



- 863.0 - 870.0 MHz Filter
- Optimized for use with the TRC103 Transceiver
- Balanced 150 ohm IC Interface
- Complies with Directive 2002/95/EC (RoHS)

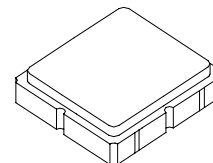


Absolute Maximum Ratings

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

RF3501E

**866.1 MHz
SAW Filter**



SM3030-8

Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	f_c			866.1		MHz
1 dB Bandwidth	BW_1			31		MHz
3 dB Bandwidth	BW_3			40		MHz
Maximum Insertion Loss, 863.0 to 870.0 MHz	IL_{MAX}			3.0	4.5	dB
Amplitude Ripple, p-p, 863.0 to 870.0 MHz					1.0	
Rejection Referenced to Insertion Loss at 866.1 MHz:						
518 to 618 MHz			45	48		
618 to 768 MHz			42	45		
768 to 818 MHz			40	43		dB
918 to 1218 MHz			35	38		
Source Impedance	Z_S			50		Ω
Load Impedance	Z_L			200		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	805, 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

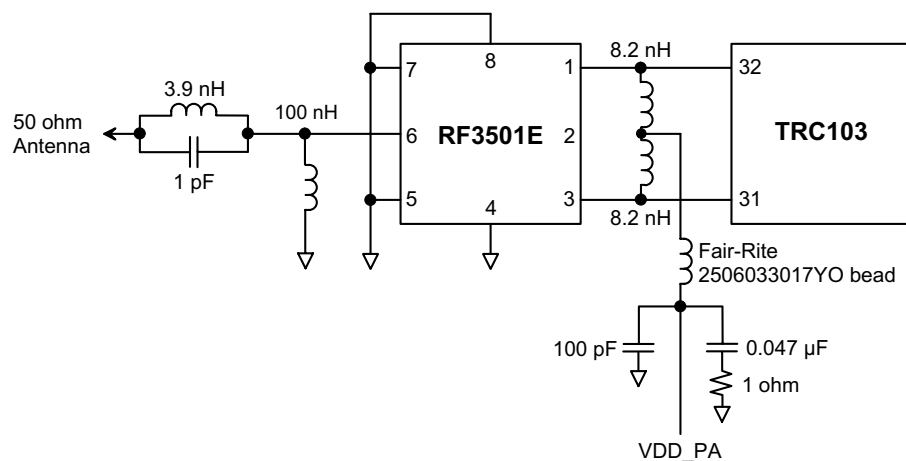


CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

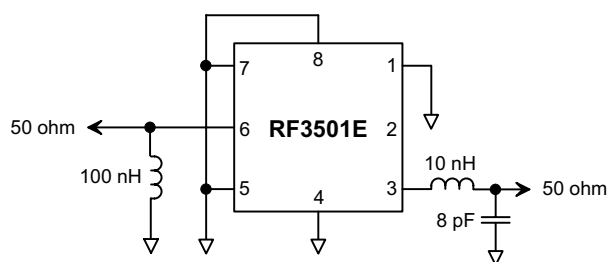
Notes:

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.

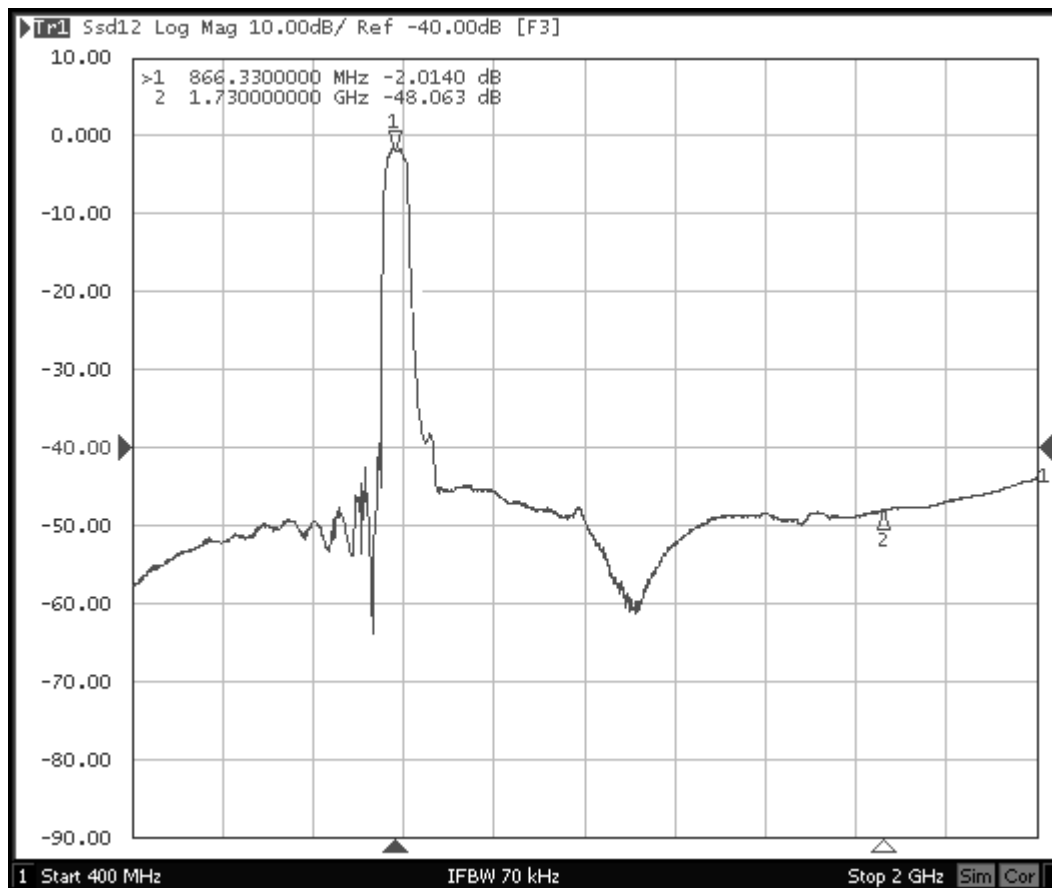
RF3501E-TRC103 Application Circuit



RF3501E 50 Ohm Tuning Network



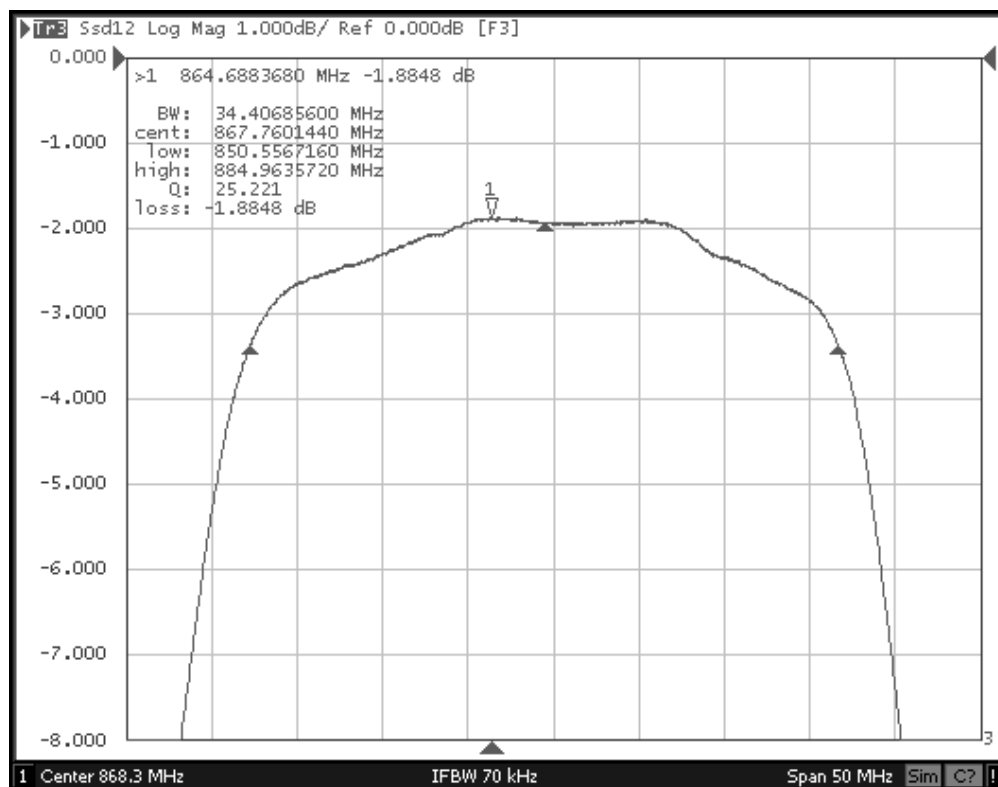
RF3501E Broadband Response, 400 to 2000 MHz



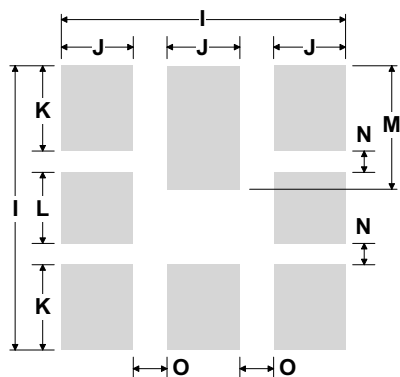
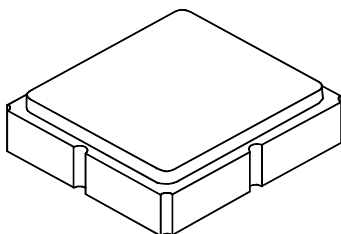
RF3501E Response, 818.3 to 918.3 MHz



RF3501E Passband Response



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



PCB Footprint Top View

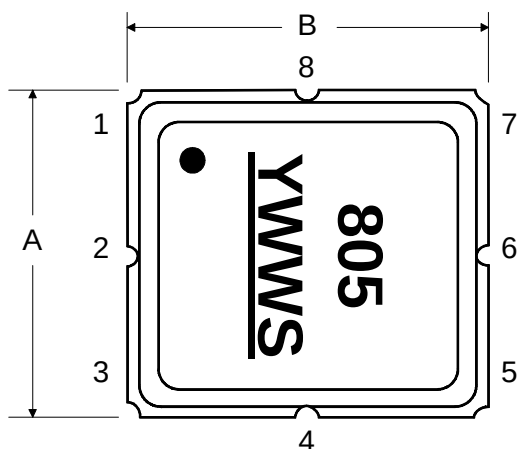
Case and PCB Footprint Dimensions

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	

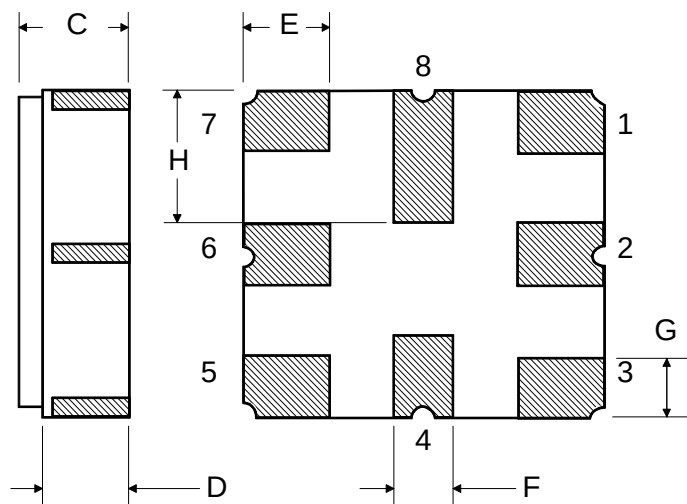
Case Materials

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 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 crosshair (dashed lines) is centered on the circles. A leader line points from the text "See Detail 'A'" to the center of the inner circle.

Side View: Two vertical rectangles representing the component's profile. The total width is dimensioned as 12.0. The height of the upper section is dimensioned as 100 REF. The height of the lower section is dimensioned as "B" REF.

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 "		Quantity Per Reel
Nominal Size		
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.)

Bo

Ko

SECTION A-A

PIN #1

2.0

4.0

Ø1.50

A

1.75

5.5

12.0

B

B

Pitch

Ao

A

R0.5 (MAX.)

Ø1.5

SECTION B-B

USER DIRECTION OF FEED