




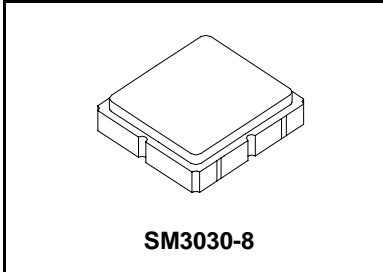
- **Designed for 950.0 - 960.0 MHz RFID Applications**
- **Optimized for use with the TRC103 Transceiver**
- **Balanced 150 ohm IC Interface**
- **Complies with Directive 2002/95/EC (RoHS)** 

**RF3601E**

**960.0 MHz  
SAW Filter**

**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	$f_c$			960.0		MHz
1.5 dB Bandwidth	$BW_{1.5}$			40		MHz
Maximum Insertion Loss, 950.0 to 960.0 MHz	$IL_{MAX}$			2.1	3.5	dB
Amplitude Ripple, p-p, 950.0 to 960.0 MHz				0.5	1.0	
Rejection Referenced to Insertion Loss at 960.0 MHz:						
710 to 810 MHz			50	53		
810 to 860 MHz			45	47		
860 to 910 MHz			43	45		
1010 to 1060 MHz			35	37		
1060 to 1110 MHz			45	47		
1110 to 1210 MHz			43	45		
Source Impedance	$Z_s$			50		$\Omega$
Load Impedance	$Z_L$			200		$\Omega$

Case Style	SM3030-8 3.0 x 3.0 mm Nominal Footprint					
Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator	818, 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

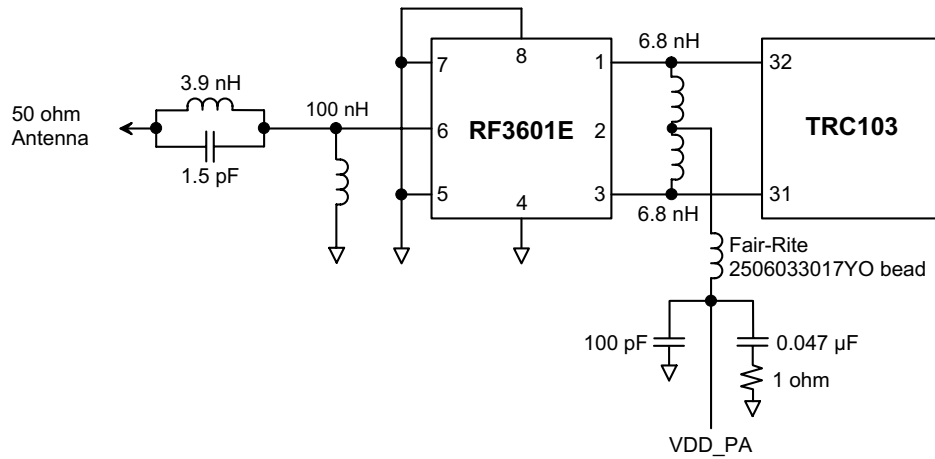


**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

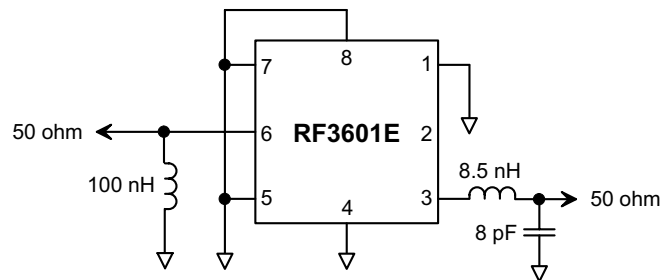
**Notes:**

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  $\Omega$  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. RFM, stylized RFM logo, and RF Monolithics, Inc. are registered trademarks of RF Monolithics, Inc.

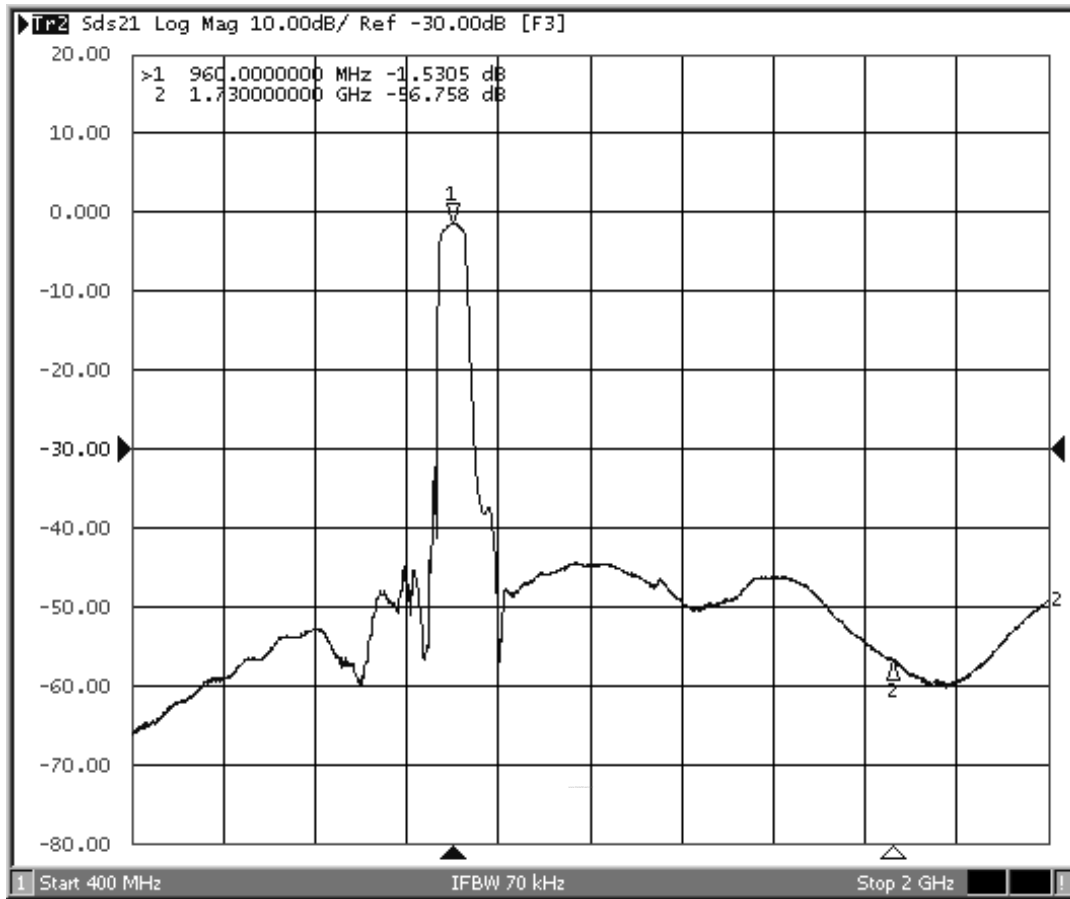
## RF3601E-TRC103 Application Circuit



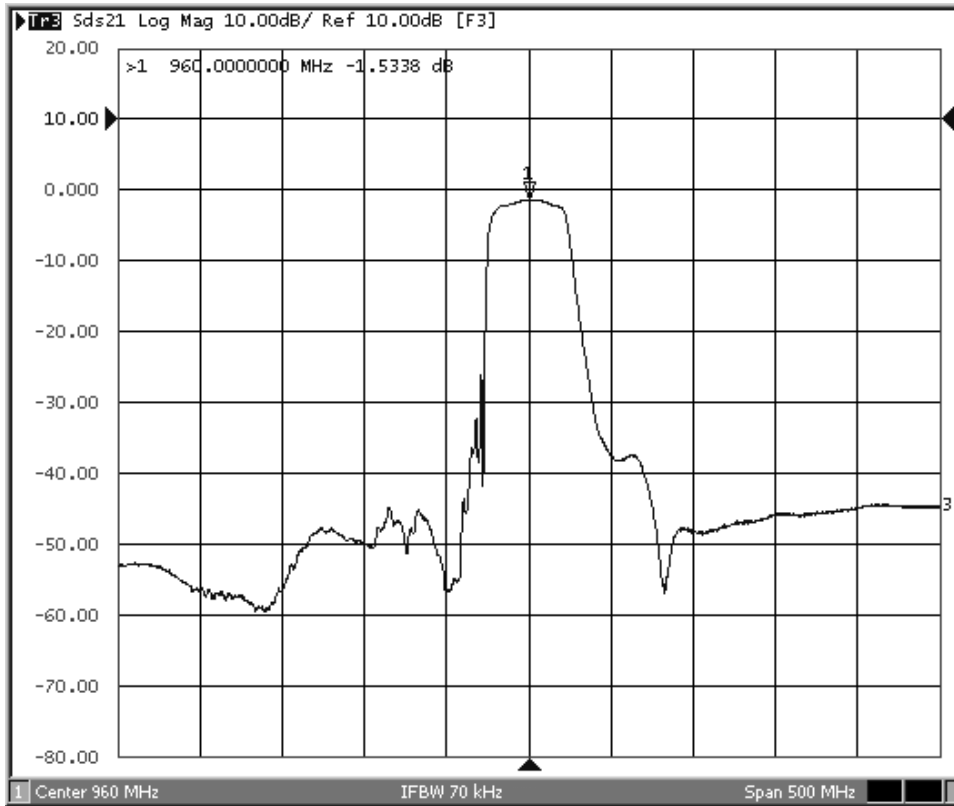
## RF3601E 50 Ohm Tuning Network



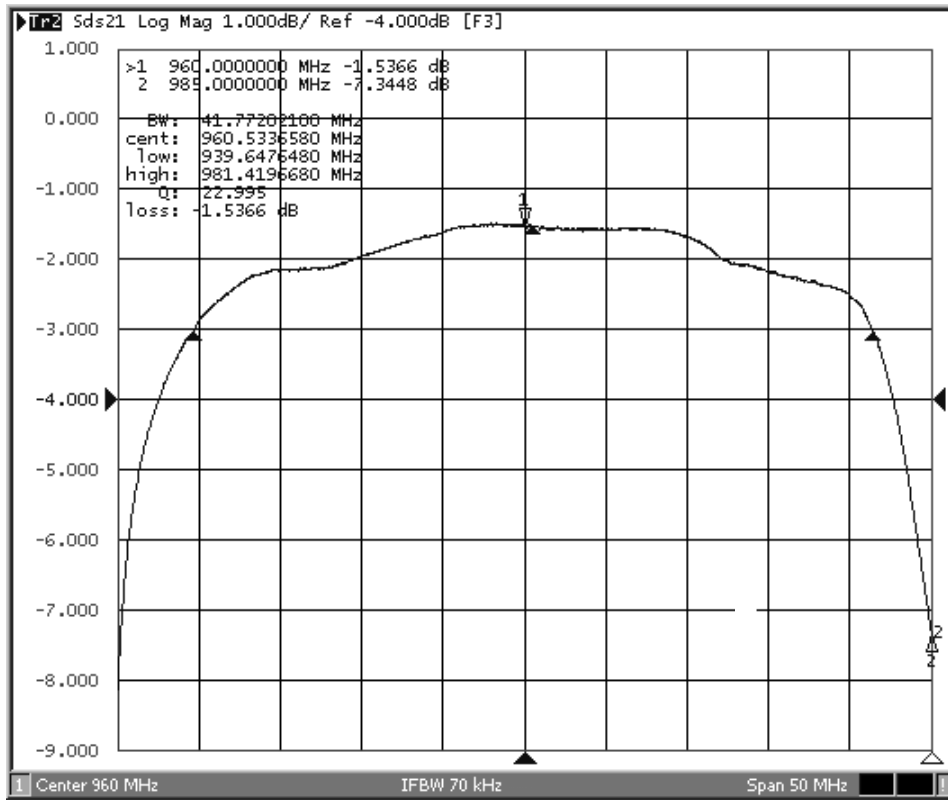
# RF3601E Broadband Response, 400 to 2000 MHz



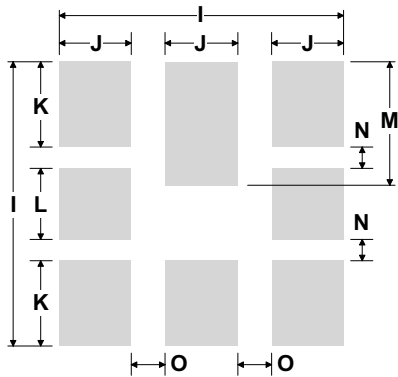
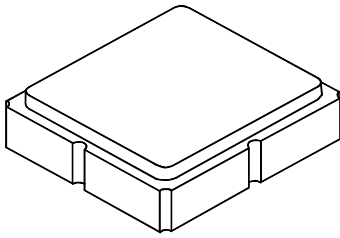
# RF3601E Response, 710 to 1210 MHz



# RF3601E Passband Response



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



**PCB Footprint Top View**

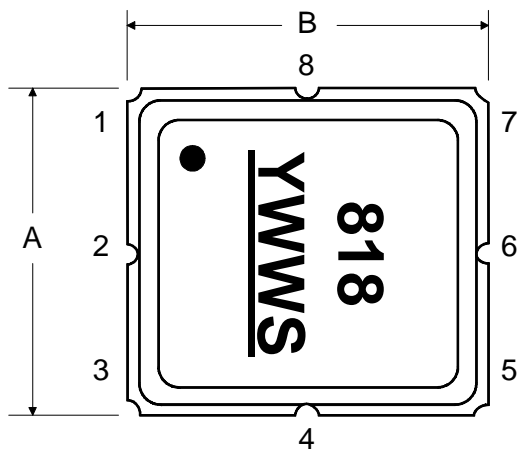
### Case and PCB Footprint Dimensions

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	

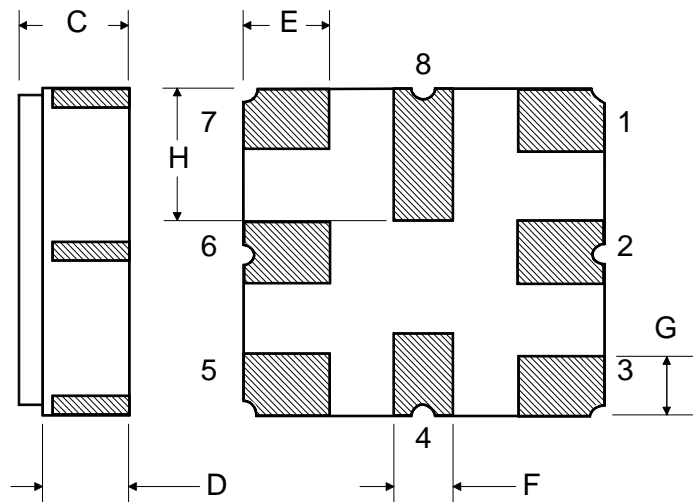
### Case Materials

Materials	
Solder Pad Plating	0.3 to 1.0 $\mu\text{m}$ 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

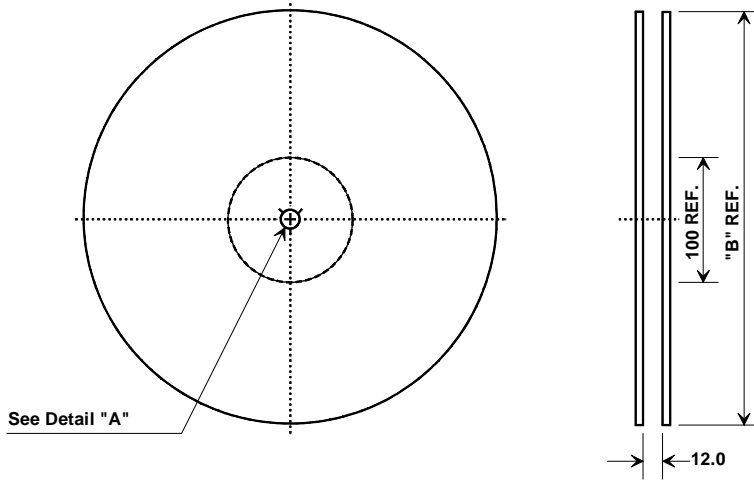
**TOP VIEW**



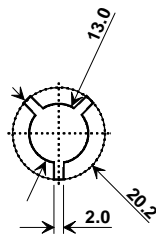
**BOTTOM VIEW**



# Tape and Reel Specifications



"B "		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

## COMPONENT ORIENTATION and DIMENSIONS

