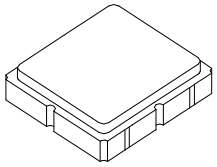
muRata
INNOVATOR IN ELECTRONICS

RF3603D

316.4 MHz SAW Filter

- *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)*



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 300 MHz			37	39		
336 to 366 MHz			18	22		
366 to 966 MHz			43	47		
966 to 1266 MHz			43	48		
1266 to 2000 MHz			28	32		
Source Impedance	Z_S			50		Ω
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

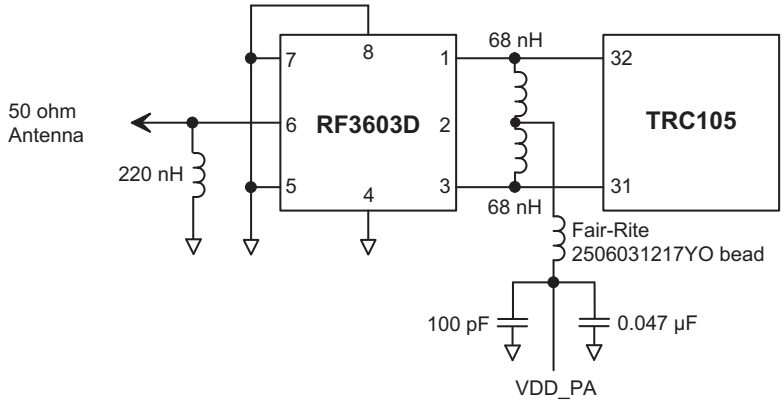
Connection	Terminals
Single-ended Port	6
Balanced Port	1, 3
Case Ground	4, 5, 7, 8
No Connection	2

CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

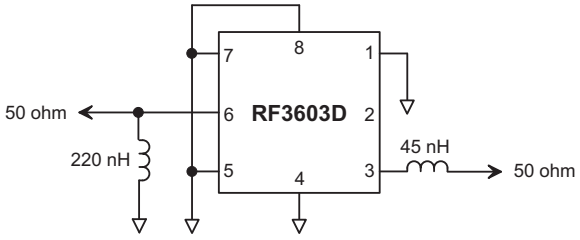
NOTES:

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, fc.
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. Murata, stylized Murata logo, and Murata N.A., Inc. are registered trademarks of Murata Manufacturing Co., Ltd.

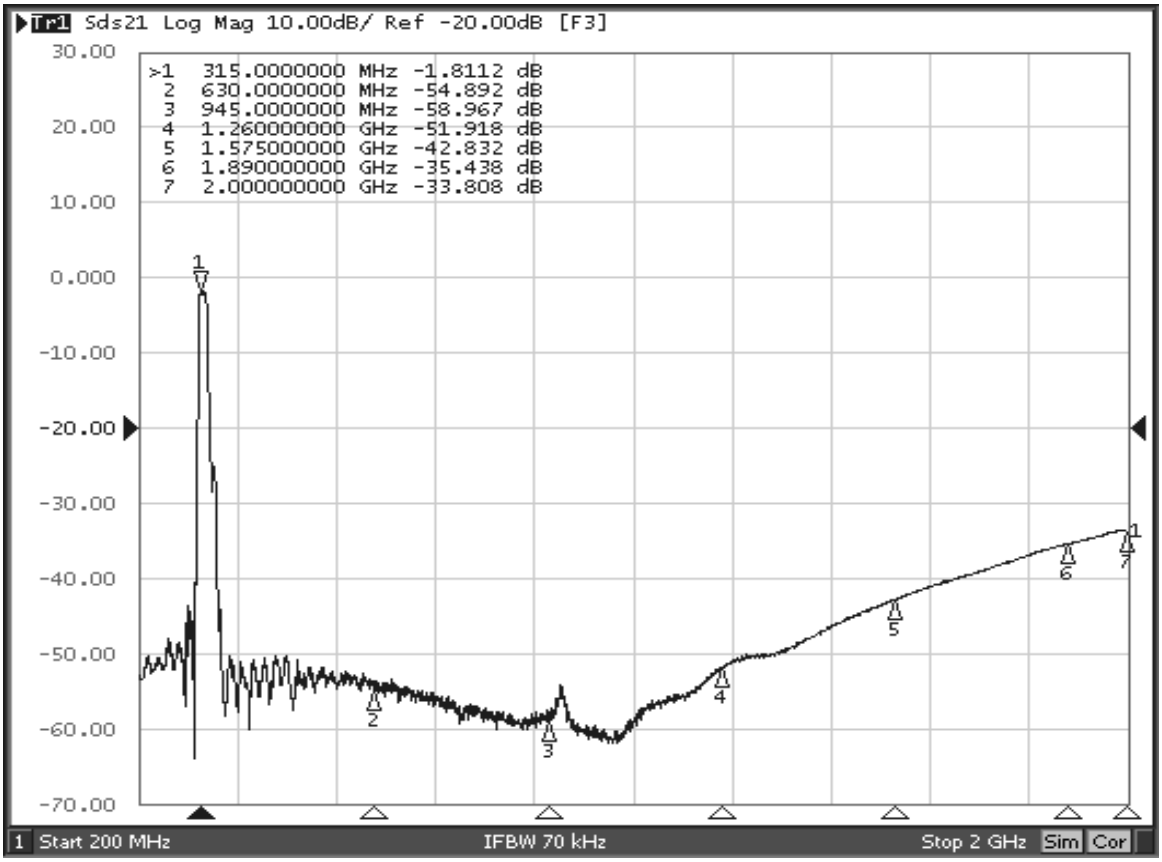
RF3603D-TRC105 Application Circuit



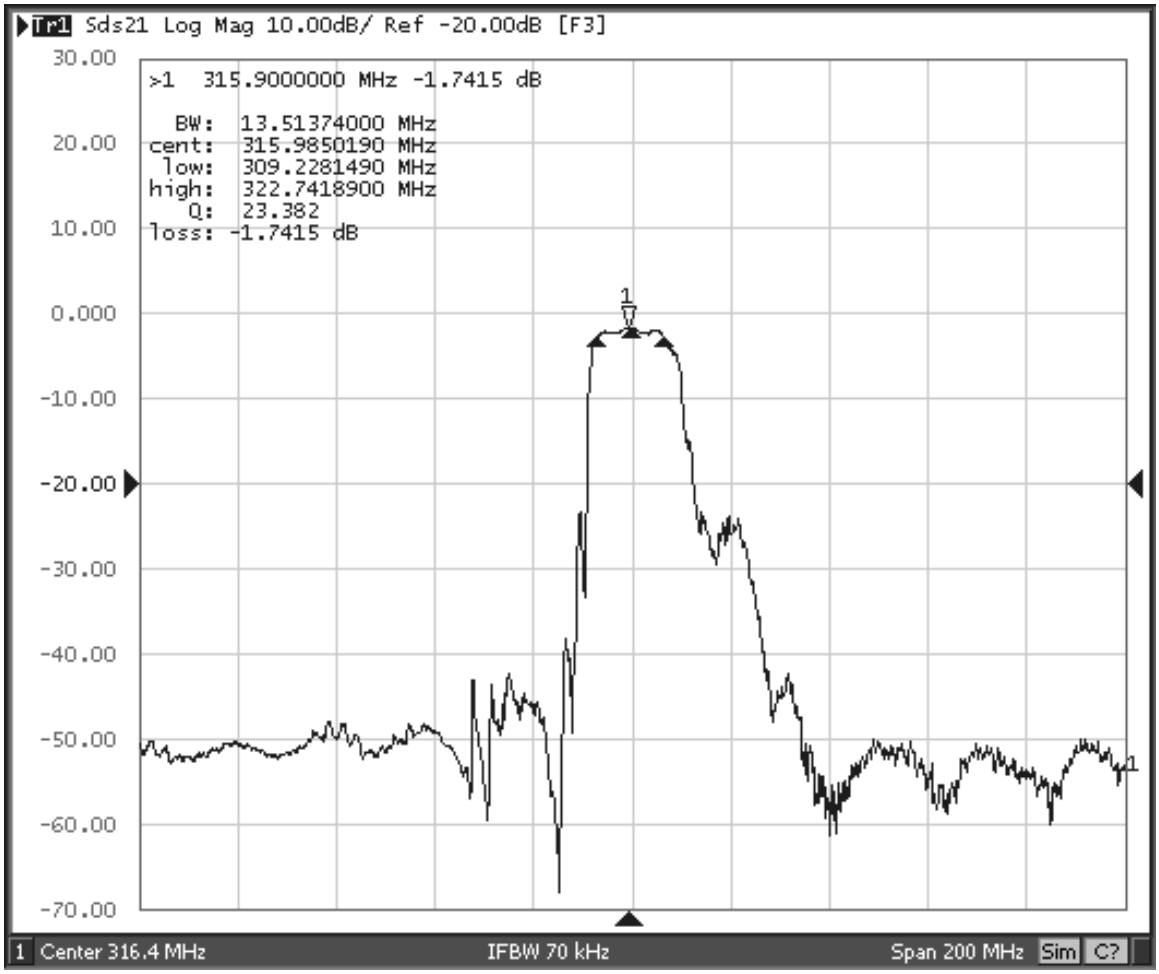
RF3603D 50 Ohm Tuning Network



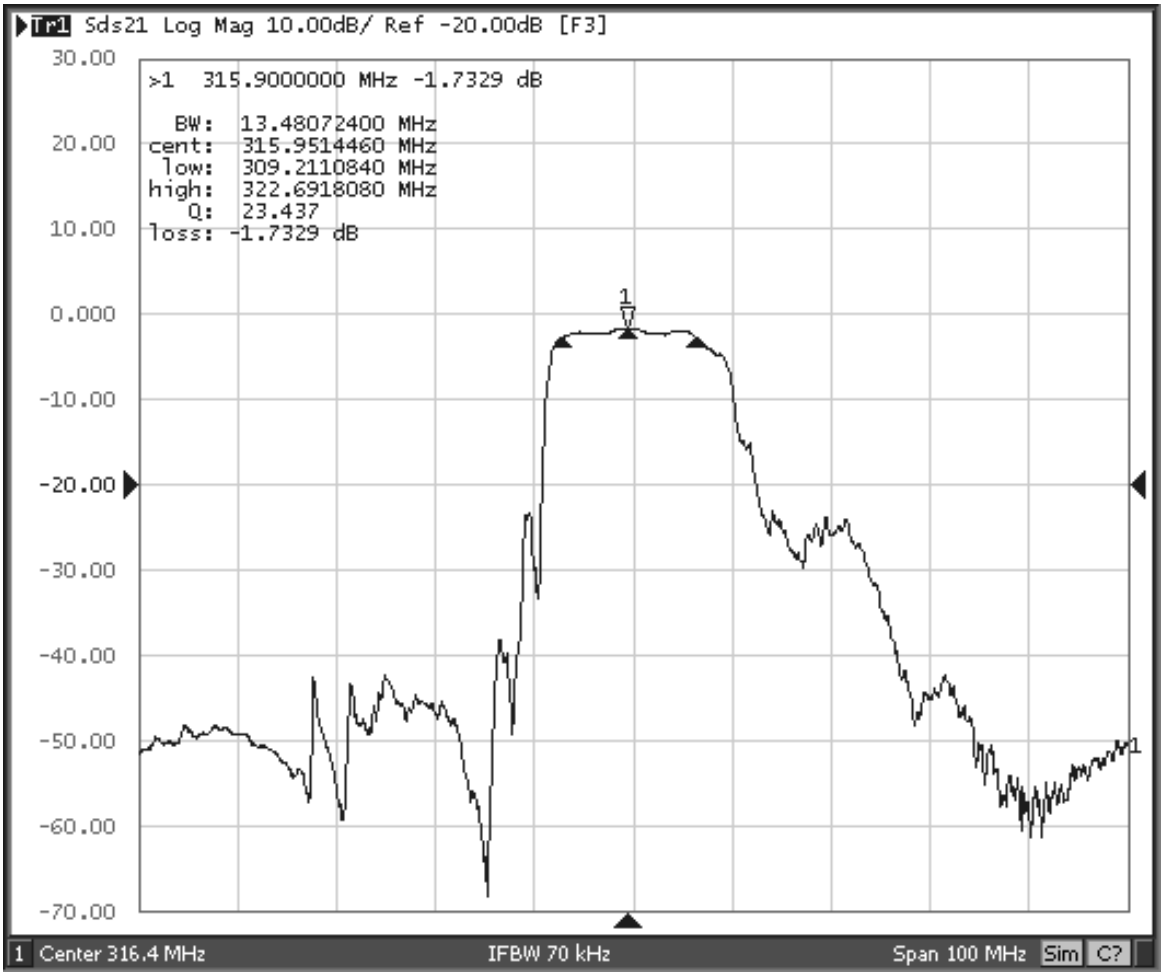
RF3603D Broadband Response, 200 to 2000 MHz



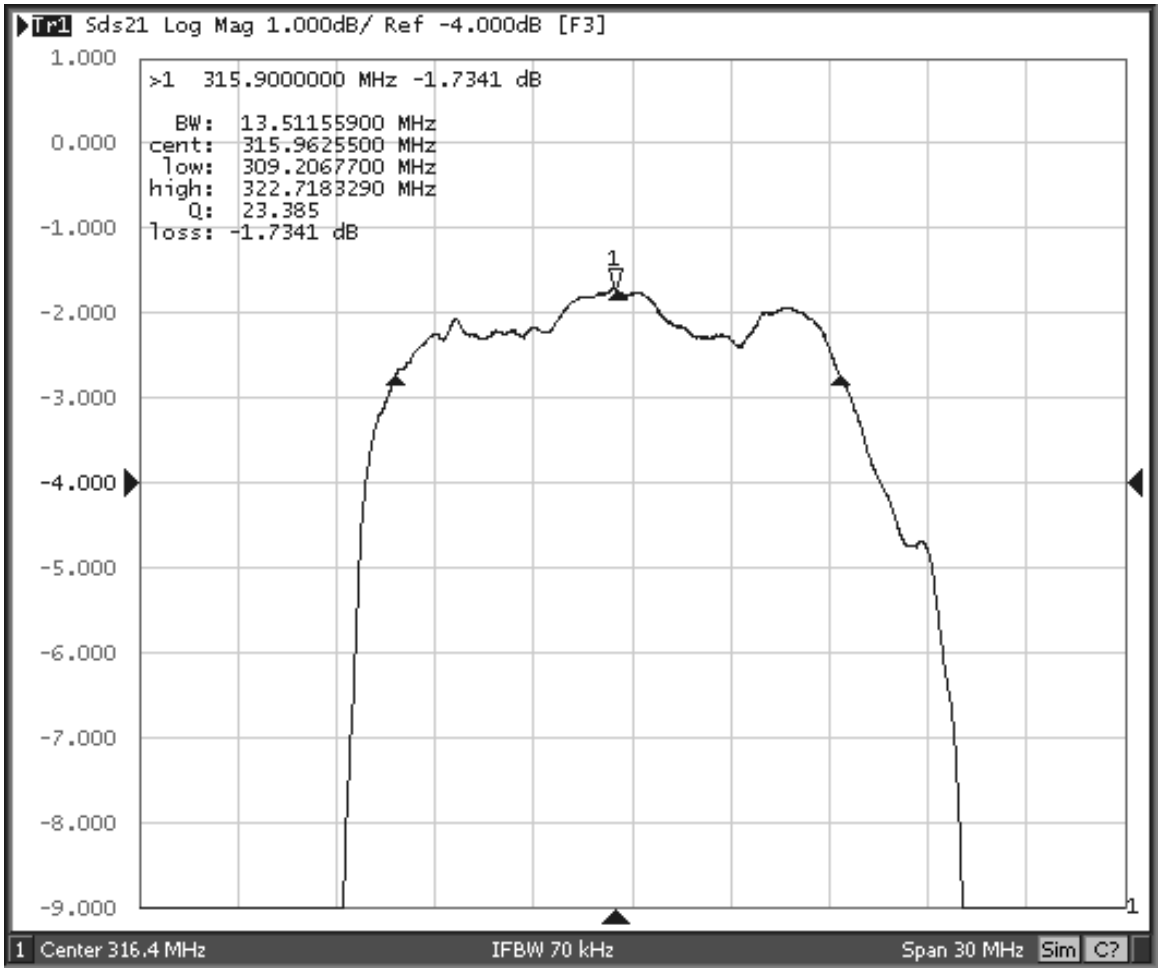
RF3603D Response, 216.4 to 416.4 MHz



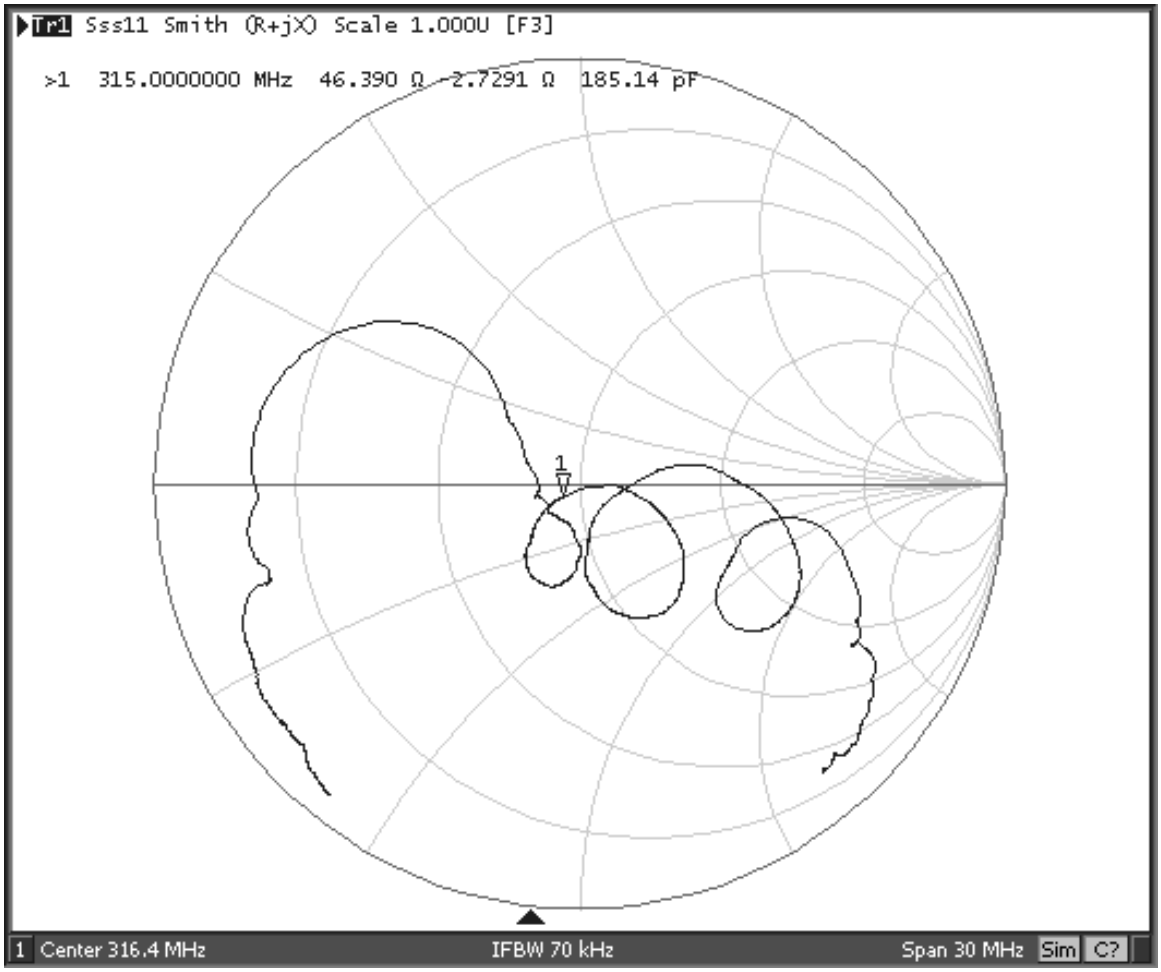
RF3603D Response, 266.4 to 366.4 MHz



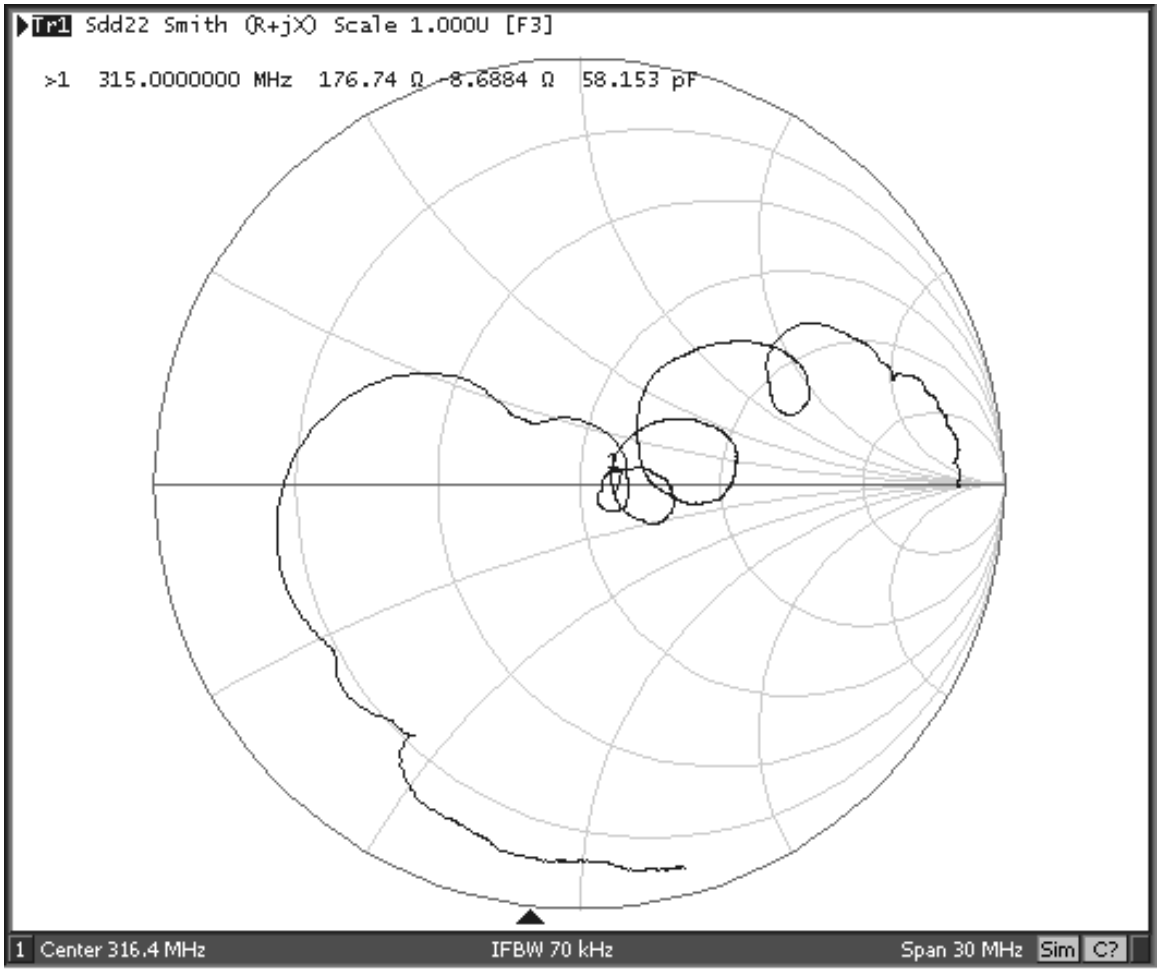
RF3603D Passband Response



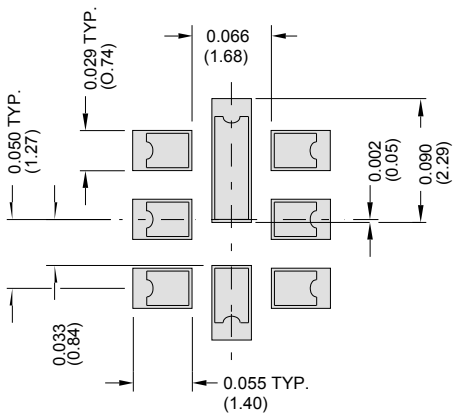
RF3603D Input Impedance Plot



RF3603D Balanced Output Impedance Plot



8-Terminal Ceramic Surface-Mount Case
3.8 X 3.8 mm Nominal Footprint

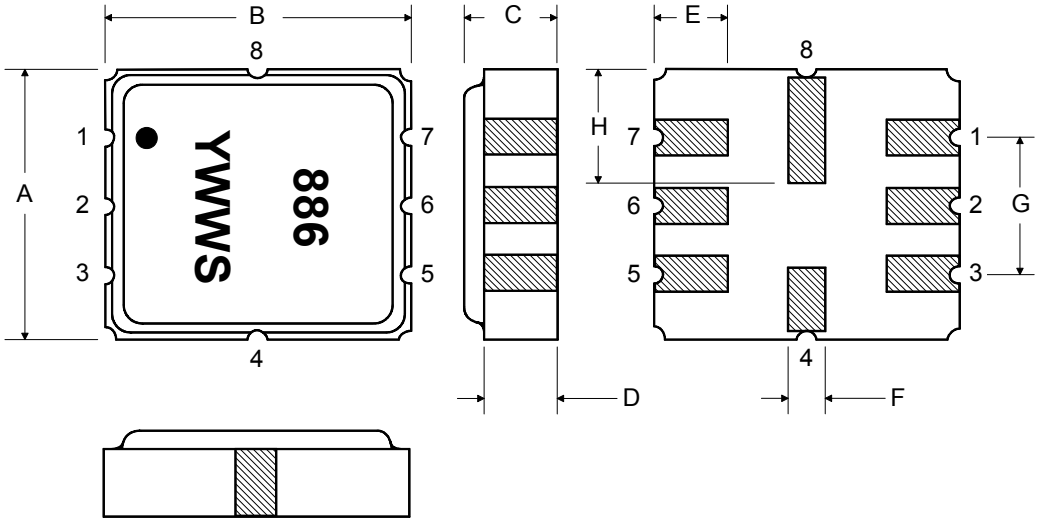


PCB Footprint

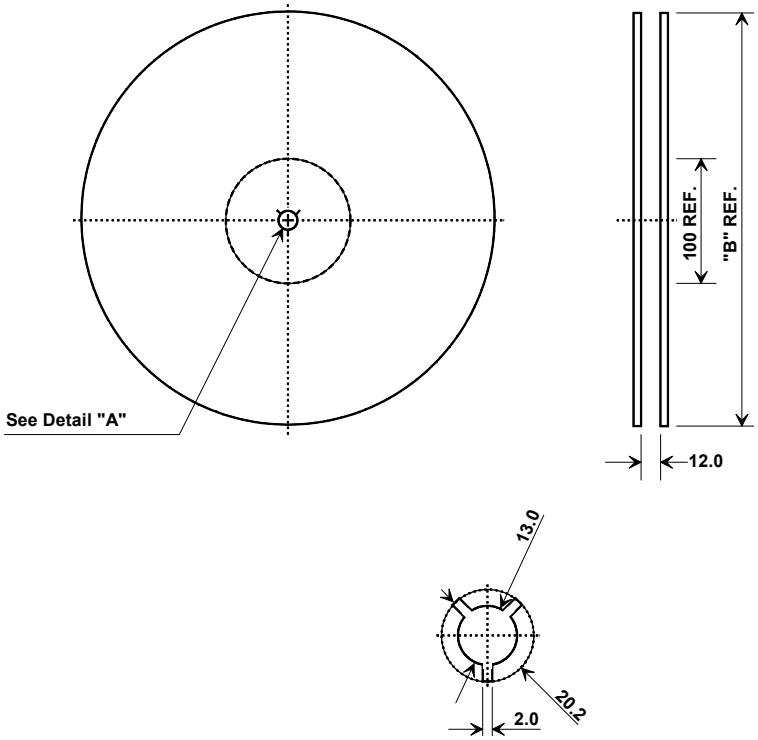
Case Dimensions						
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	3.6	3.8	4.0	0.142	0.150	0.157
B	3.6	3.8	4.0	0.142	0.150	0.157
C	0.90	1.00	1.1	0.035	0.040	0.043
D	0.80	0.90	1.0	0.031	0.035	0.040
E	0.90	1.00	1.10	0.035	0.040	0.043
F	0.50	0.60	0.70	0.020	0.024	0.028
G	2.39	2.54	2.69	0.090	0.100	0.110
H	1.40	1.75	2.05	0.055	0.069	0.080

Materials	
Solder Pad Plating	0.3 to 1.0 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	

TOP VIEW BOTTOM VIEW



Tape and Reel Specifications



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

COMPONENT ORIENTATION and DIMENSIONS

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