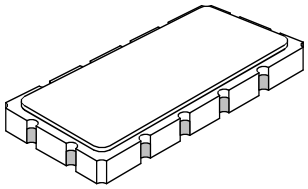
SF1125A

380 MHz SAW Filter

- ***Designed for WCDMA 3G IF Applications***
- ***Excellent Size-to-Performance Ratio***
- ***Hermetic 13.3 x 6.5 mm Surface-mount Case***
- ***Complies with Directive 2002/95/EC (RoHS)***



SMP-53

Absolute Maximum Ratings

Rating	Value	Units
Maximum Incident Power in Passband	+10	dBm
Max. DC voltage between any 2 terminals	30	VDC
Storage Temperature Range	-40 to +85	°C
Suitable for lead-free soldering - Max. Soldering Profile	260°C for 30 s	

Electrical Characteristics

Characteristic		Sym	Notes	Min	Typ	Max	Units
Nominal Center Frequency		f_C	1		380.000		MHz
Passband	Insertion Loss at fc	IL			16.5	18	dB
	1 db Passband	BW_1		4.45	5.0		MHz
	3 db Passband	BW_3		5.1	5.4		
	Amplitude Ripple over fc±2.25 MHz		1, 2		0.75	1.25	dB_{P-P}
	Phase Linearity over fc±2.25 MHz				7.5	TBD	$^{\circ}_{P-P}$
	Group Delay Variation over fc ±fc2.25 MHz	GDV			150	175	ns_{P-P}
Rejection	fc-3.95 to fc-3.33 and fc+3.3 to fc+3.95 MHz			10			dB
	fc-4.125 to fc-3.95 and fc+3.95 to fc+4.125 MHz		1, 2, 3	30			
	fc±4.125 to fc±60 MHz			40			
Part to Part Average Group Delay Variation			4			±5	nsec
Operating Temperature Range		T_A	1	-10	+25	+85	°C
Frequency Temperature Coefficient		FTC			-18		ppm/°C

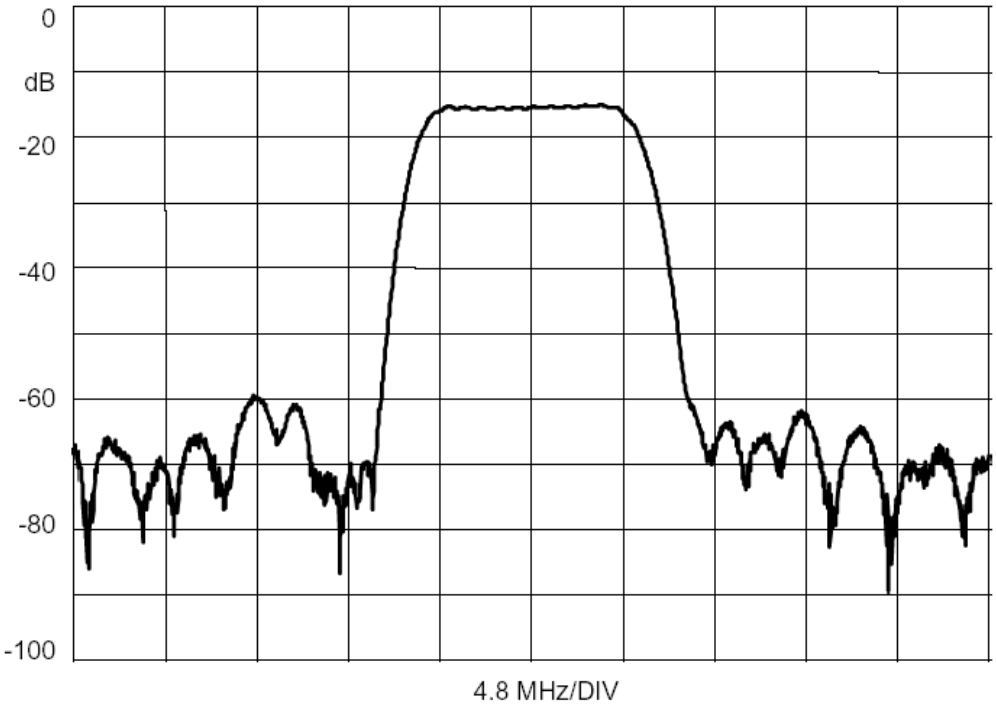
Matching to 50Ω Balanced or Single Ended Impedance	External L-C
Case Style	SMP-53 13.3 x 6.5 mm Nominal Footprint
Lid Symbolization (YY = year, WW = week)	RFM SF1125A YYWW

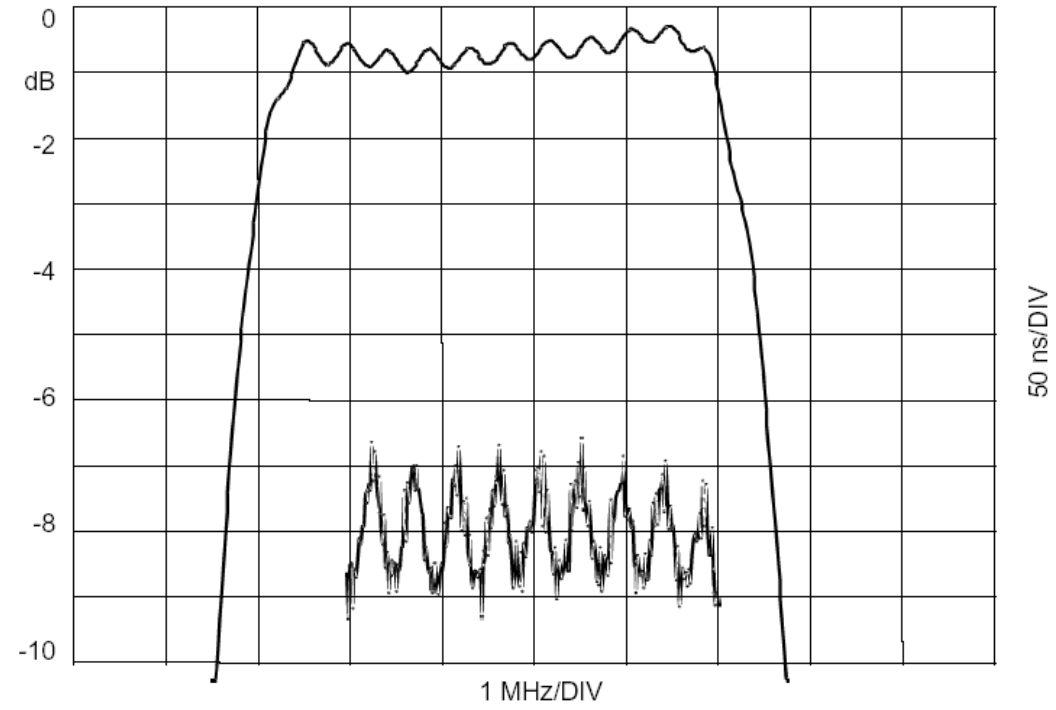
Notes:

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, fc.
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. Part to part absolute delay measurement records the absolute delay mean across 1 dB passband.
5. "LRIP" or "L" after the part number indicates "low rate initial production" and "ENG" or "E" indicates "engineering prototypes."
6. The design, manufacturing process, and specifications of this filter are subject to change.
7. Either Port 1 or Port 2 may be used for either input or output in the design. However, impedances and impedance matching may vary between Port 1 and Port 2, so that the filter must always be installed in one direction per the circuit design.
8. US and international patents may apply.
9. Electrostatic Sensitive Device. Observe precautions for handling.

Electrical Connections

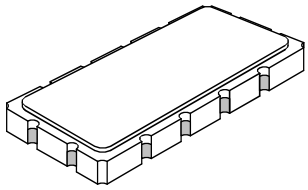
Connection	Terminals
Port 1 Hot	11
Port 1 Gnd Return	12
Port 2 Hot	5
Port 2 Gnd Return	6
Case Ground	All others





SMP-53 Case

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



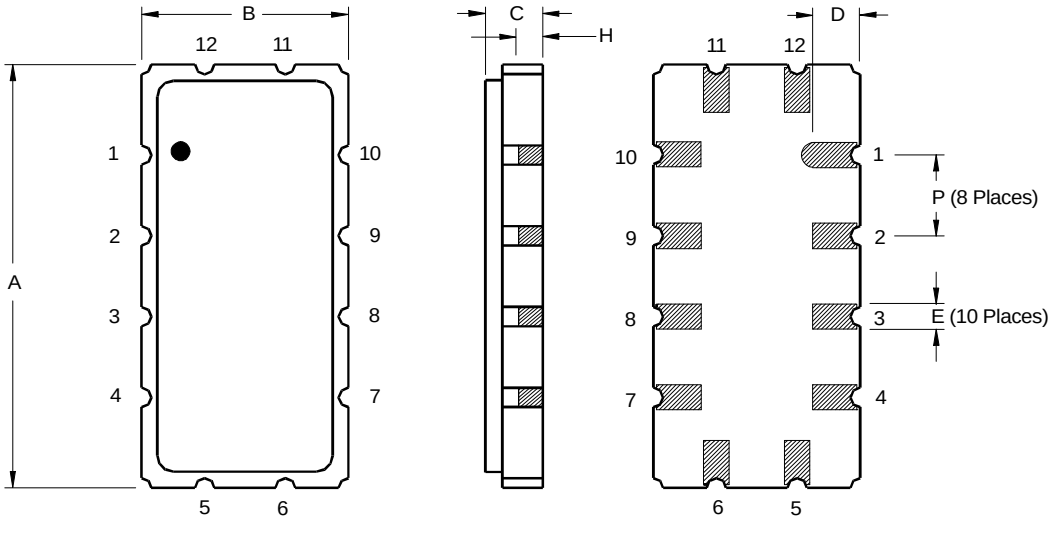
Case Dimensions

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	

Materials	
Solder Pad Termination	Au plating 30 - 60 uInches (76.2-152 uM) over 80-200 uInches (203-508 uM) Ni.
Lid	Fe-Ni-Co Alloy Electroless Nickel Plate (8-11% Phosphorus) 100-200 uInches Thick
Body	Al_2O_3 Ceramic
Pb Free	

Electrical Connections

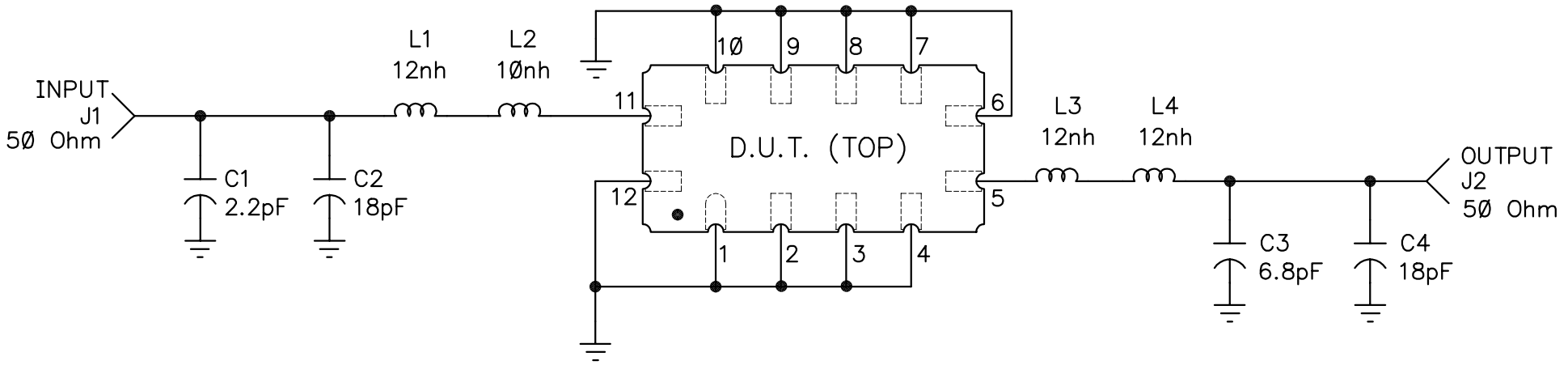
Connection		Terminals
Port 1	Input or Return	11
	Return or Input	12
Port 2	Output or Return	5
	Return or Output	6
Ground		All others
Single Ended Operation		**Return is ground**
Differential Operation		**Return is hot**



TOP VIEW

BOTTOM VIEW

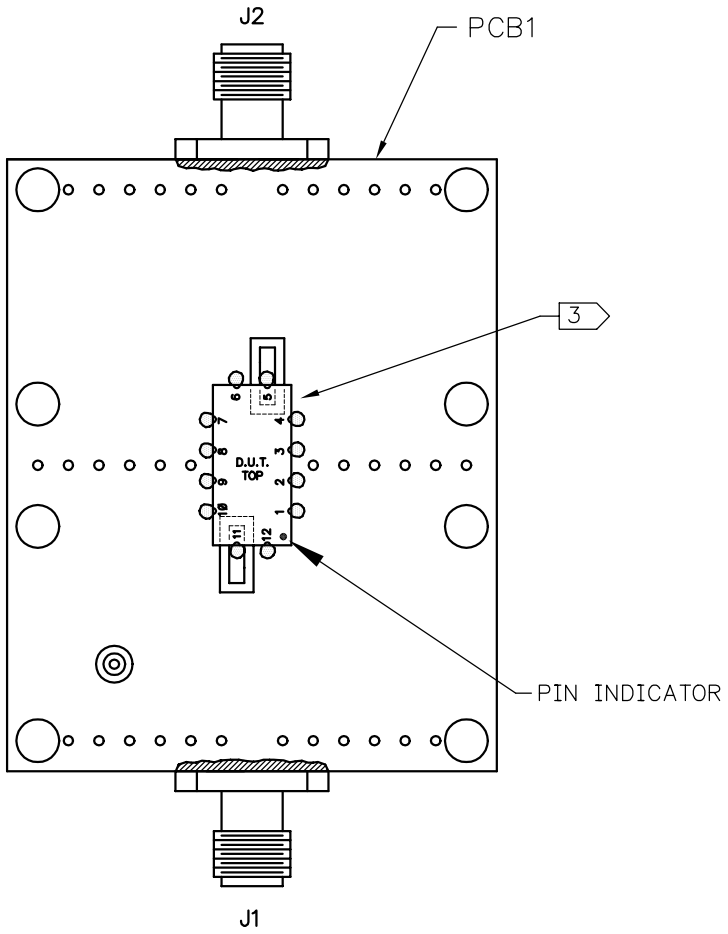
REV	ECN NO.	DESCRIPTION	APP/DATE
A	9198	INITIAL RELEASE	27nov00



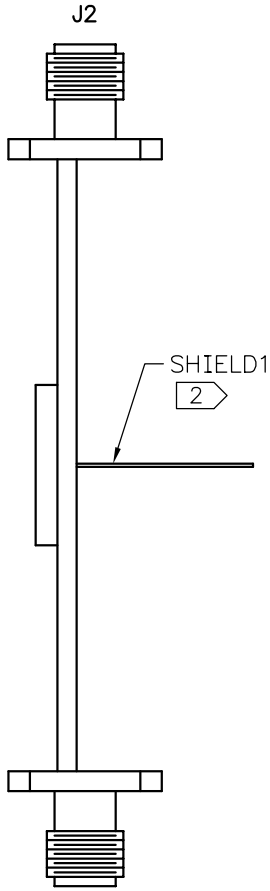
DRAWN BY/DATE: J.F.Christopherson 27nov00		TITLE: SF1125A DEMO PCB					
RF Monolithics, Inc. DALLAS, TEXAS 75244	CHECKED/APPROVED	SIZE **A**	CODE IDENT **2U874**	DWG. NO. SF1125A-000		REV A	SHEET 1/3

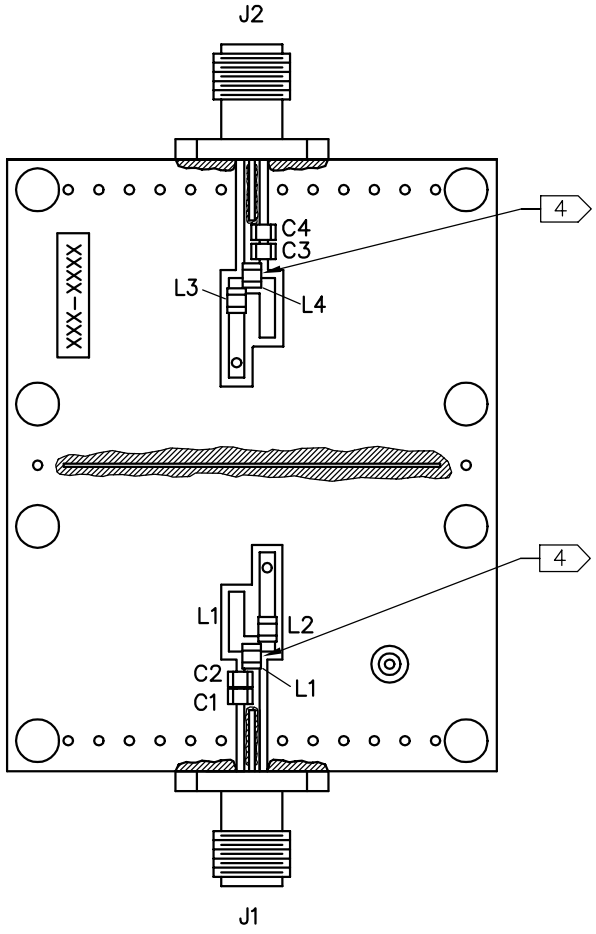
NOTES:

1. SOLDER MOUNT COMPONENTS & CONNECTORS TO PCB1.
2. SOLDER SHIELD1 AS SHOWN AND TRIM TAB FROM SHIELD SO THAT IT IS FLUSH WITH PCB.
3. ORIENT THE FLTR1 AND SOLDER IT DOWN TO THE BOARD AS SHOWN.
4. CUT TRACE TO ACCOMODATE INDUCTOR.



TEST SIDE





COMPONENT SIDE

RF Monolithics, Inc. DALLAS, TEXAS 75244		SIZE A	CODE IDENT 2U874	DWG. NO. SF1125A–ØØØ	REV A	SHEET 2

SF1125A
DEMO 2
11-2-00
RT

C1 = 2.2pf
C2, C4 = 18pf
C3 = 6.8pf

L1, L3, L4 = 12nH
L2 = 10nH