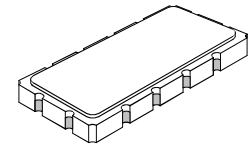




**SF1056A**

**110.592 MHz  
SAW Filter**



**SM13365-12**

- **Designed for DECT and WLAN IF Applications**
- **Low Insertion Loss**
- **Excellent Size-to-Performance Ratio**
- **Hermetic 13.3 X 6.5 mm Surface-Mount Case**
- **Unbalanced Input and Output**
- **Complies with Directive 2002/95/EC (RoHS)**



**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	110.592			MHz
Passband	Insertion Loss at $f_c$ 3 dB Passband	IL		8.5	10.0	dB
		$BW_3$	±576	±750		kHz
	Group Delay Variation over $f_c$ ±576 kHz	GDV	1, 2	<150	200	nSp-P
Rejection	$f_c$ -3.4 to $f_c$ -1.728 and $f_c$ +1.728 to $f_c$ +3.4 MHz DC to $f_c$ -3.4 and $f_c$ +3.4 to 200 MHz Ultimate		1, 2, 3	28	40	dB
				40	>45	
					45	
Operating Temperature Range	$T_A$	1	-10		+60	°C

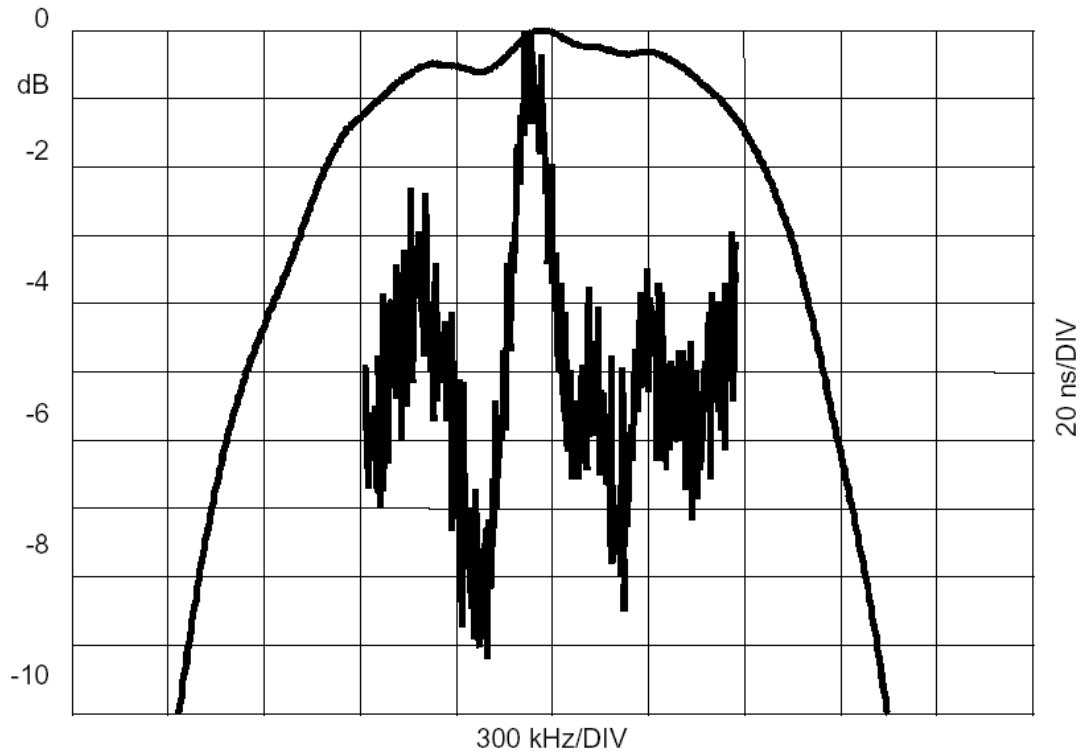
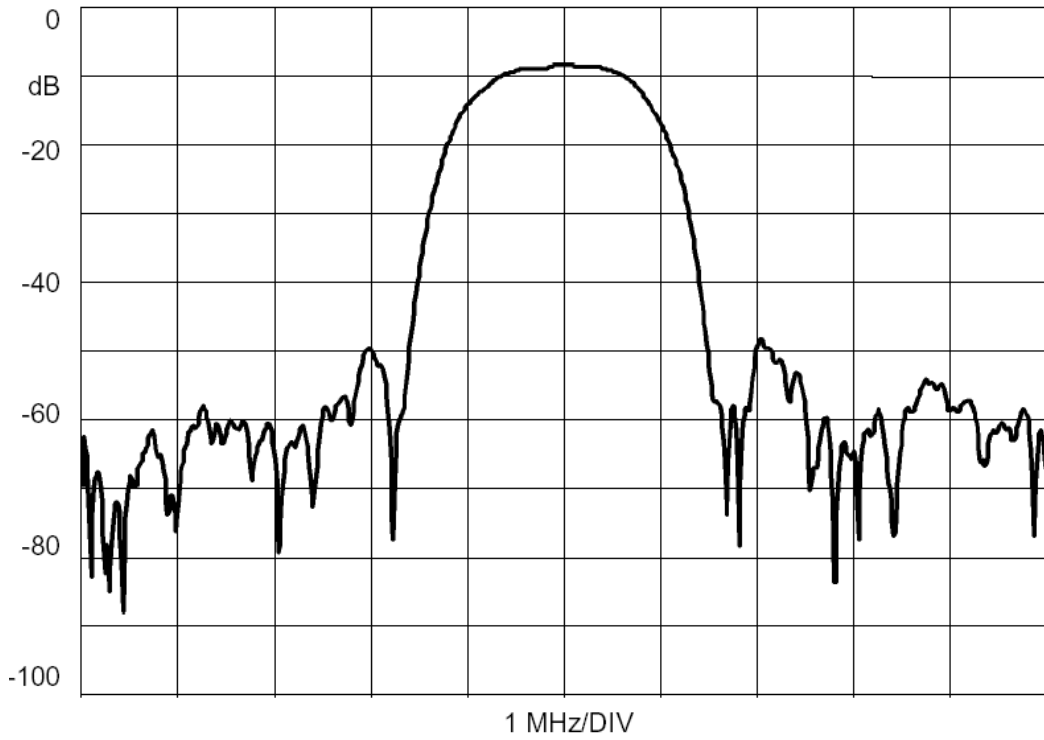
Impedance Matching to 50 $\Omega$ unbalanced	External L-C
Case Style	SM13365-12 13.3 X 6.5 mm Nominal Footprint
Lid Symbolization (YY=year, WW=week) See note 4	RFM SF1056A YYWW

**Electrical Connections**

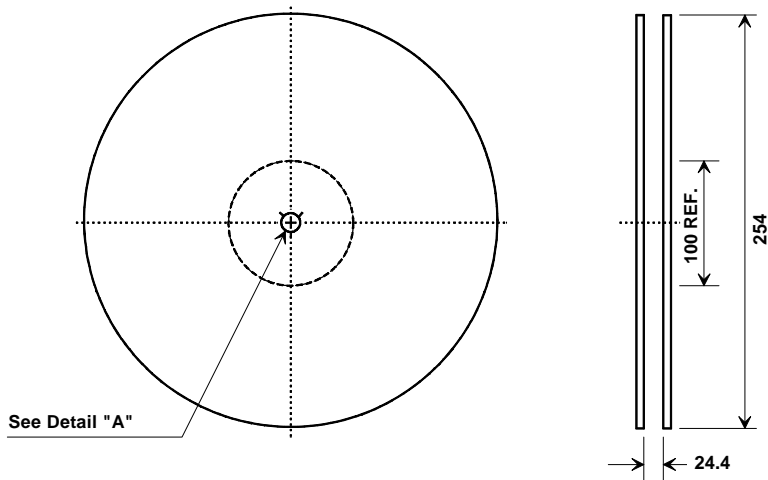
Connection	Terminals
Port 1 Hot	2
Port 1 Gnd Return	3
Port 2 Hot	8
Port 2 Gnd Return	9
Case Ground	All Others

**Notes:**

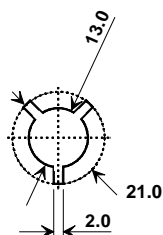
1. Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board with impedance matching to 50  $\Omega$  and measured with 50  $\Omega$  network analyzer.
2. Unless noted otherwise, all frequency specifications are referenced 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. "LRIP" or "L" after the part number indicates "low rate initial production" and "ENG" or "E" indicates "engineering prototypes."
5. The design, manufacturing process, and specifications of this filter are subject to change.
6. 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.
7. US and international patents may apply.
8. RFM, stylized RFM logo, and RF Monolithics, Inc. are registered trademarks of RF Monolithics, Inc.
9. ©Copyright 1999, RF Monolithics Inc.
10. Electrostatic Sensitive Device. Observe precautions for handling 



## Tape and Reel Specifications

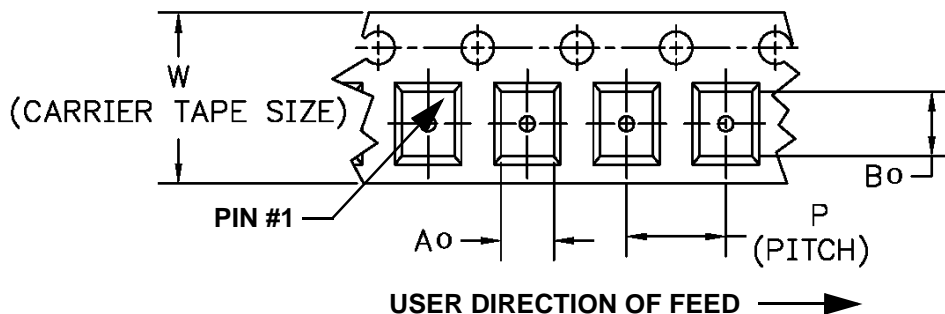
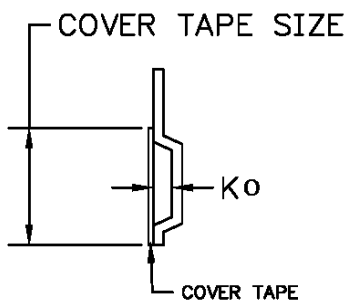


Quantity Per Reel	
100 Min	
1000 Max	



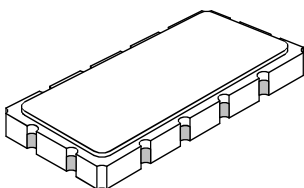
## COMPONENT ORIENTATION and DIMENSIONS

Carrier Tape Dimensions	
<b>Ao</b>	7.0 mm
<b>Bo</b>	13.8 mm
<b>Ko</b>	2.0 mm
<b>Pitch</b>	12.0 mm
<b>W</b>	24.0 mm



SM13365-12 Case

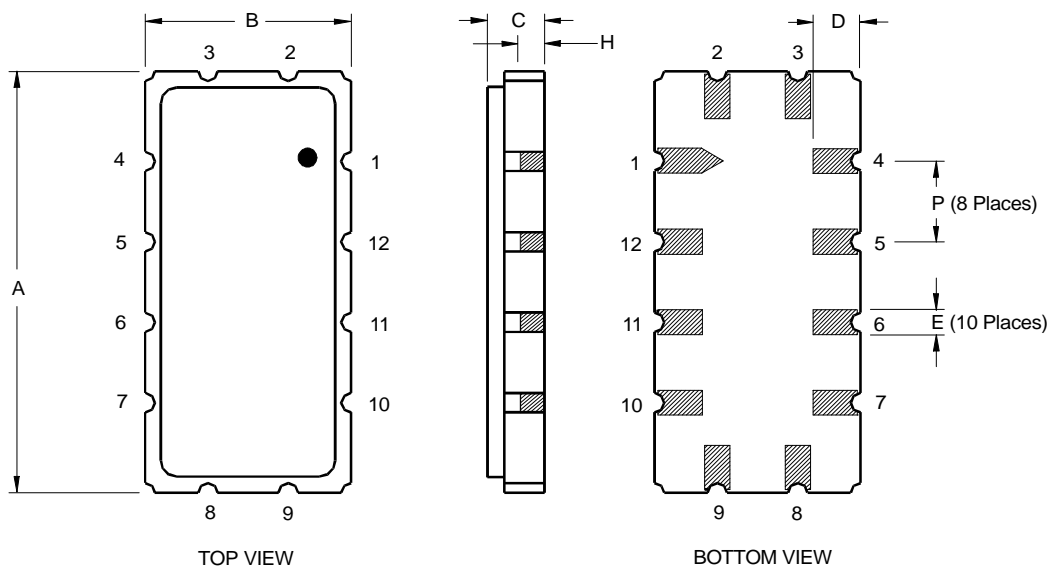
12-Terminal Ceramic Surface-Mount Case  
13.3 x 6.5 mm Nominal Footprint



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 pinches (76.2-152 μm) over 80-200 pinches (203-508 μm) Ni.
Lid	Fe-Ni-Co Alloy Electroless Nickel Plate (8-11% Phosphorus) 100-200 pinches Thick
Body	Al <sub>2</sub> O <sub>3</sub> Ceramic
Pb Free	

Electrical Connections		
Connection		Terminals
Port 1	Input or Return	2
	Return or Input	3
Port 2	Output or Return	8
	Return or Output	9
Ground		All others
Single Ended Operation		Return is ground
Differential Operation		Return is hot

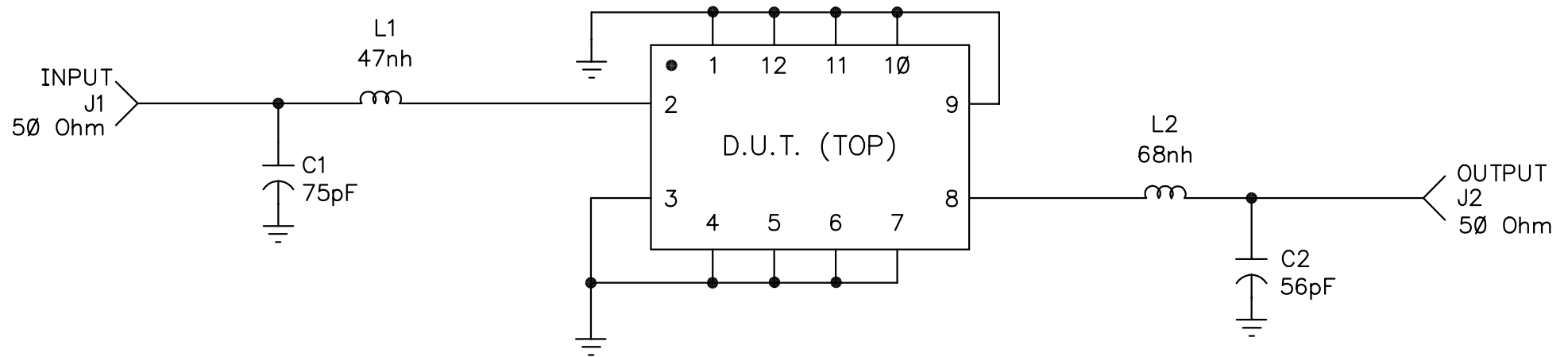


NOTES:

1. NOTE PROPER ORIENTATION OF INDUCTORS L1 AND L2. THEY ARE TO BE POSITIONED 90° TO EACH OTHER.

2. SOLDER SURFACE MOUNT PACKAGE TO TEST SIDE OF PCB. SOLDER 12 PLACES AS SHOWN.

REV	ECN NO.	DESCRIPTION	DATE
A	7202	INITIAL RELEASE	
B	10145	REVISED PIN NUMBERING	14sep01



DRAWN BY/DATE: L. ASHMORE 15dec98

TITLE: SF1056A DEMO PCB

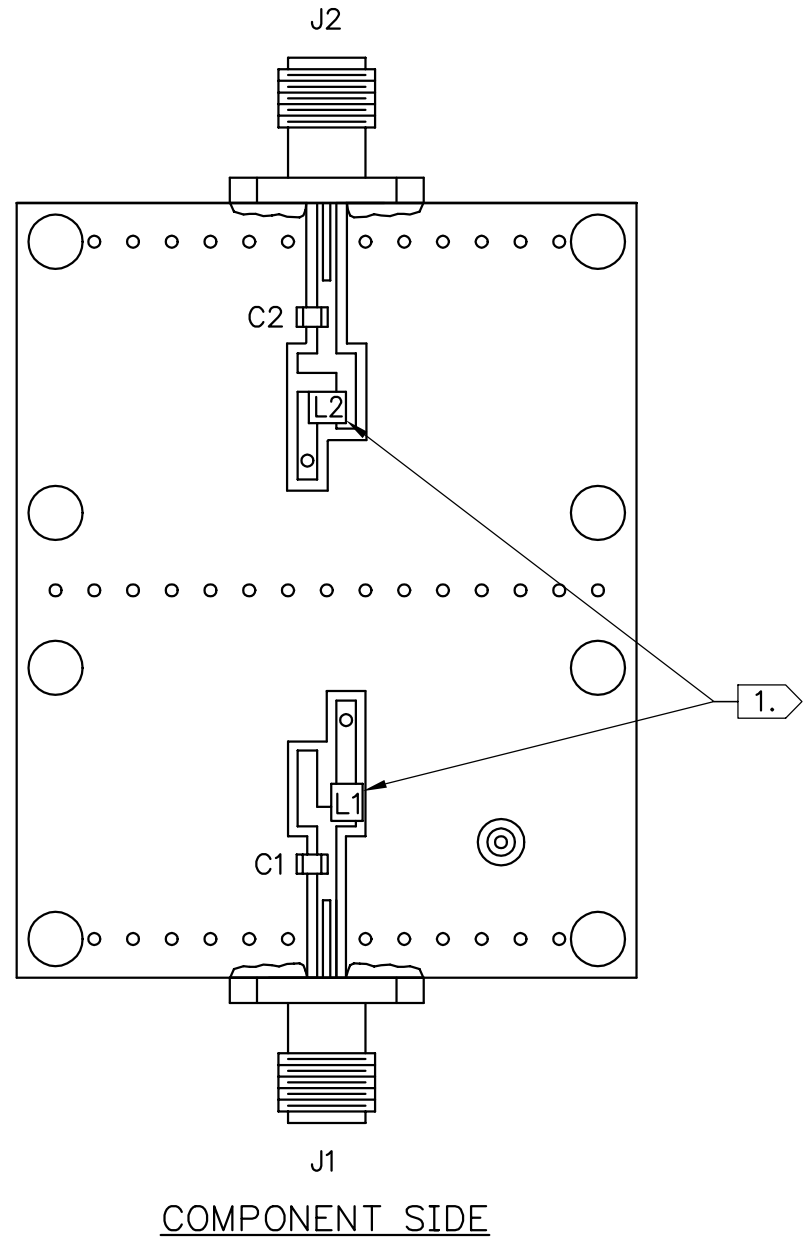
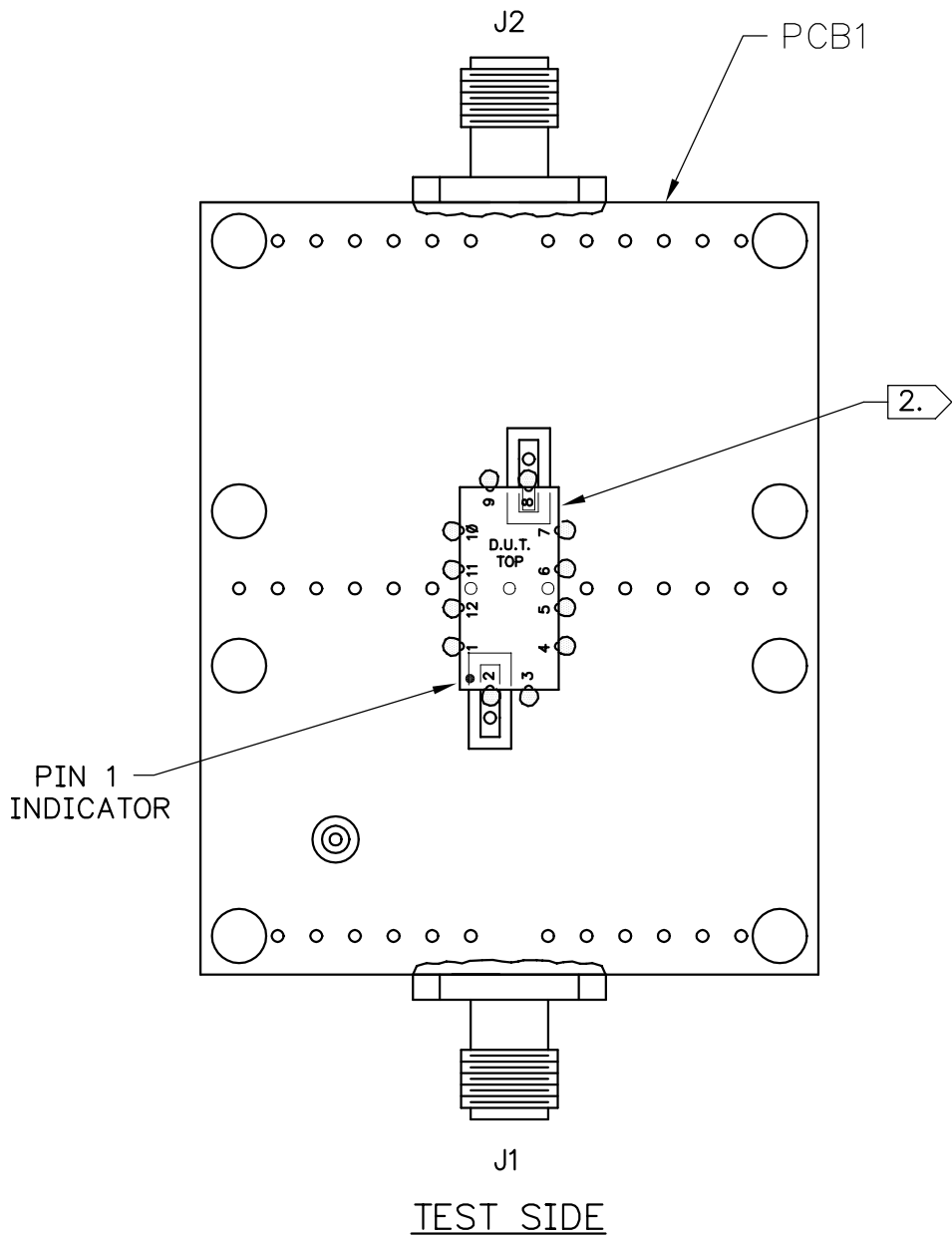
**RF Monolithics, Inc.**  
DALLAS, TEXAS 75244

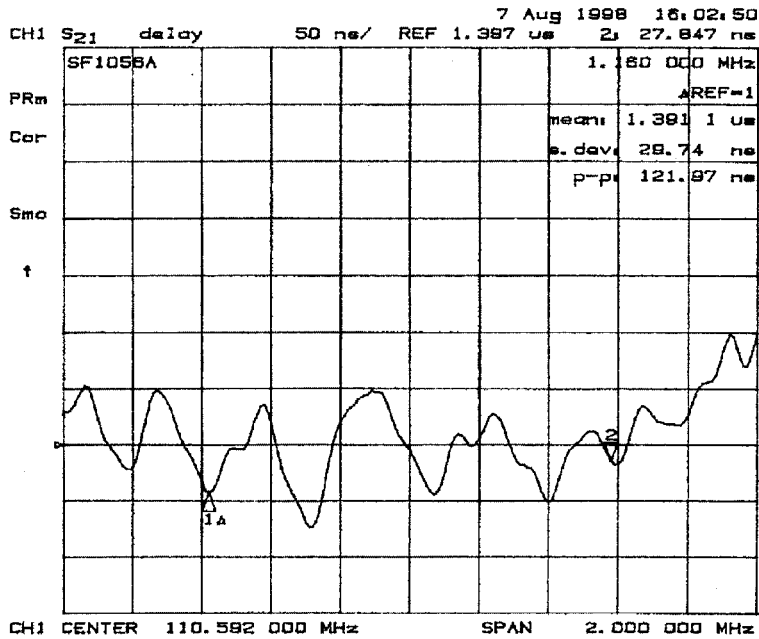
CHECKED/APPROVED

SIZE **A**  
CODE IDENT **2U874**

DWG. NO. SF1056A-000

REV **B** SHEET 1/3

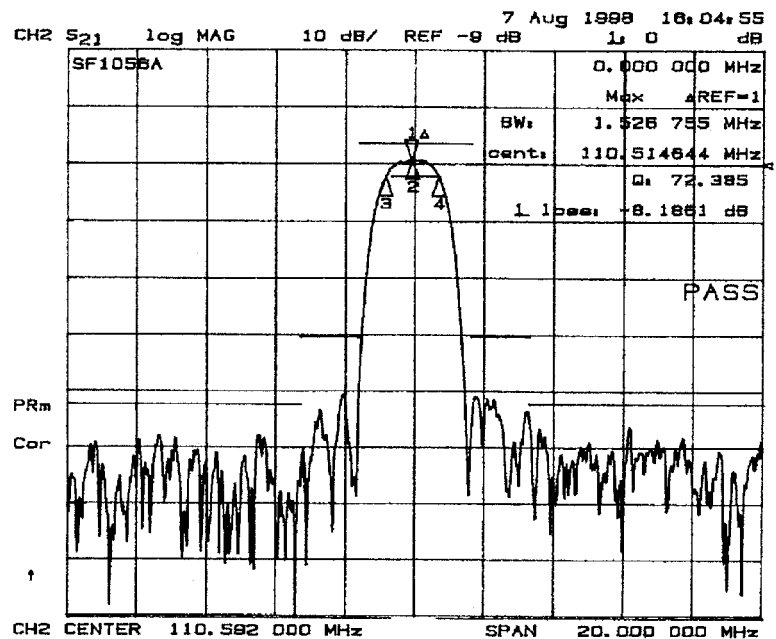
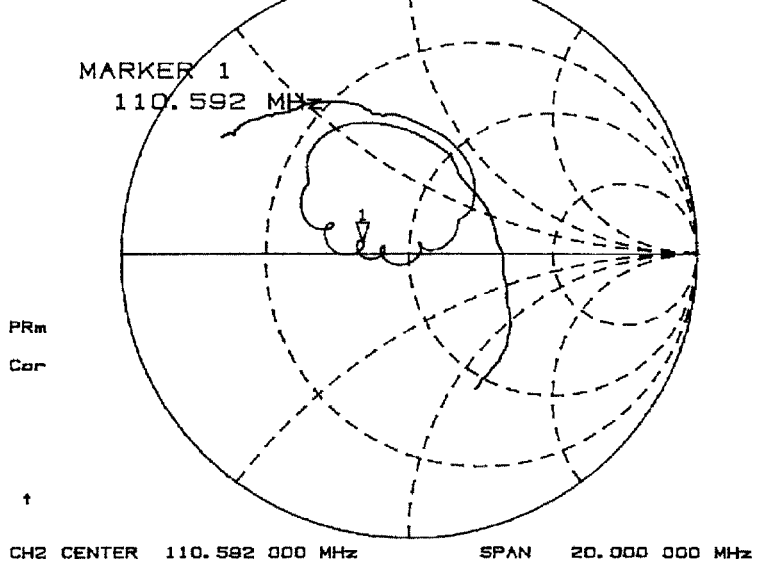




7 Aug 1998 16:06:53

CH2 S11 1 U F5 1: 38.1 n 3.332 n 4.7852 nH

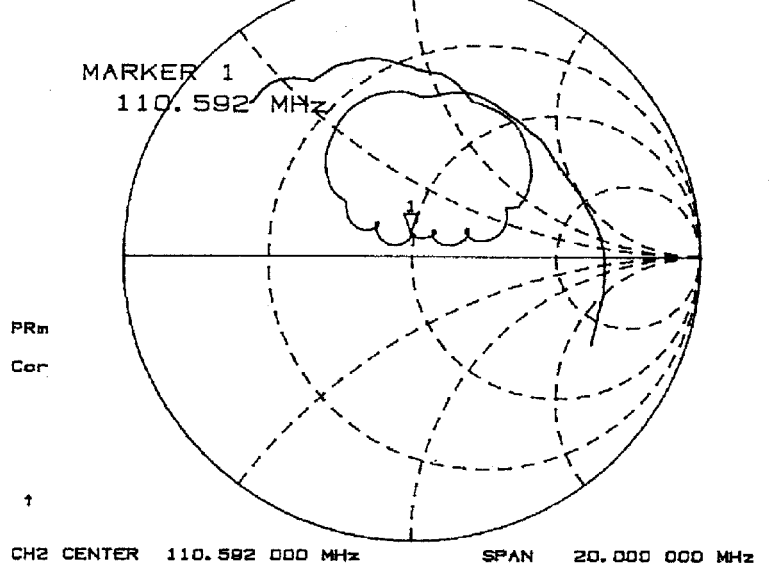
SF1056A 110.592 000 MHz



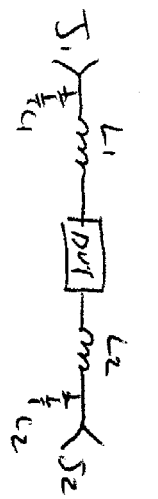
7 Aug 1998 16:08:48

CH2 S22 1 U F5 1: 48.028 n 8.5283 n 12.275 nH

SF1056A 110.592 000 MHz



SF1056A  
Demo #1  
8-7-98  
LP



C1 - 75pF  
C2 - 56pF  
L1 - 47nH  
L2 - 68nH

SF1056A-000 Rev B

## BILL OF MATERIALS

<u>PART IDENTIFIER</u>	<u>DESCRIPTION 1</u>	<u>DESCRIPTION 2</u>	<u>QTY/ASSY</u>	<u>REFERENCE DESCRIPTION</u>
SF1056A-DEMO	DEMO BOARD, SF1056A			
SF1056A-000	ASSY DIGRAM, DEMO BOARD	SF1056A	0	
400-0735-001	PCB, DEMO BOARD, 13.3 X 6.5		1.0000	PCB1
500-0003-750	CAP ,CHIP, NPO, 75 (J), STD		1.0000	C 1
500-0003-560	CAP, CHIP, NPO, 56 (J), STD		1.0000	C 2
500-0010-470	IND, CHIP, 1008CS, 47 NH, 10%		1.0000	L 1
500-0010-680	IND, CHIP, 1008CS, 68 NH, 10%		1.0000	L 2
500-0248-001	CONN,COAX,FLANGE MT.JACK	4 HOLE	2.0000	J 1,2



SIZE

**A**

FSCM NO.

**2U874**

DWG NO.

**SF1056A-DEMO**

SCALE

**NONE**

W/O or ECN

**7202**

REV

**A**

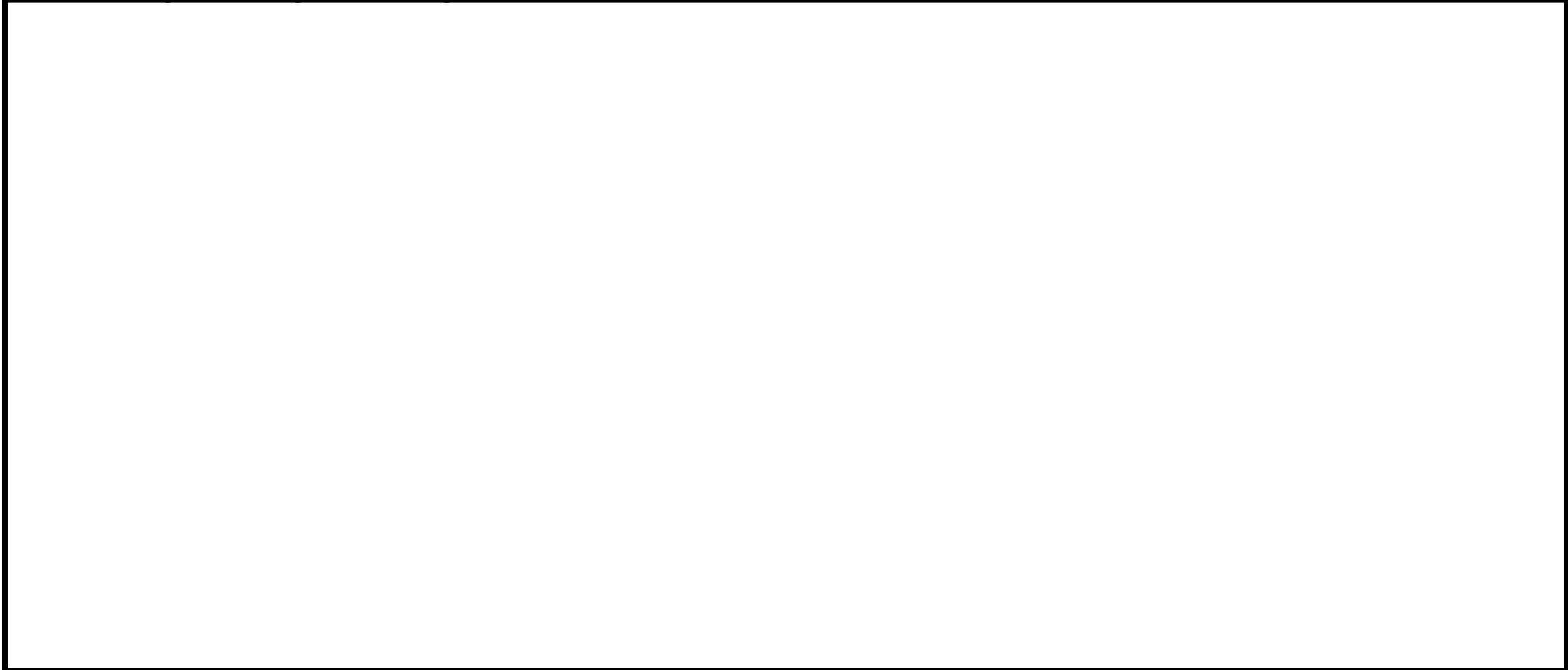
SHEET

**1 OF 2**



**REV HISTORY**

REV	ECN	DATE	DESCRIPTION
A	7202	12/07/98	INITIAL RELEASE



	SIZE <b>A</b>	FSCM NO. <b>2U874</b>	DWG NO. <b>SF1056A-DEMO</b>	
	SCALE <b>NONE</b>	W/O or ECN <b>7202</b>	REV <b>A</b>	SHEET <b>2</b> OF <b>2</b>