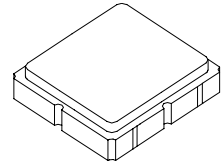




- Designed for RF Front-end Filter Applications
- Low Insertion Loss
- Balanced 150 ohm IC Interface
- Complies with Directive 2002/95/EC (RoHS) 

RF3613E

956.4 MHz SAW Filter



SM3030-8

Absolute Maximum Ratings

Rating	Value	Units
Input Power Level	+10	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			956.4		MHz
1 dB Bandwidth	BW ₁		900			kHz
Maximum Insertion Loss, 956.3 to 956.9 MHz	IL _{MAX}			2.4	3.0	dB
Amplitude Ripple, p-p, 956.3 to 956.9 MHz				1.0	1.5	
Rejection Referenced to Insertion Loss at 956.5 MHz:						
656.5 to 756.5 MHz			40	46		
756.5 to 856.5 MHz			35	41		
856.5 to 950.5 MHz			15	21		
958.0 MHz			13	19		
970.5 to 1070.5 MHz			18	23		
1070.5 to 1256.5 MHz			34	40		
Source Impedance	Z _S			50		Ω
Load Impedance	Z _L			150		Ω

Case Style	SM3030-8 3.0 x 3.0 mm Nominal Footprint					
Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator	955, YWWS					
Standard Reel Quantity	Reel Size 7 Inch	1000 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

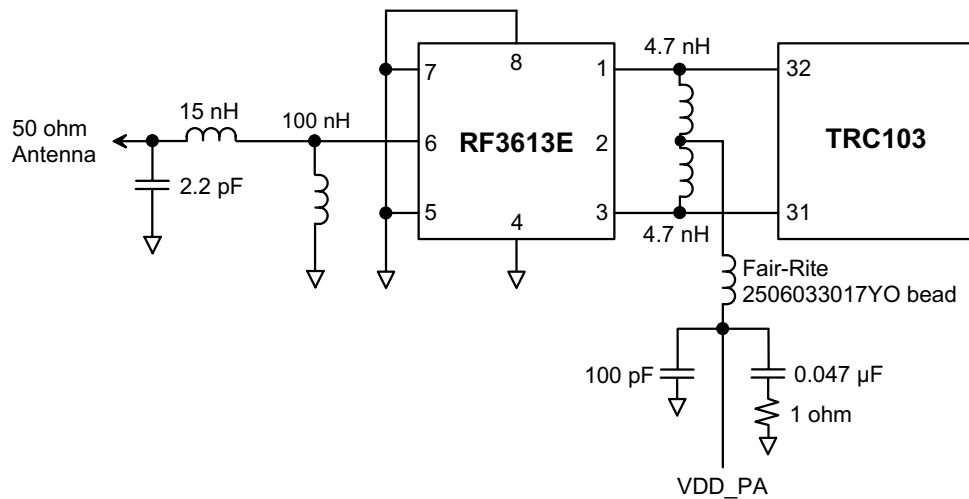


CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

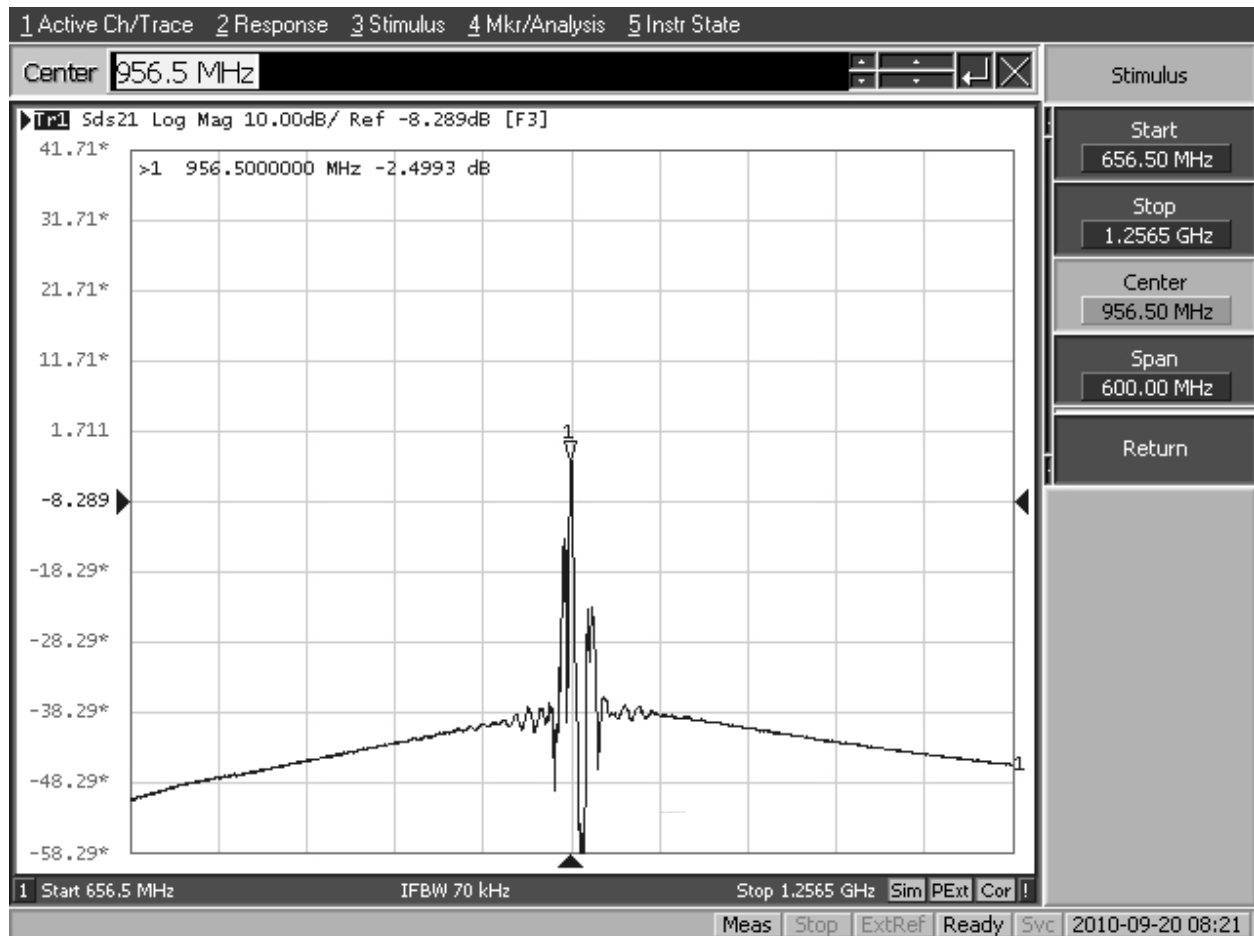
Notes:

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.

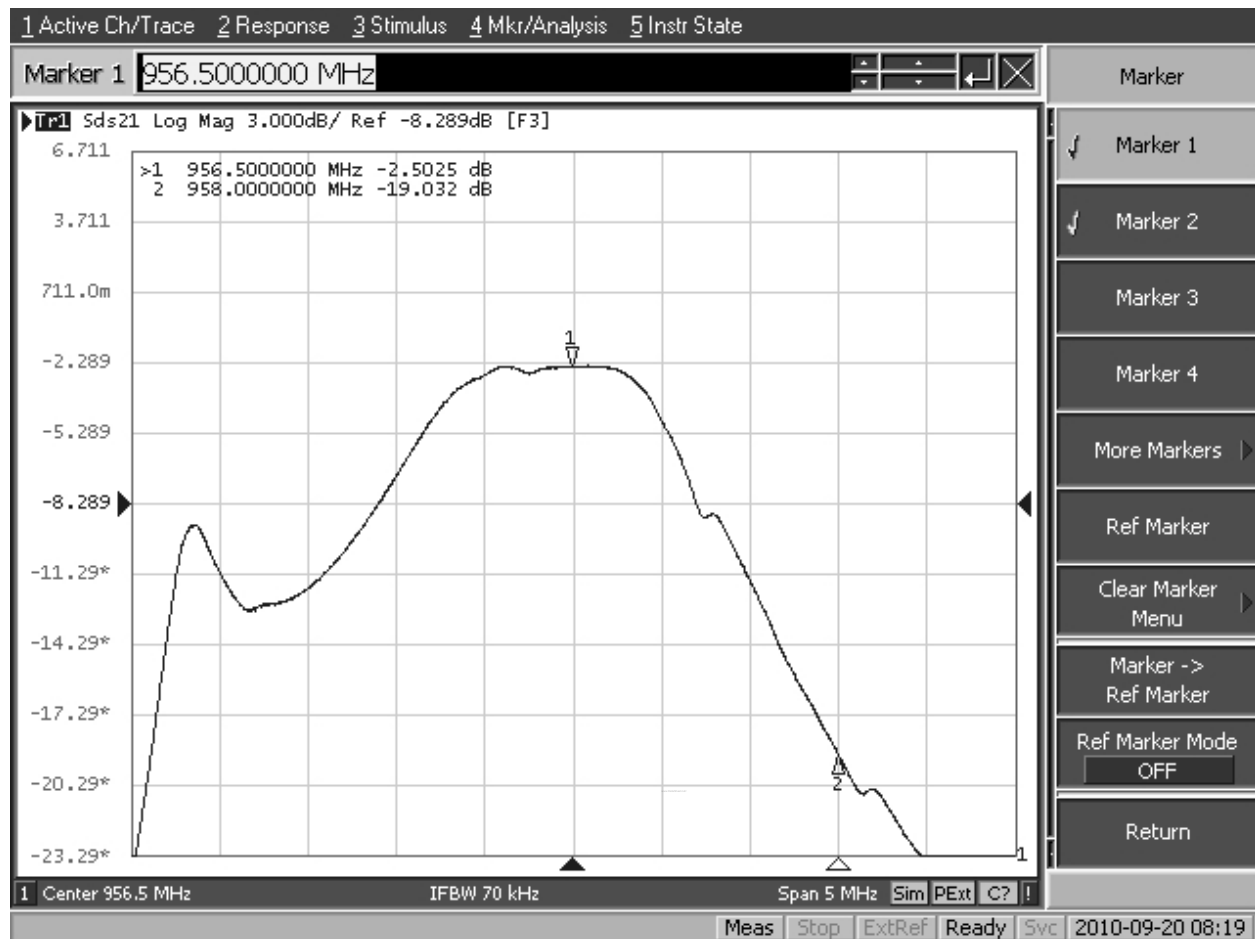
RF3613E-TRC103 Application Circuit



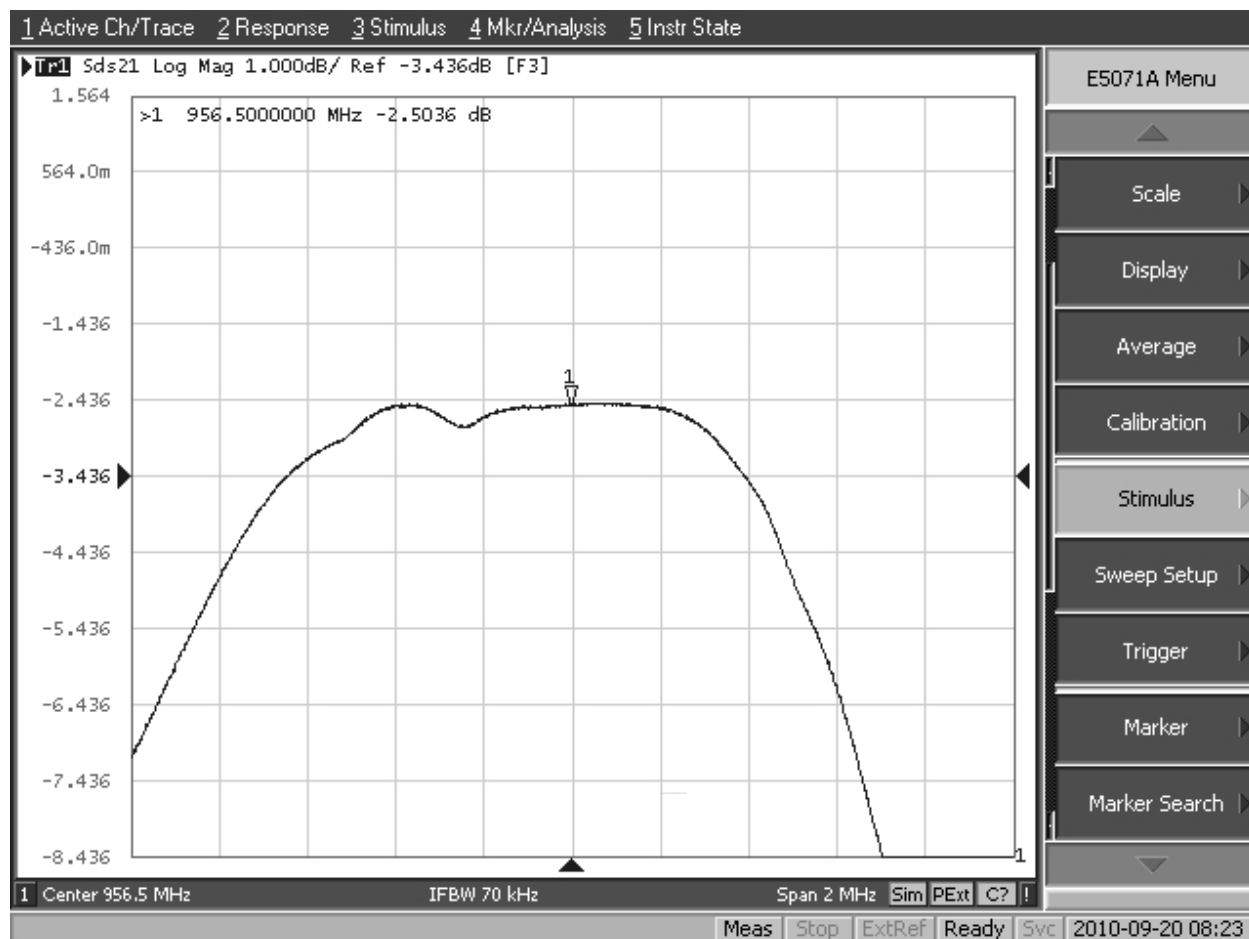
RF3613E Broadband Response, 656.5 to 1256.5 MHz



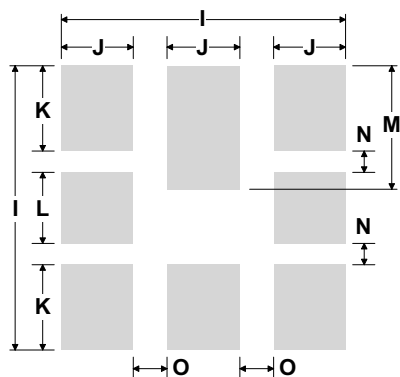
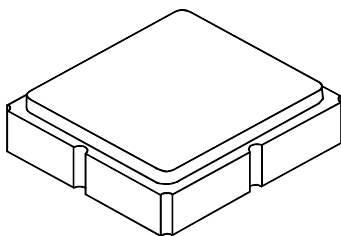
RF3613E Response, 954 to 959 MHz, Rejection Marker at 958 MHz



RF3613E Passband Response



8-Terminal Ceramic Surface-Mount Case 3.0 X 3.0 mm Nominal Footprint



PCB Footprint Top View

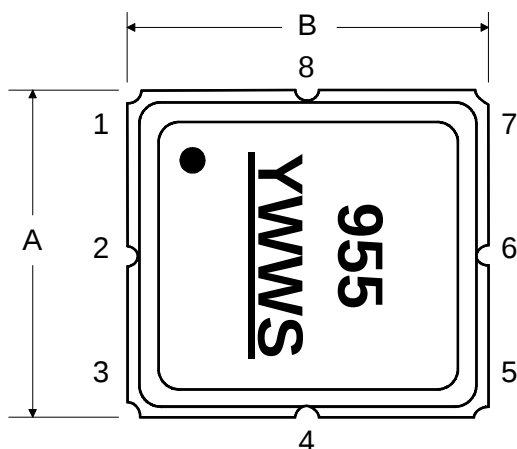
Case and PCB Footprint Dimensions

Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	2.87	3.0	3.13	0.113	0.118	0.123
B	2.87	3.0	3.13	0.113	0.118	0.123
C	1.14	1.27	1.40	0.045	0.050	0.055
D	0.79	0.92	1.05	0.031	0.036	0.041
E	0.62	0.75	0.88	0.024	0.029	0.034
F	0.47	0.60	0.73	0.018	0.024	0.029
G	0.47	0.60	0.73	0.018	0.024	0.029
H	1.07	1.20	1.33	0.042	0.047	0.052
I		3.19			0.126	
J		0.81			0.032	
K		0.96			0.038	
L		0.81			0.032	
M		1.39			0.055	
N		0.23			0.009	
O		0.38			0.015	

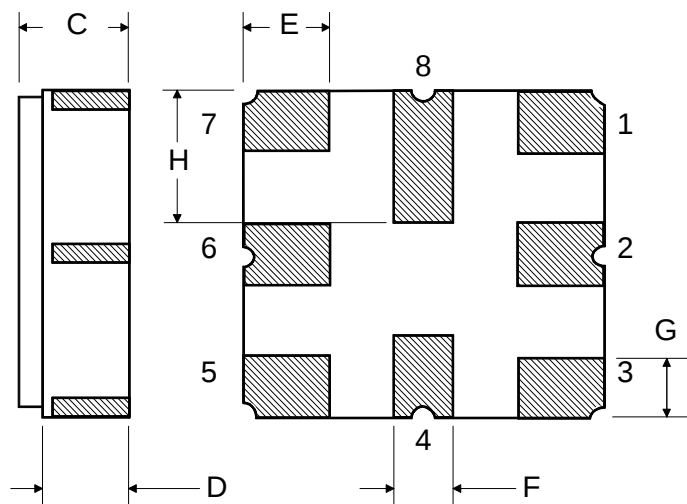
Case Materials

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



Technical drawing of a circular part, likely a flange or end view of a pipe. The drawing includes three views:

- Top View (Main View):** A large circle with a smaller concentric circle in the center. A crosshair indicates the center. A leader line points from the text "See Detail 'A'" to the center of the inner circle.
- Side View:** Two vertical lines representing the thickness of the part. The total thickness is dimensioned as 12.0. A reference dimension of 100 REF. is shown for the distance from the centerline to the top edge.
- Detail View (Detail A):** A cross-sectional view of the central hole. It shows a circular hole with a diameter of 13.0. The hole is surrounded by a flange with a thickness of 2.0. The outer diameter of the flange is dimensioned as 20.2.

"B" Nominal Size		Quantity Per Reel
Inches	millimeters	
7	178	1000
13	330	3000

Carrier Tape Dimensions	
Ao	3.35 mm
Bo	3.35 mm
Ko	1.4 mm
Pitch	8.0 mm
W	12.0 mm

0.3 ± 0.05

RO.3 (MAX.)

PIN #1

2.0

4.0

Ø1.50

A

1.75

5.5

12.0

Bo

B

Pitch

Ao

Ø1.5

R0.5 (MAX.)

SECTION A-A

SECTION B-B

USER DIRECTION OF FEED