzer.
2. Unless noted otherwise, all frequency specifications are referenced to the nominal center frequency, f_C .
3. Rejection is measured as attenuation below the minimum IL point in the passband. Rejection in final user application is dependent on PCB layout and external impedance matching design. See Application Note No. 42 for details.
4. The design, manufacturing process, and specifications of this filter are subject to change.
5. US and international patents may apply.
6. RFM, stylized RFM logo, and RF Monolithics, Inc. are registered trademarks of RF Monolithics, Inc.

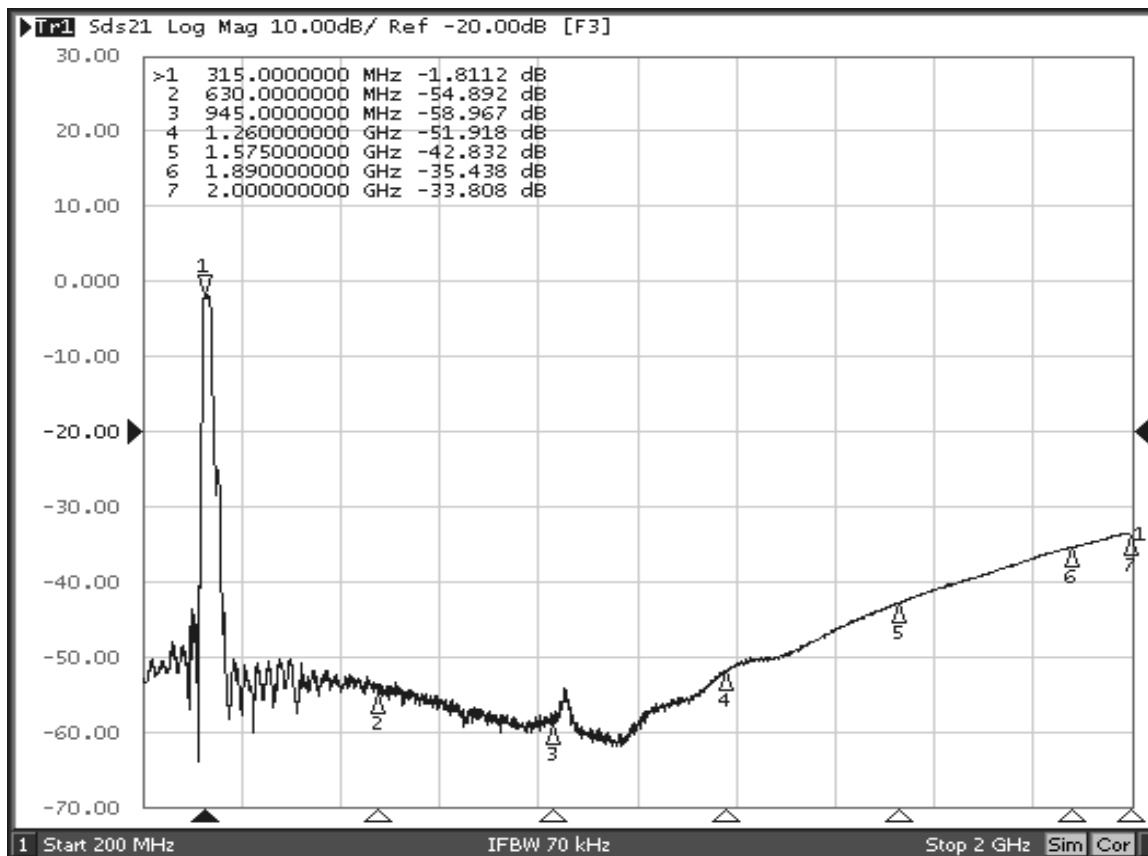
RF3603D-TRC105 Application Circuit



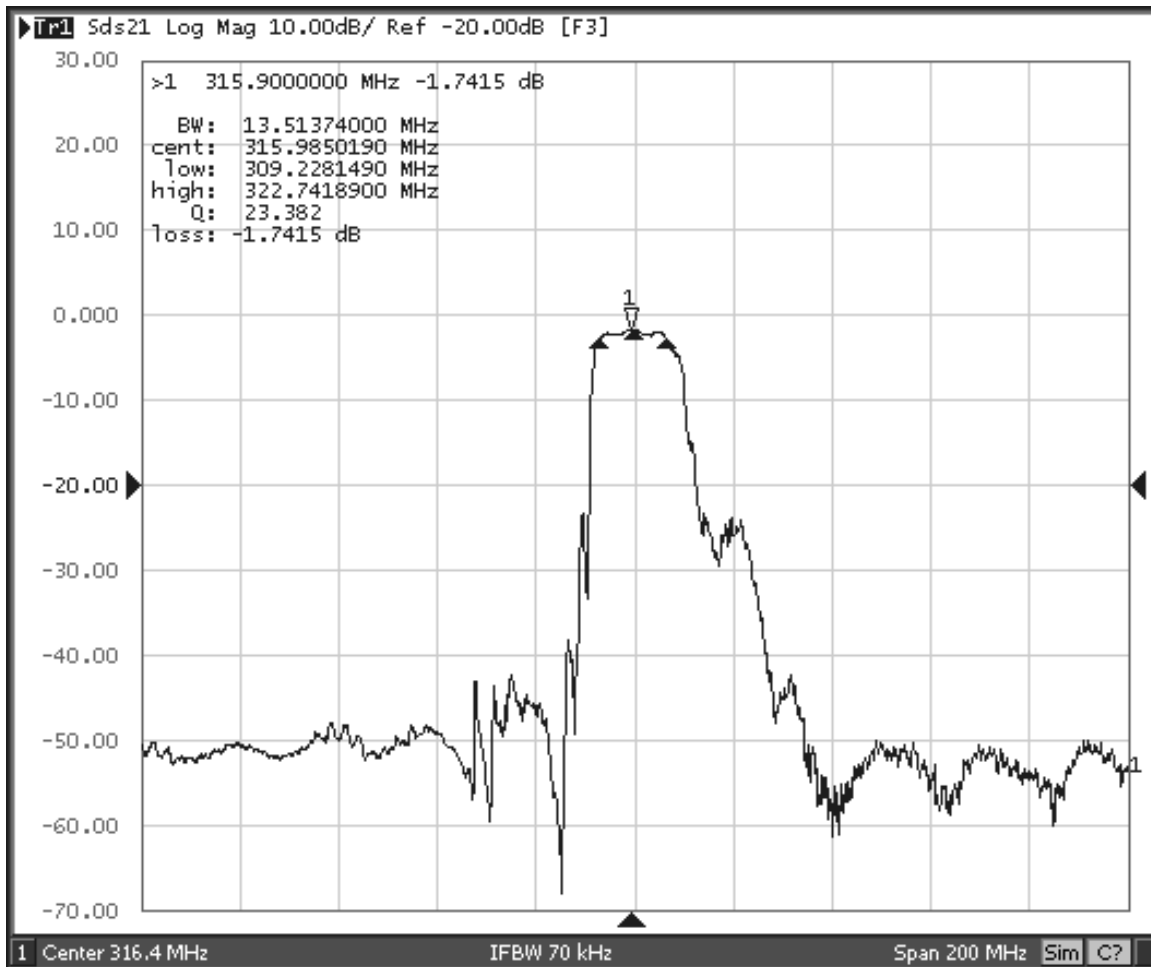
RF3603D 50 Ohm Tuning Network



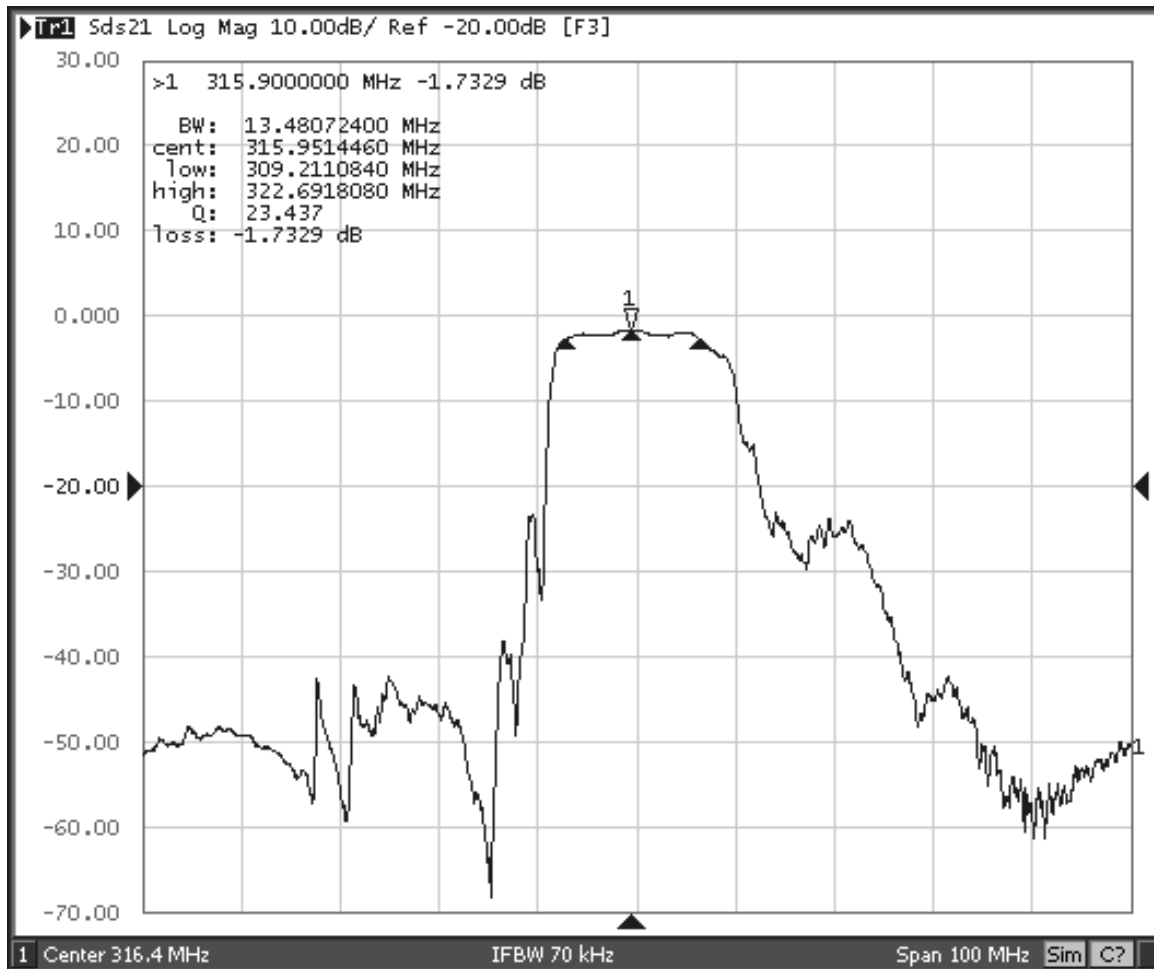
RF3603D Broadband Response, 200 to 2000 MHz



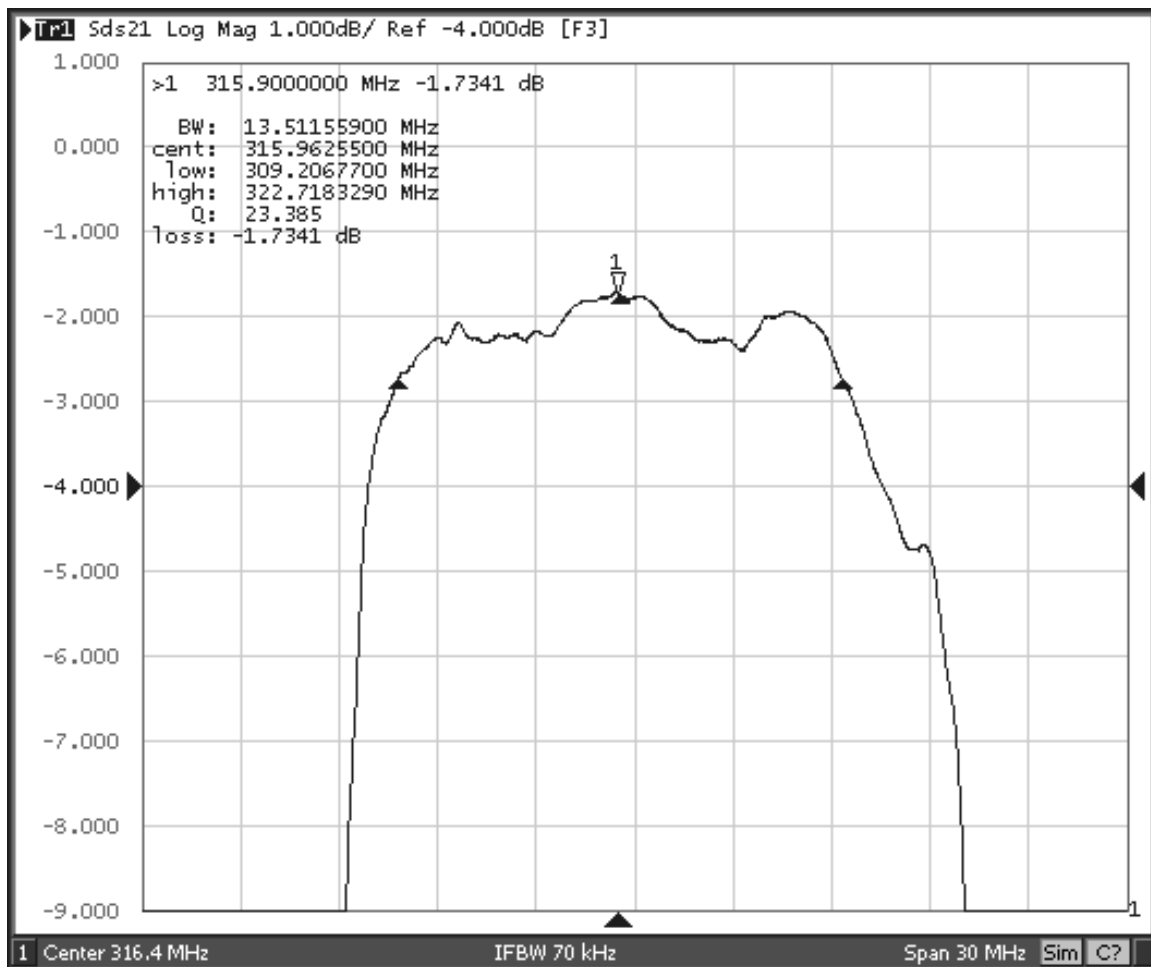
RF3603D Response, 216.4 to 416.4 MHz



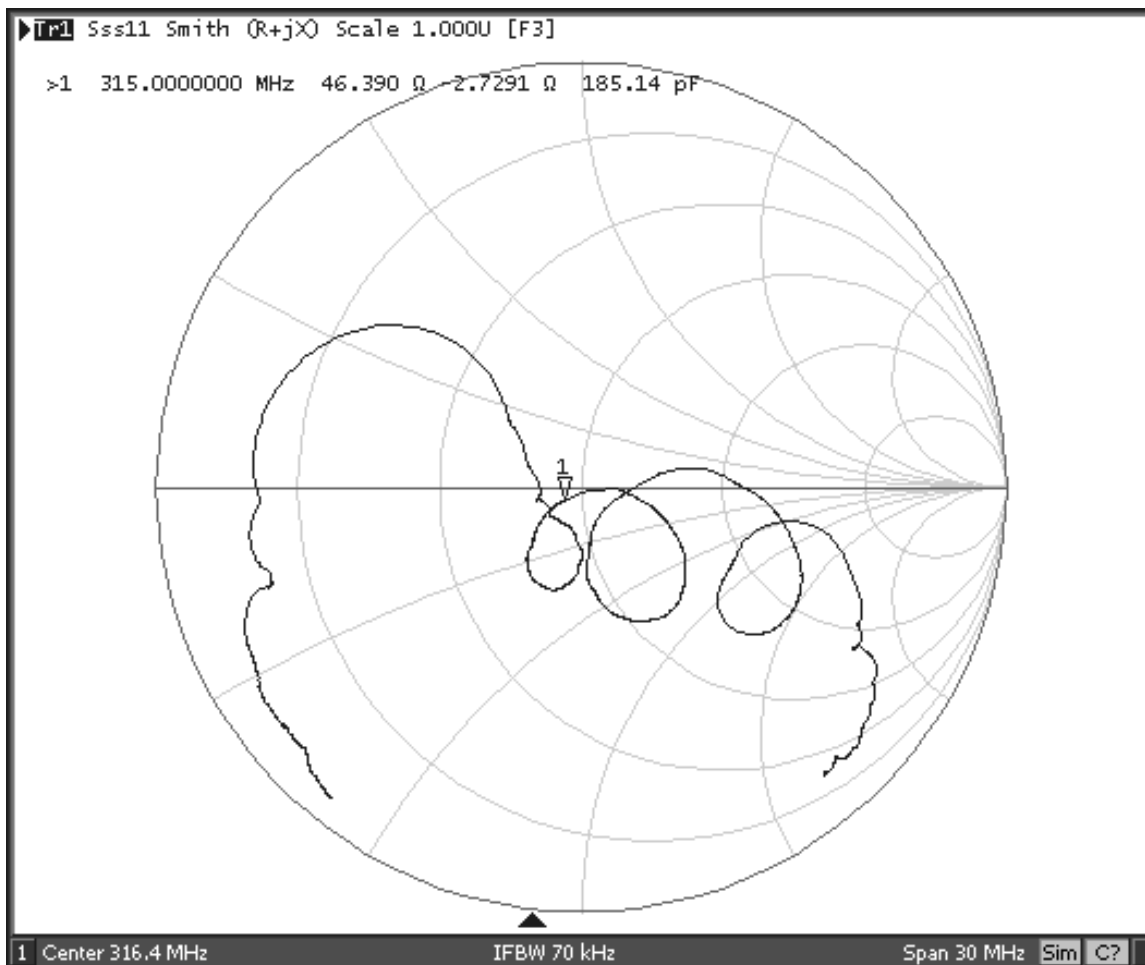
RF3603D Response, 266.4 to 366.4 MHz



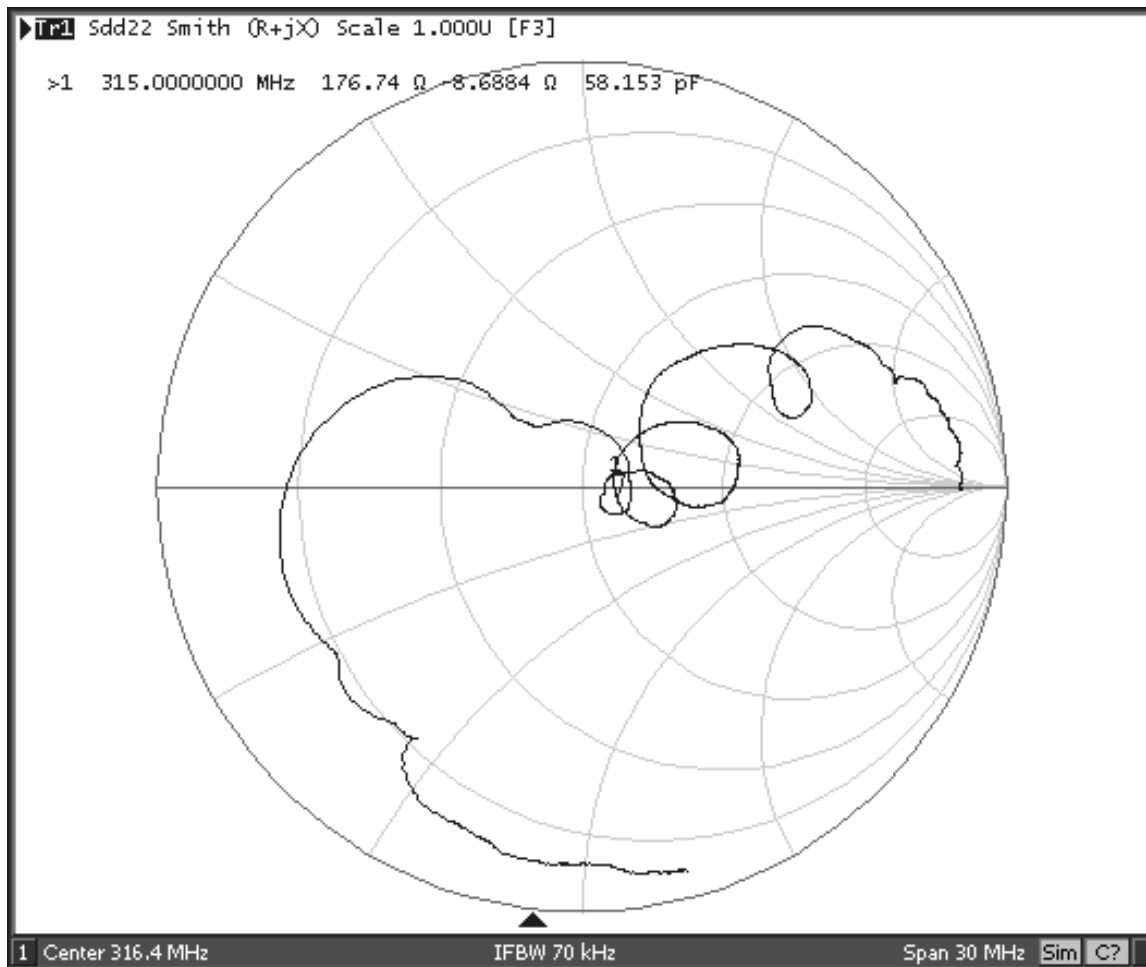
RF3603D Passband Response



RF3603D Input Impedance Plot

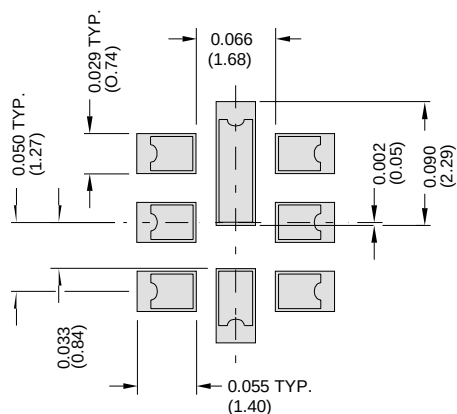


RF3603D Balanced Output Impedance Plot



8-Terminal Ceramic Surface-Mount Case

3.8 X 3.8 mm Nominal Footprint



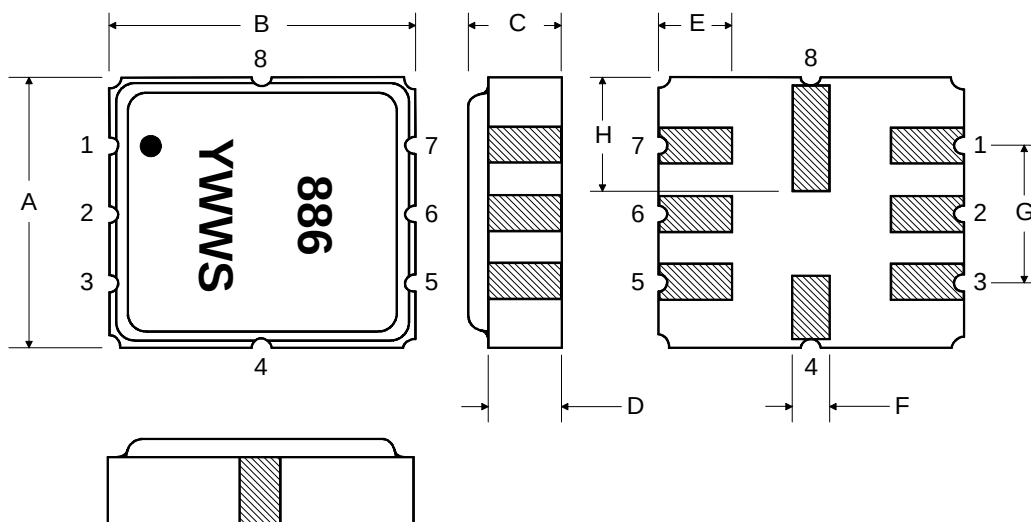
PCB Footprint

Dimension	Case Dimensions					
	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	0.90	1.00	1.1	0.035	0.040	0.043
D	0.80	0.90	1.0	0.031	0.035	0.040
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	1.40	1.75	2.05	0.055	0.069	0.080

Materials	
Solder Pad Plating	0.3 to 1.0 μ m Gold over 1.27 to 8.89 μ m Nickel
Lid Plating	2.0 to 3.0 μ m Nickel
Body	Al ₂ O ₃ Ceramic
Pb Free	

TOP VIEW

BOTTOM VIEW



Technical drawing of a circular component, likely a flange or end plate, showing three views: a top view, a side view, and a detail view.

- Top View:** A large circle with a smaller concentric circle in the center. A horizontal dashed line and a vertical dashed line intersect at the center. A small circle with a crosshair is located at the center of the inner circle. An arrow points from this center to the text "See Detail 'A'".
- Side View:** Two vertical lines representing the thickness of the component. The total thickness is labeled "12.0". The distance from the centerline to the outer edge is labeled "100 REF." and "B" REF.".
- Detail View:** A cross-section of the central hole. It shows a circular hole with a diameter of 13.0. The hole is surrounded by a ring with a thickness of 2.0. The outer diameter of the ring is 20.2.

“B” Nominal Size		Quantity Per Reel
Inches	millimeters	
7	178	500
13	330	3000

Carrier Tape Dimensions	
Ao	4.25 mm
Bo	4.25 mm
Ko	1.30 mm
Pitch	8.0 mm
W	12.0 mm

