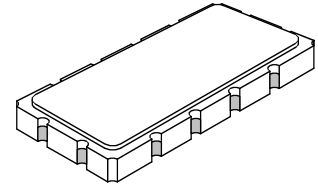


**SF2063A**

**156 MHz  
SAW Filter**



**SMP-53**

- **Excellent Size-to-Performance Ratio**
- **Hermetic 13.3 x 6.5 mm Surface-mount Case**
- **Complies with Directive 2002/95/EC (RoHS)**
- **Tape and Reel Standard per ANSI/EIA-481**
- **Moisture Sensitivity Level: 1**

**Absolute Maximum Ratings**

Rating	Value	Units
Maximum Incident Power in Passband	+10	dBm
Maximum DC Voltage Between any Two Terminals	30	VDC
Storage Temperature Range in Tape and Reel	-40 to +85	°C
Suitable for Lead-free Soldering - Maximum Soldering Profile	260°C for 30 s	

**Electrical Characteristics**

Characteristic	Sym	Notes	Min	Typ	Max	Units
Nominal Center Frequency	$f_C$		156.00			MHz
Insertion Loss at $f_C$	IL			15.5	18	dB
Amplitude Ripple				1.1	2.0	dB <sub>p-p</sub>
1.5 dB Bandwidth	BW <sub>1.5</sub>		9.4	10		MHz
Rejection Referenced to IL						
50 to 149 MHz			39	45		dB
165 to 500 MHz			39	45		
Operating Temperature Range	T <sub>A</sub>		-40		+85	°C

Impedance Matching to 50Ω Unbalanced	External L-C
Case Style	SMP-53 13.3 x 6.5 mm Nominal Footprint
Lid Symbolization (YY = year, WW = week, S = shift, ## = Sequence Code)	RFM, SF2063A, <u>YYWWS##</u>

**Electrical Connections**

Connection	Terminals
Port 1 Hot	11
Port 1 Gnd Return	12
Port 2 Hot	5
Port 2 Gnd Return	6
Case Ground	All others



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

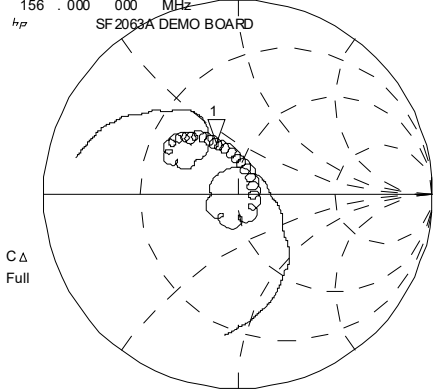
**NOTES:**

1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

# SF2063A S<sub>11</sub>, S<sub>22</sub> and Amplitude Response

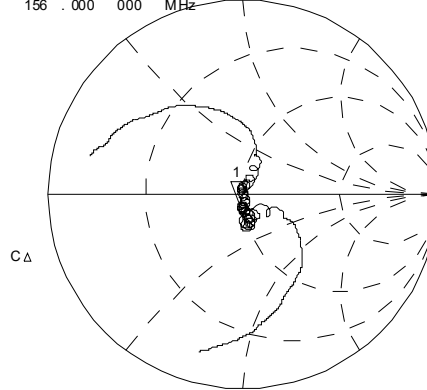
8 Mar 2006 16:19:43

CH1 S11 1 UFS  
 1: 35.279 Ω 20.383 Ω 20.795 nH  
 156.000 000 MHz  
 SF2063A DEMO BOARD



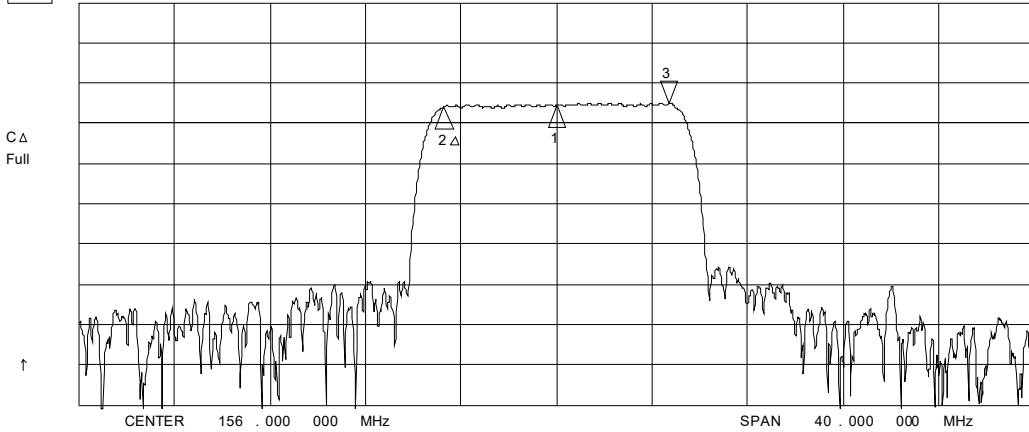
CENTR 156.000 MHz SPAN 32.000 MHz

CH3 S22 1 UFS  
 1: 47.971 Ω -4.7188 Ω 216.21 pF  
 156.000 000 MHz



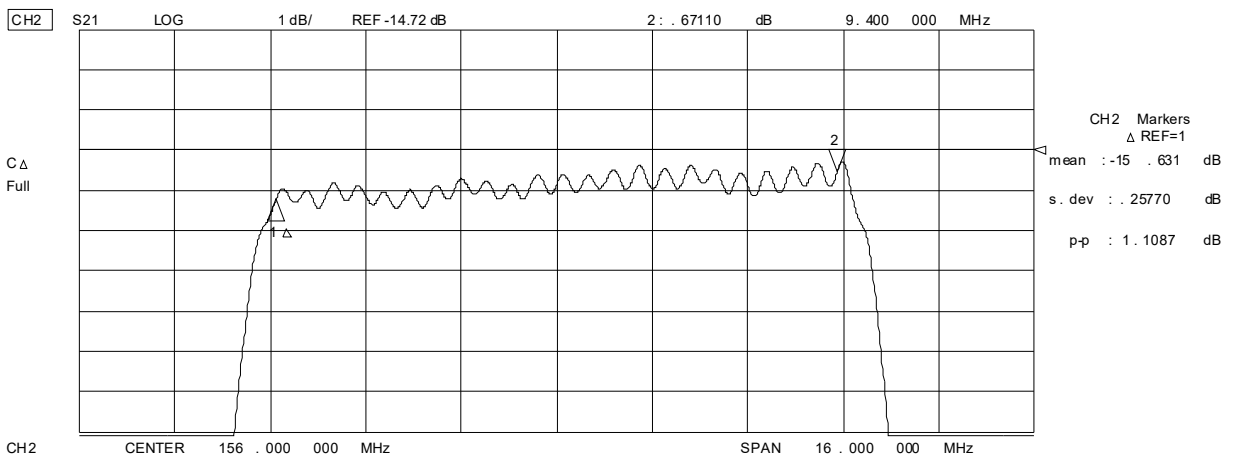
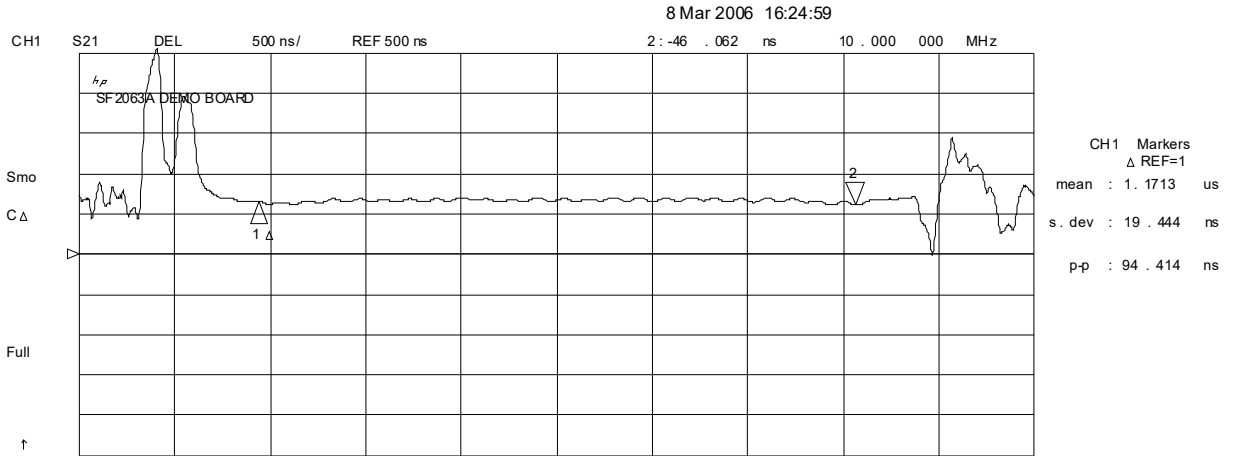
CENTR 156.000 MHz SPAN 32.000 MHz

CH2 S21 LOG 10 dB/ REF -20 dB 3: .66240 dB 9.400 000 MHz

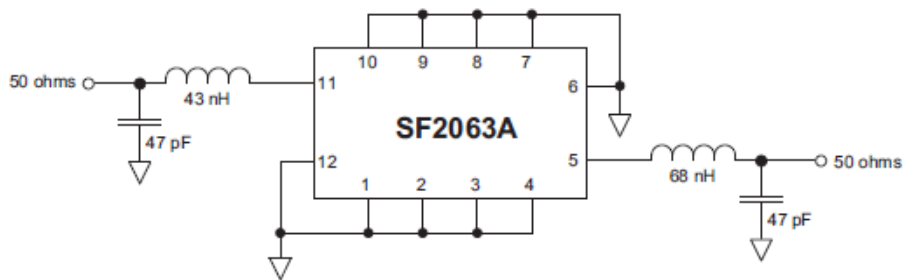


CH2 Markers  
 Δ REF=2  
 mean : -15.645 dB  
 s. dev : .25400 dB  
 p-p : 1.0964 dB

# SF2063A Passband Group Delay and Amplitude Ripple

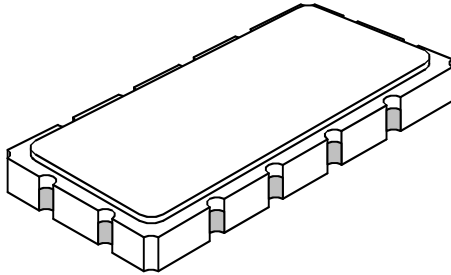


## SF2063A Matching Components



# SMP-53 Case

## 12-Terminal Ceramic Surface-Mount Case 13.3 x 6.5 mm Nominal Footprint



### Case Dimensions

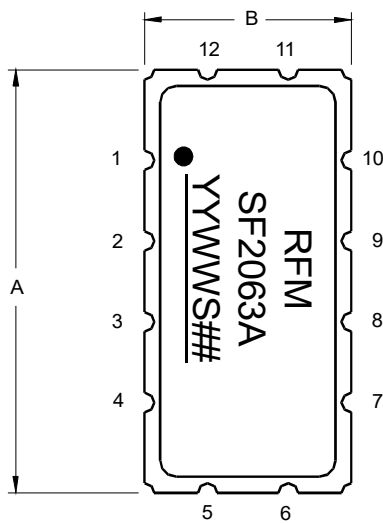
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	13.08	13.31	13.60	0.515	0.524	0.535
B	6.27	6.50	6.80	0.247	0.256	0.268
C		1.91	2.00		0.075	0.079
D		1.50			0.059	
E		0.79			0.031	
H		1.0			0.039	
P		2.54			0.100	

### Electrical Connections

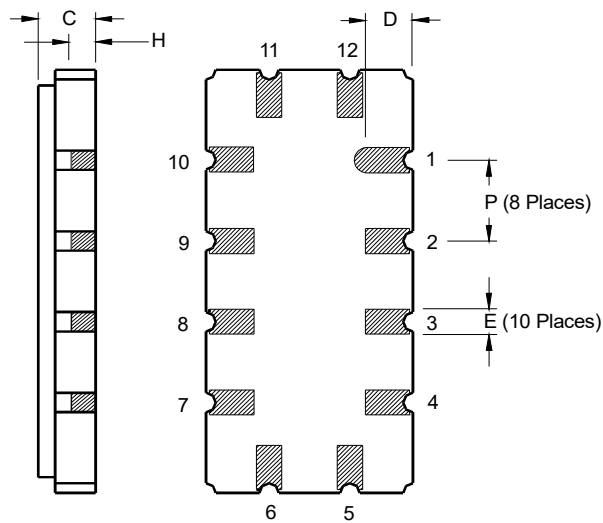
Connection		Terminals
Port 1	Input or Return	11
	Return or Input	12
Port 2	Output or Return	5
	Return or Output	6
Ground		All others
Single-ended Operation		Return is ground
Differential Operation		Return is hot

### 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



TOP VIEW



BOTTOM VIEW

## Recommended Reflow Profile

1. Preheating shall be fixed at 150~180°C for 60~90 seconds.
2. Ascending time to preheating temperature 150°C shall be 30 seconds min.
3. Heating shall be fixed at 220°C for 50~80 seconds and at 260°C +0/-5°C peak (10 seconds).
4. Time: 5 times maximum.

