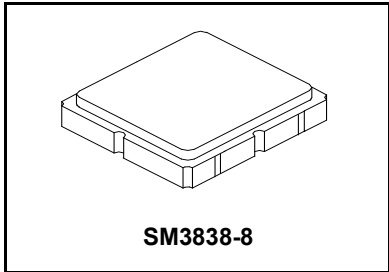


**RF3609D**

**449.0 MHz  
SAW Filter**



- 440.6 to 457.4 MHz Filter
- Optimized for use with the TRC105 Transceiver
- Balanced 150 ohm IC Interface
- Complies with Directive 2002/95/EC (RoHS)

**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

**Electrical Characteristics**

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	$f_C$			449.0		MHz
1 dB Bandwidth	$BW_1$			18.0		MHz
Maximum Insertion Loss, 440.6 to 457.4 MHz	$IL_{MAX}$			1.4	2.4	dB
Amplitude Ripple, p-p, 440.6 to 457.4 MHz					1.0	
Rejection Referenced to Insertion Loss at 390.0 MHz:						
DC to 429 MHz			32	35		
479 to 549 MHz			32	35		
549 to 949 MHz			37	40		
949 to 1349 MHz			55	60		
1349 to 1749 MHz			62	65		
1749 to 2000 MHz			59	62		
Source Impedance	$Z_S$			50		$\Omega$
Balanced Load Impedance	$Z_L$			150		$\Omega$

Case Style	SM3838-8 3.8 x 3.8 mm Nominal Footprint		
Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator	892, 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

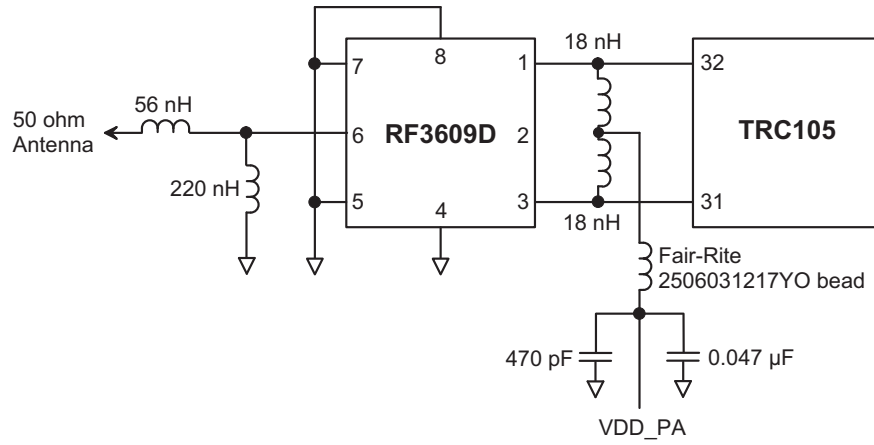


**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

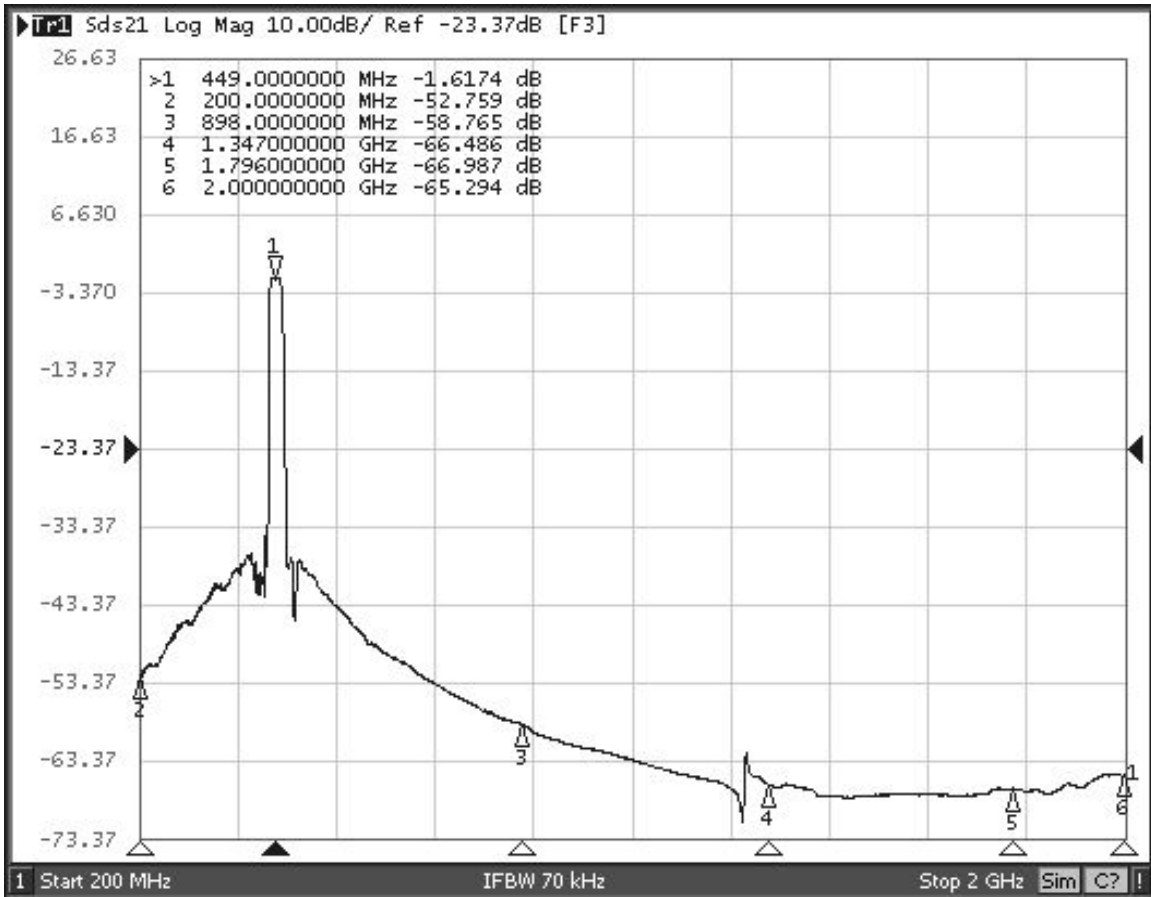
**NOTES:**

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  $\Omega$  and measured with 50  $\Omega$  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. Murata, stylized Murata logo, and Murata N.A., Inc. are registered trademarks of Murata Manufacturing Co., Ltd.

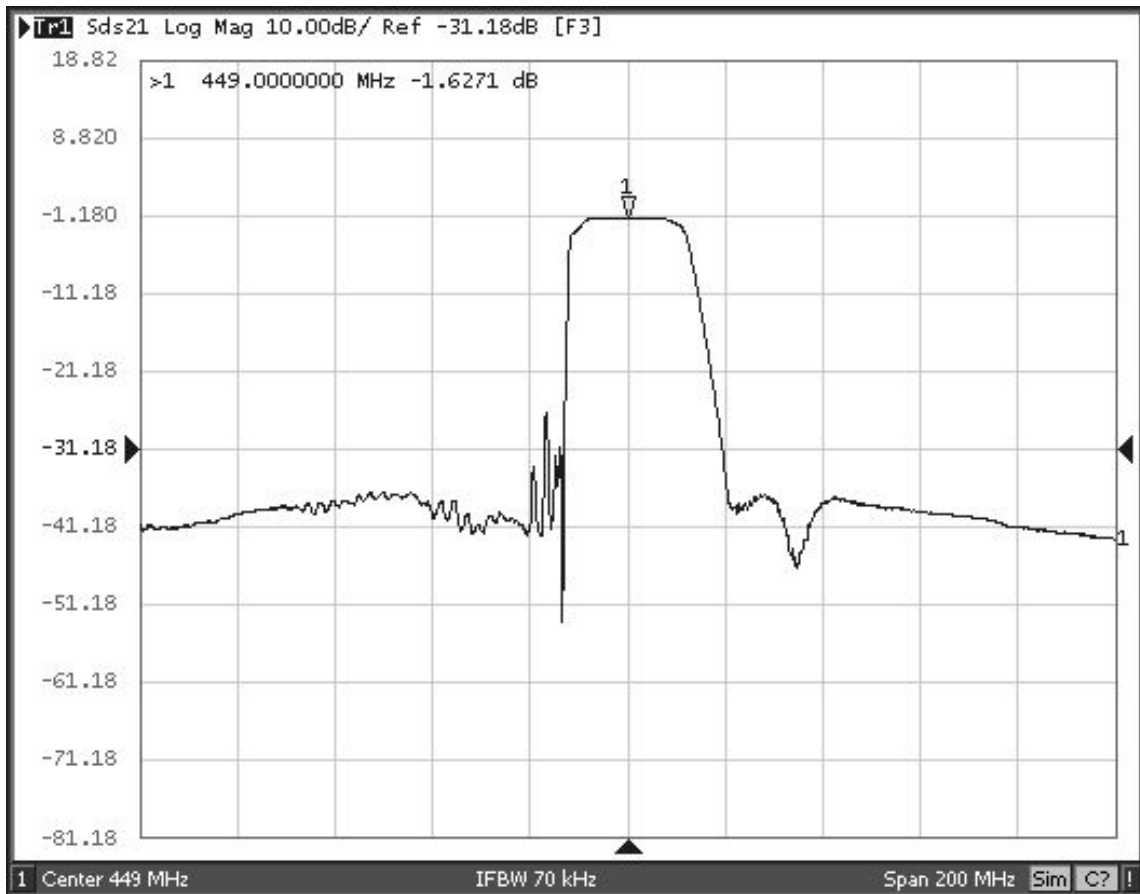
## RF3609D-TRC105 Application Circuit



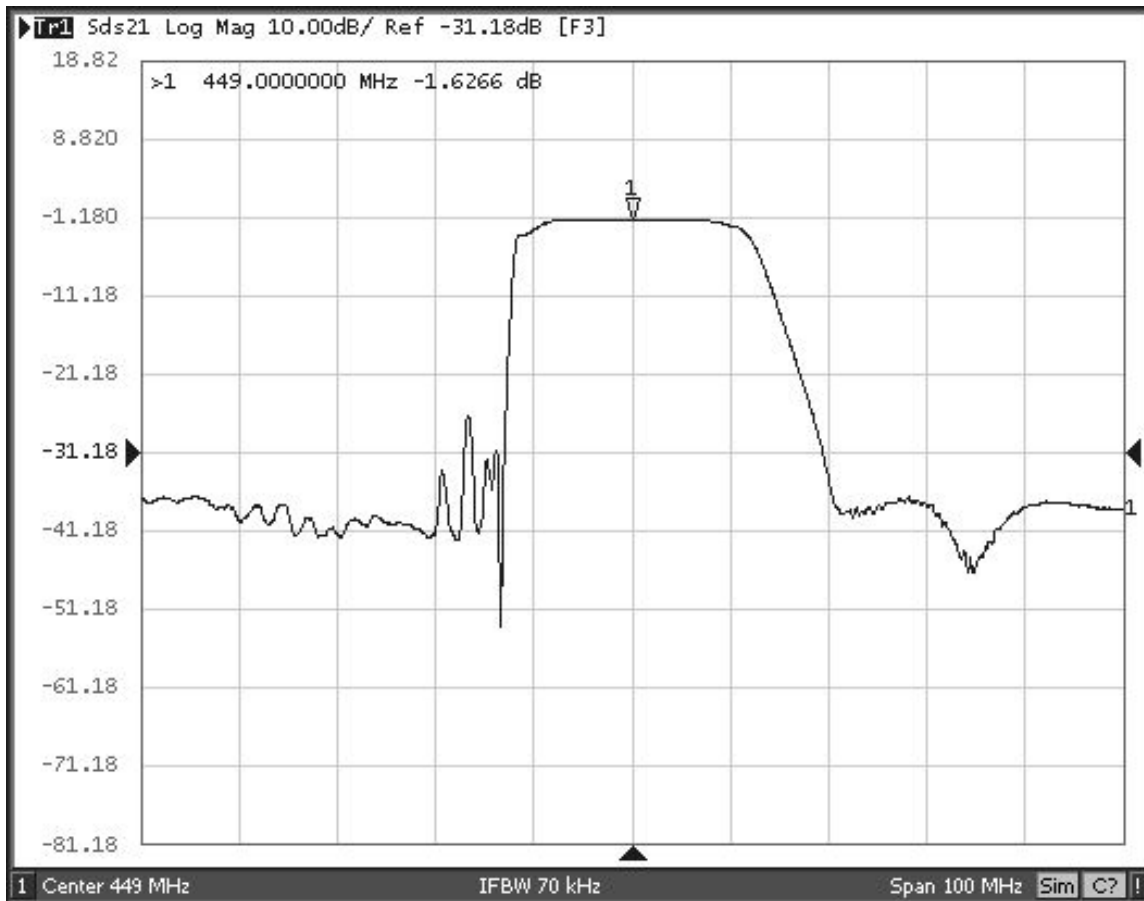
# RF3609D Broadband Response, 200 to 2000 MHz



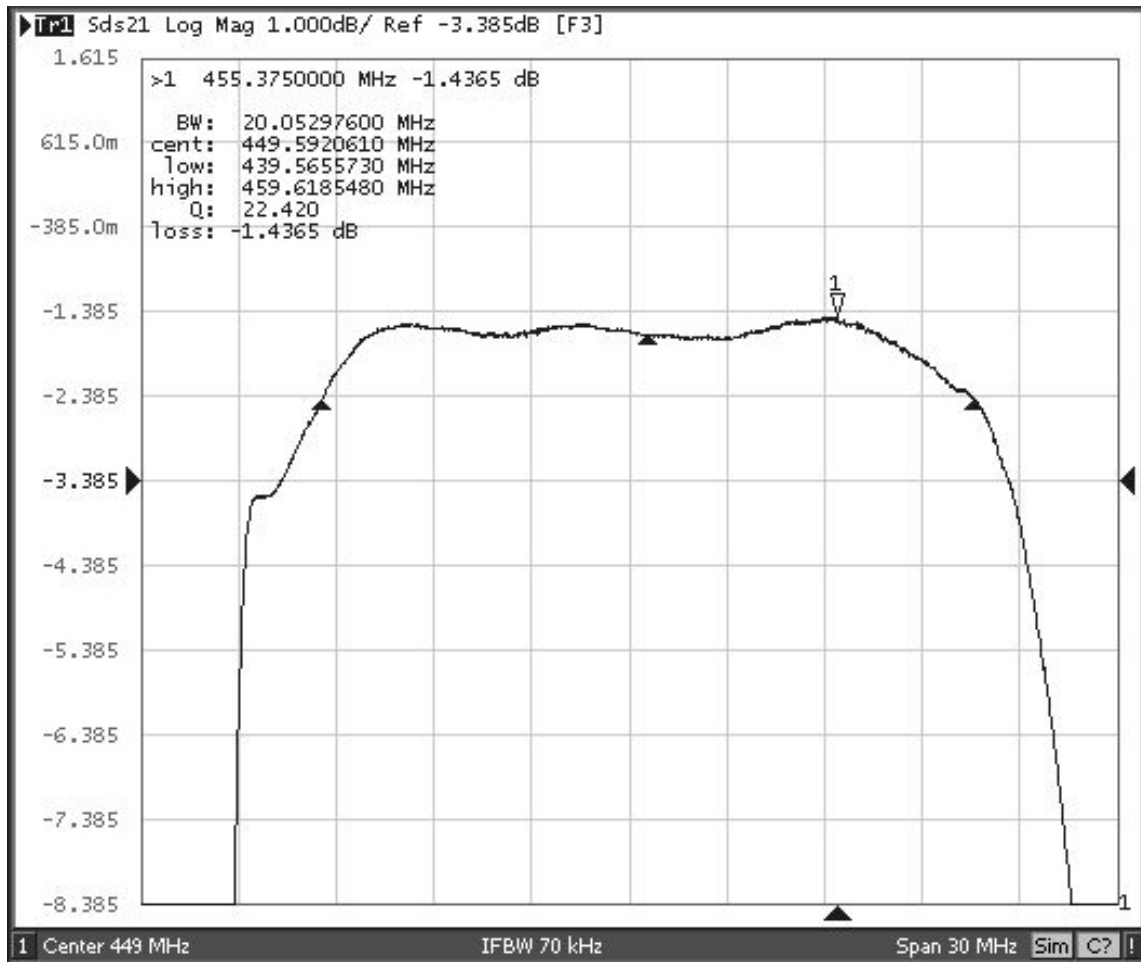
## RF3609D Response, 349 to 549 MHz



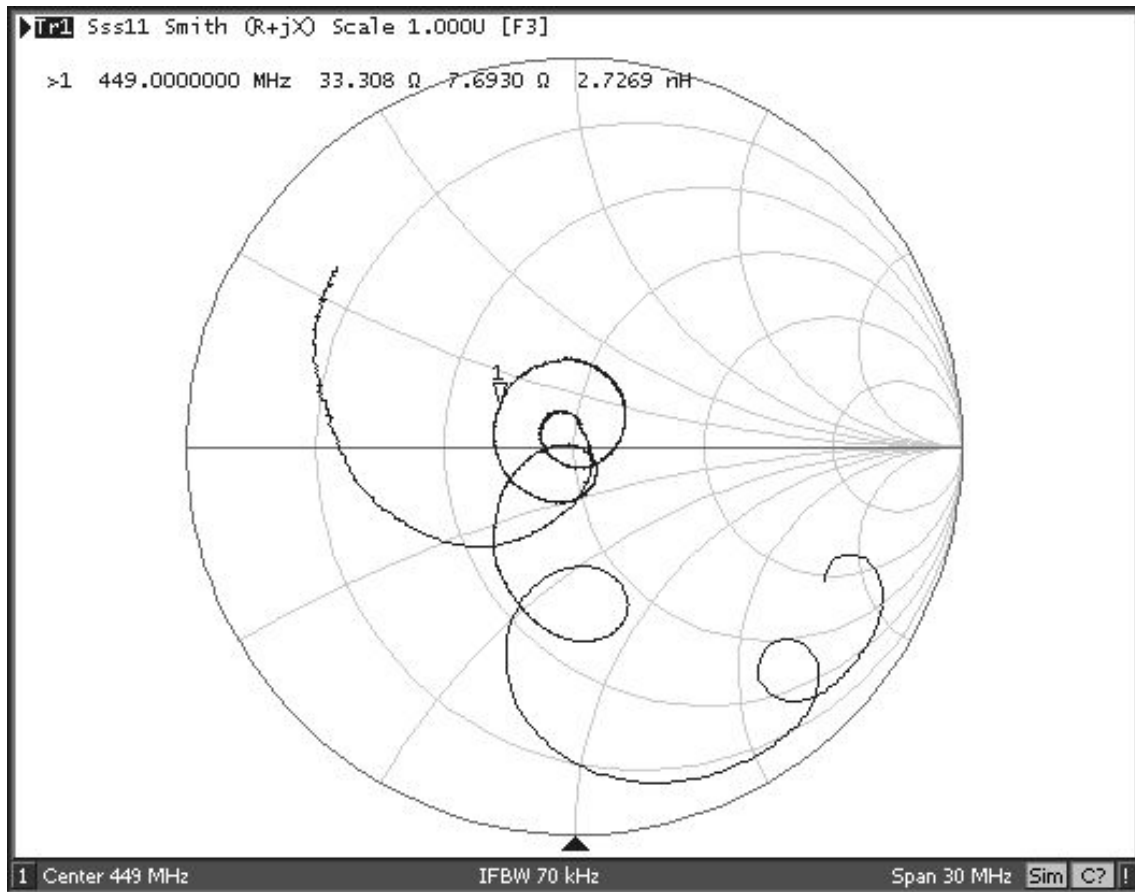
# RF3609D Response, 399 to 499 MHz



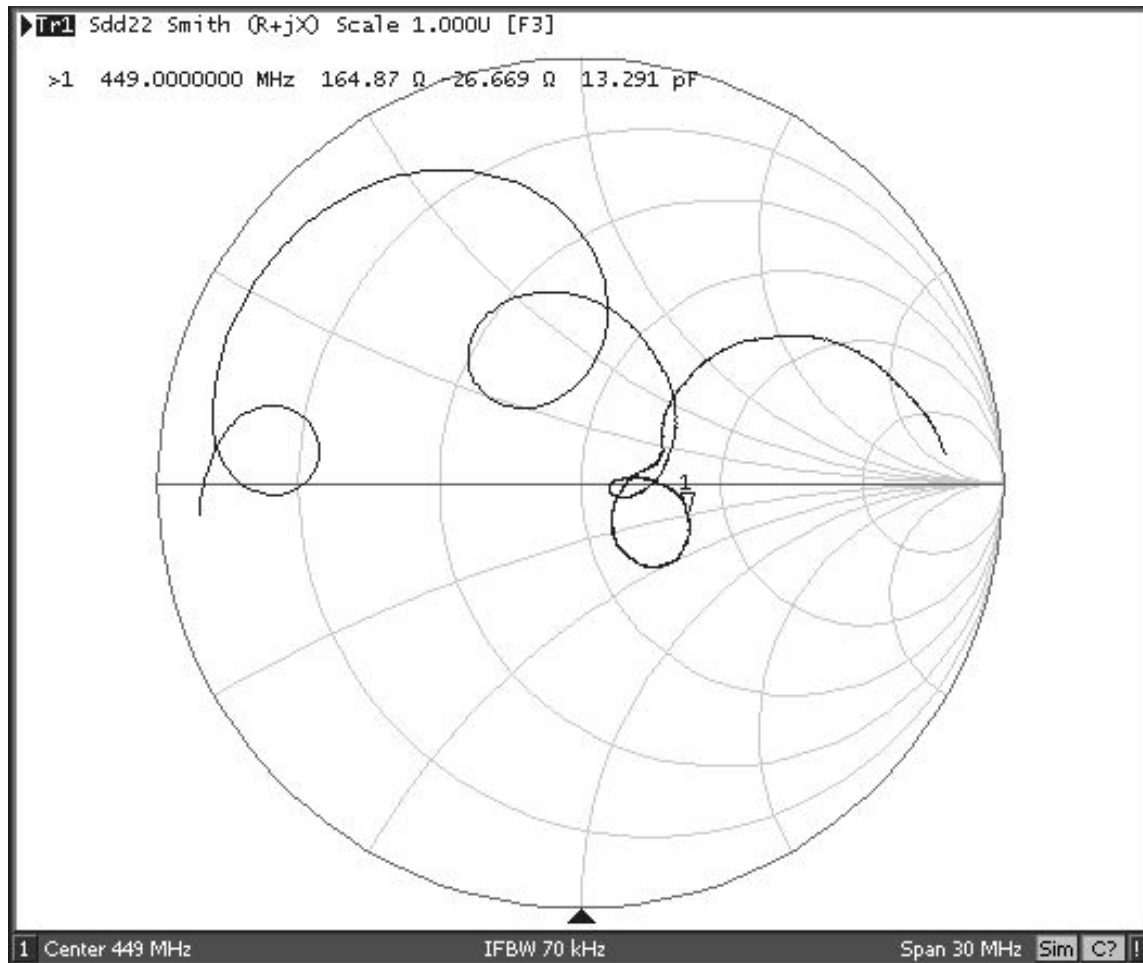
# RF3609D Passband Response



## RF3609D Input Impedance Plot

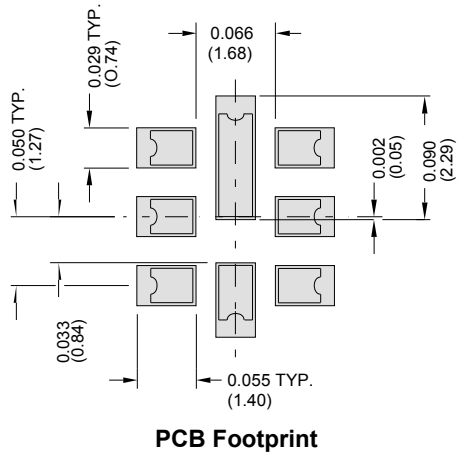


## RF3609D Balanced Output Impedance Plot



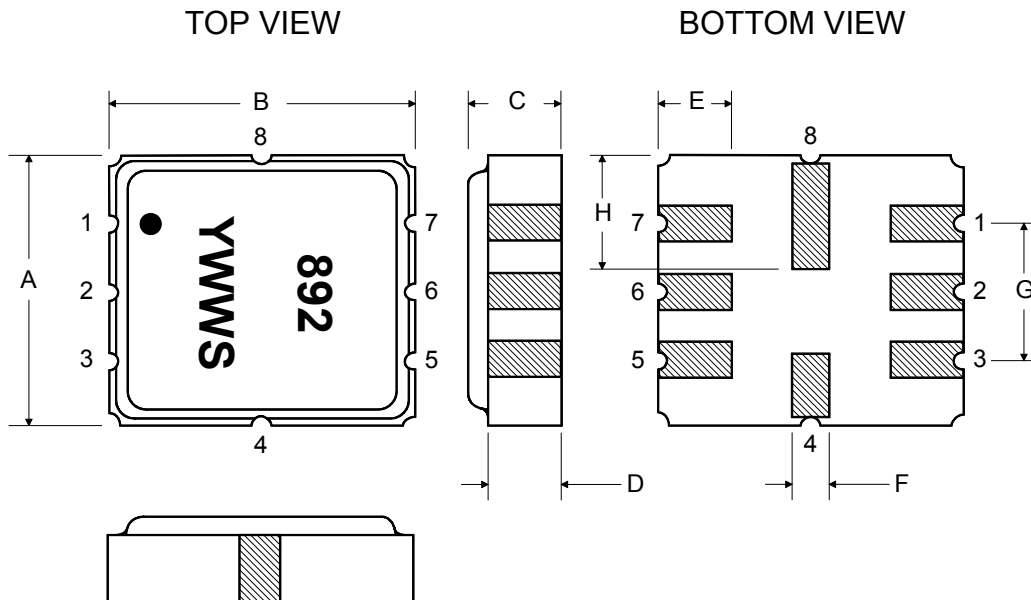


## 8-Terminal Ceramic Surface-Mount Case 3.8 X 3.8 mm Nominal Footprint

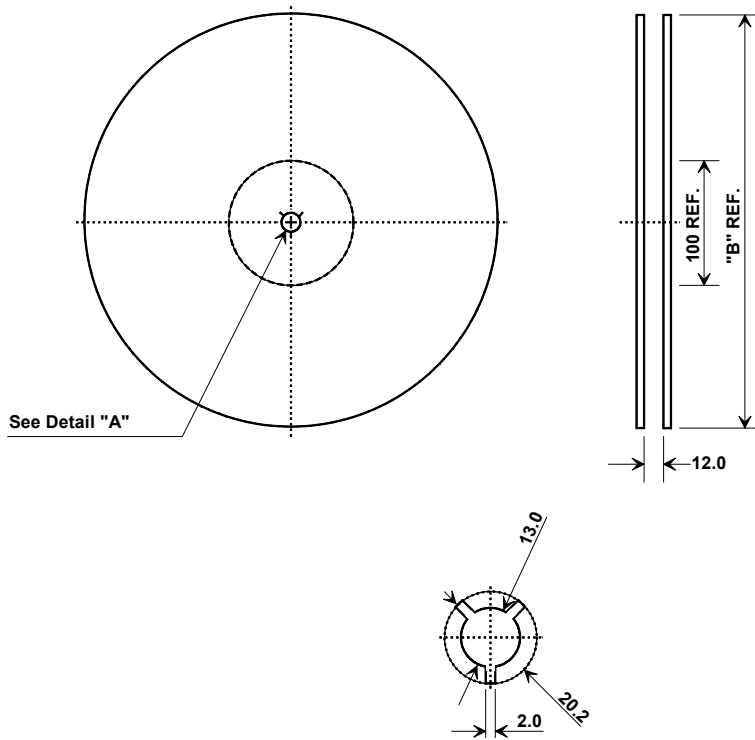


Case Dimensions						
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
<b>A</b>	3.6	3.8	4.0	0.142	0.150	0.157
<b>B</b>	3.6	3.8	4.0	0.142	0.150	0.157
<b>C</b>	0.90	1.00	1.1	0.035	0.040	0.043
<b>D</b>	0.80	0.90	1.0	0.031	0.035	0.040
<b>E</b>	0.90	1.00	1.10	0.035	0.040	0.043
<b>F</b>	0.50	0.60	0.70	0.020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

Materials	
Solder Pad Plating	0.3 to 1.0 $\mu\text{m}$ Gold over 1.27 to 8.89 $\mu\text{m}$ Nickel
Lid Plating	2.0 to 3.0 $\mu\text{m}$ Nickel
Body	$\text{Al}_2\text{O}_3$ Ceramic
Pb Free	



## 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

