



- 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)

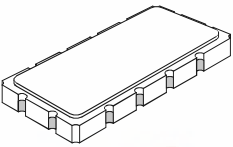


Absolute Maximum Ratings

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	

SF1056A

110.592 MHz
SAW Filter



SM13365-12

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 Group Delay Variation over $f_c \pm 576$ kHz	IL	1, 2		8.5	10.0	dB
	BW_3		± 576	± 750		kHz
	GDV			<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 Ω 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

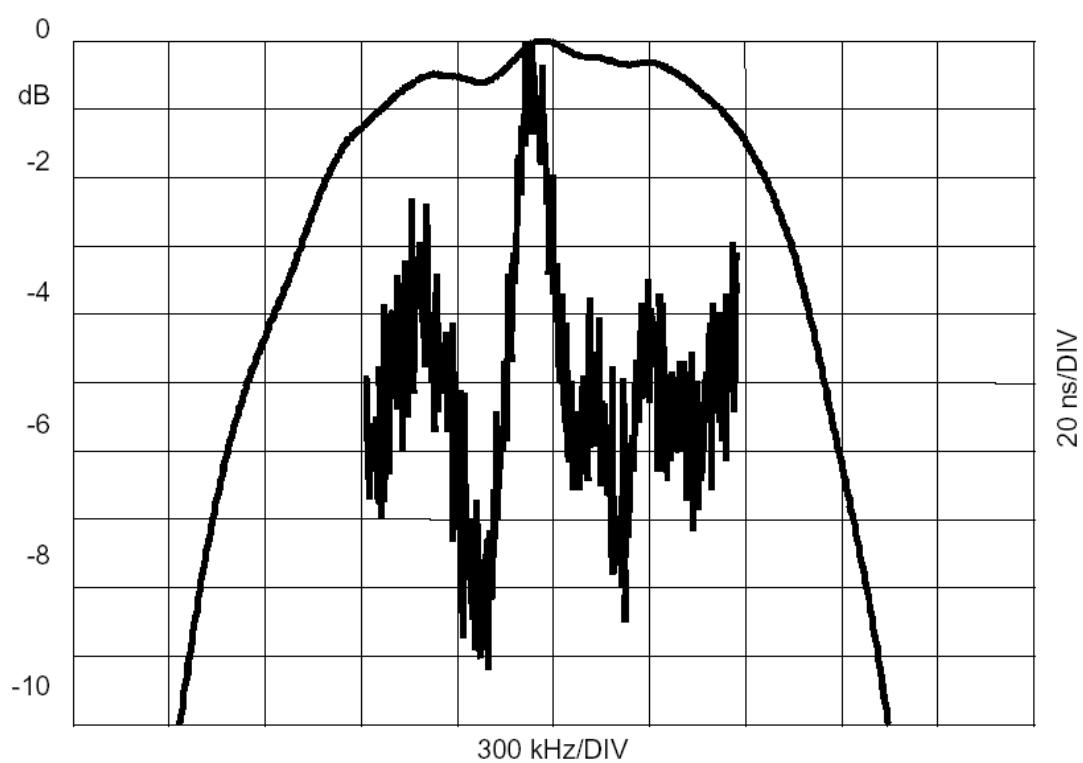
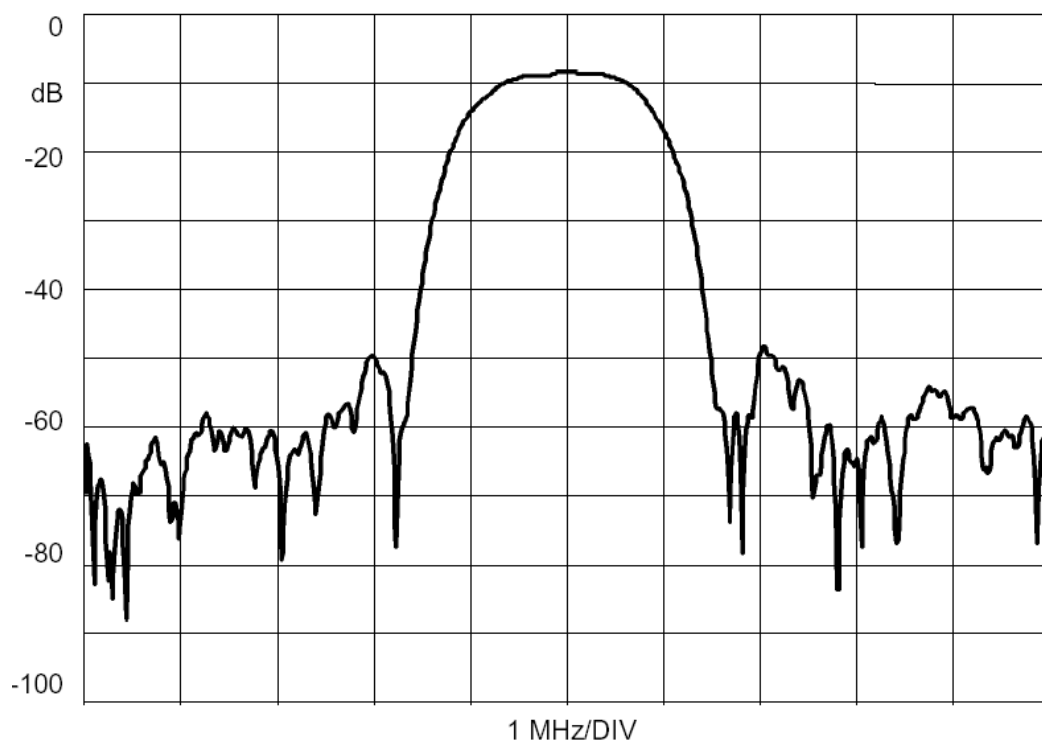
Notes:

- 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.
- Unless noted otherwise, all frequency specifications are referenced to the nominal center frequency, f_c .
- 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.
- "LRIP" or "L" after the part number indicates "low rate initial production" and "ENG" or "E" indicates "engineering prototypes."
- The design, manufacturing process, and specifications of this filter are subject to change.
- 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.
- US and international patents may apply.
- RFM, stylized RFM logo, and RF Monolithics, Inc. are registered trademarks of RF Monolithics, Inc.
- ©Copyright 1999, RF Monolithics Inc.
- Electrostatic Sensitive Device. Observe precautions for handling.



110.592 MHz

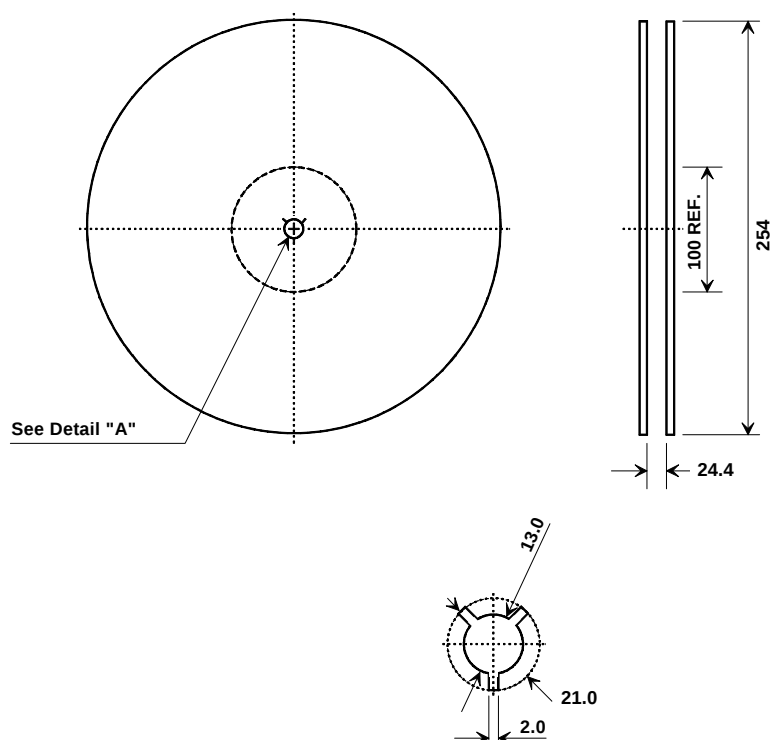
SAW Filter



110.592 MHz

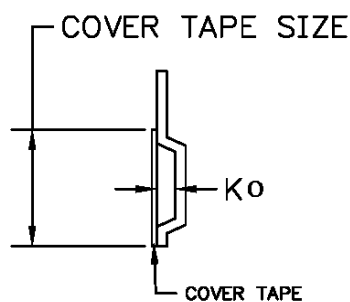
SAW Filter

Tape and Reel Specifications

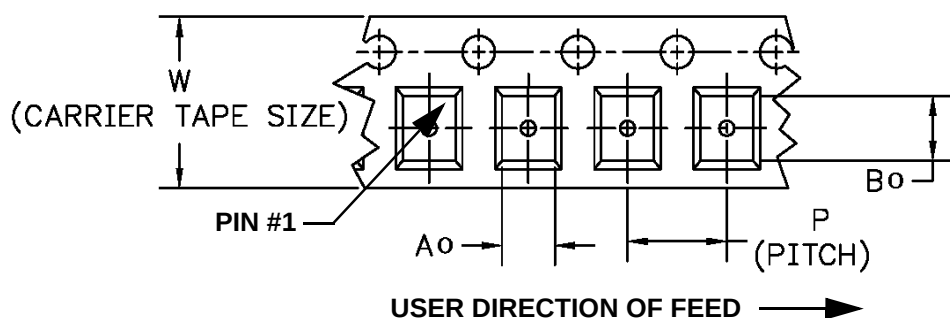


Quantity Per Reel
100 Min
1000 Max

COMPONENT ORIENTATION and DIMENSIONS



Carrier Tape Dimensions	
Ao	7.0 mm
Bo	13.8 mm
Ko	2.0 mm
Pitch	12.0 mm
W	24.0 mm

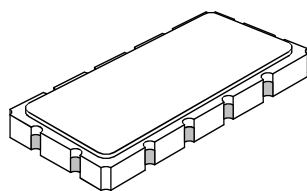


110.592 MHz

SAW Filter

SM13365-12 Case

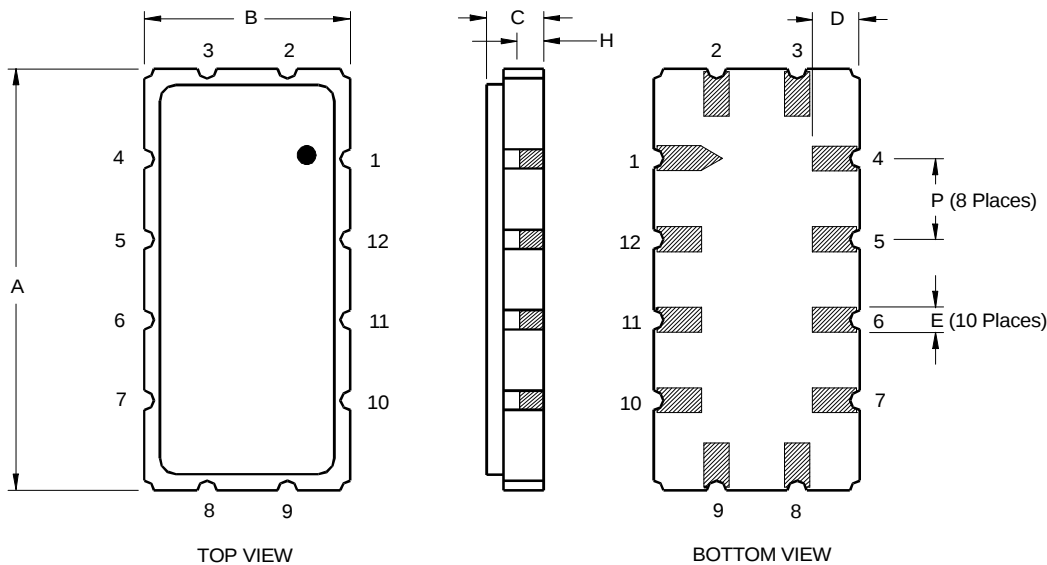
12-Terminal Ceramic Surface-Mount Case
13.3 x 6.5 mm Nominal Footprint



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

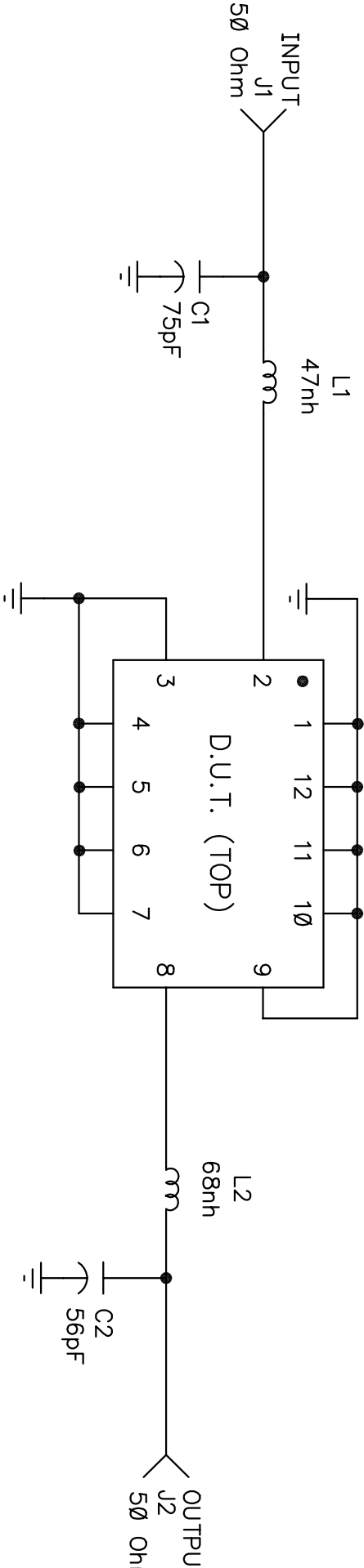
Electrical Connections		
Connection		Terminals
Port 1	Input or Return	2
	Return or Input	3
Port 2	Output or Return	8
	Return or Output	9
	Ground	All others
Single Ended Operation		Return is ground
Differential Operation		Return is hot



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

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.



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

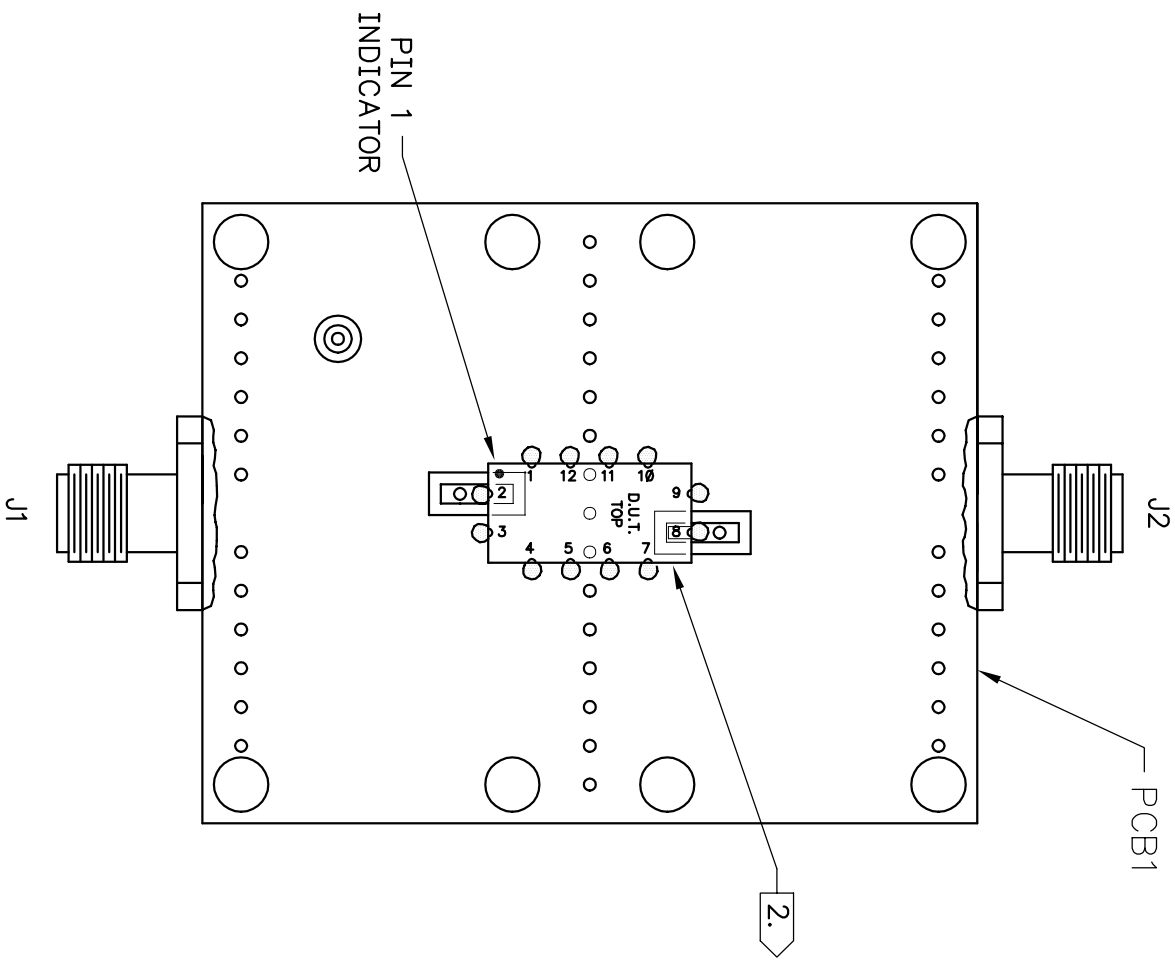
REV

B

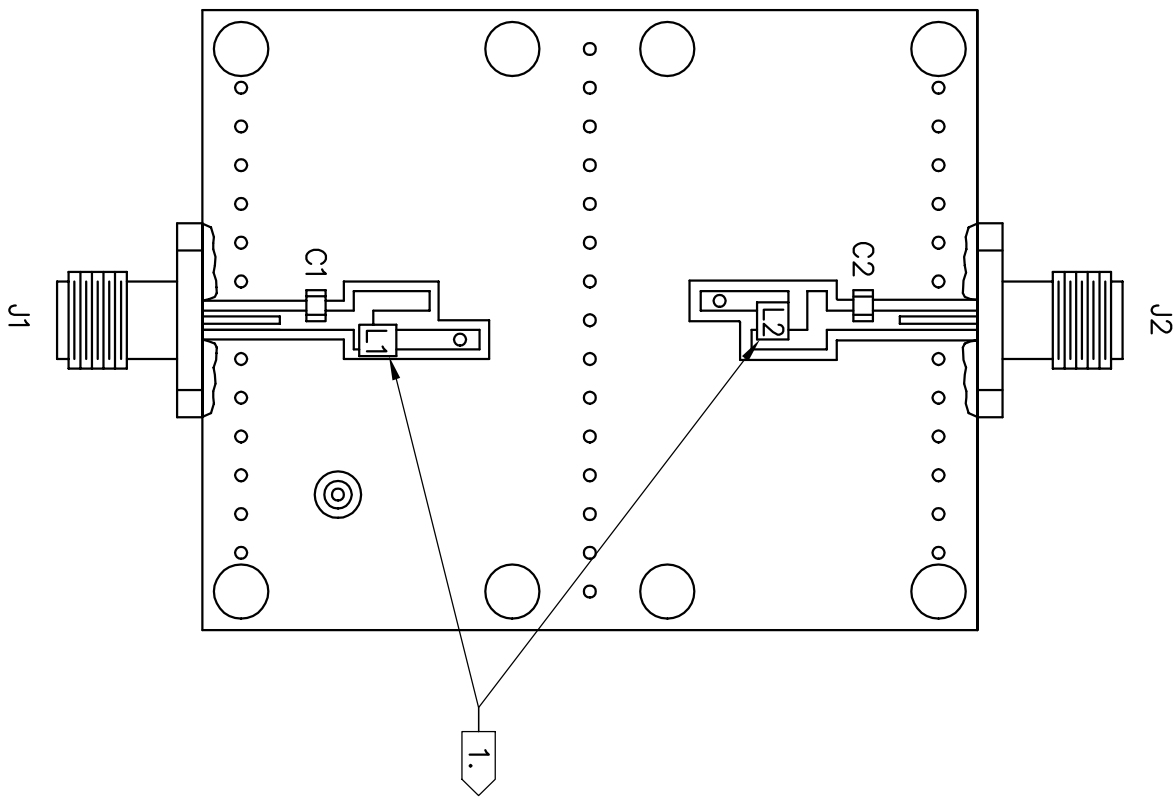
SHEET

1 /

TEST SIDE

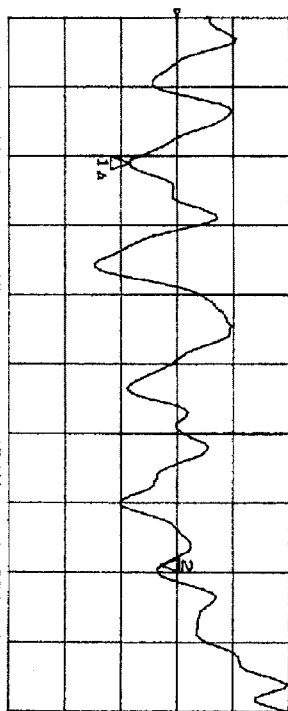


COMPONENT SIDE



CH1 S21 delay 50 ne/ REF 1.387 us 2.27.847 ne

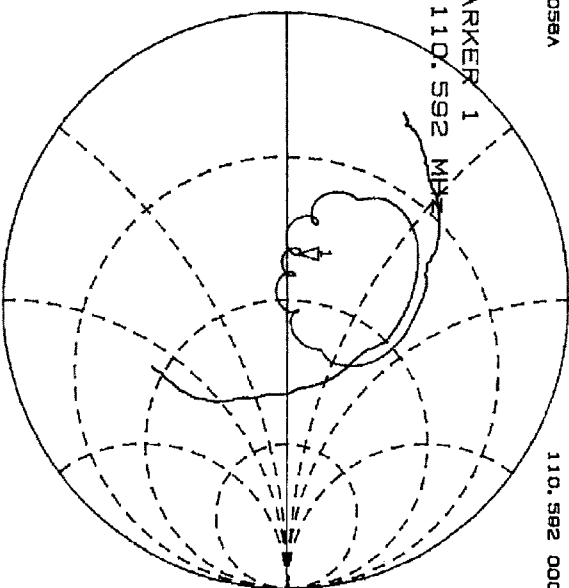
SF1056A		1.160 000 MHz	AREF=1
PRm		mean 1.381 1 us	
Cor		a.dav 28.74 ne	
Smo		P-P 121.97 ne	



CH1 CENTER 110.592 000 MHz SPAN 2.000 000 MHz

CH2 S11 1 U FS 1u 36.1 n 7 Aug 1998 16.06.53
SF1056A 3.332 n 4.7852 nH 110.592 000 MHz

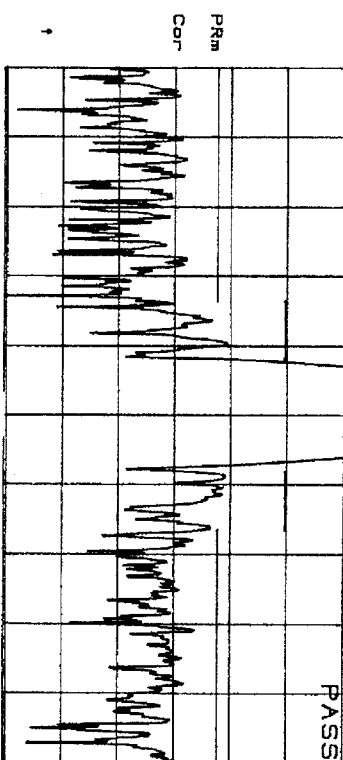
MARKER 1
110.592 MHz



CH2 CENTER 110.592 000 MHz SPAN 20.000 000 MHz

CH2 S21 log MAG 10 dB/ REF -9 dB 7 Aug 1998 16.04.55

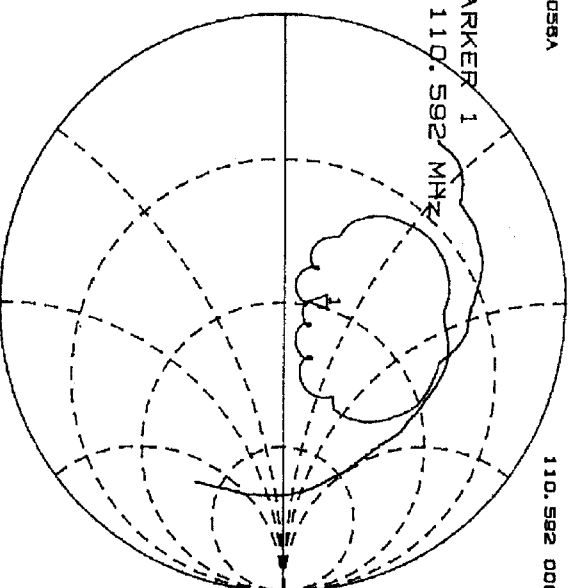
SF1056A		0.000 000 MHz	Max AREF=1
PRm		BW 1.528 755 MHz	
Cor		cents 110.51464 MHz	
		di 72.385	
		1.1psec 18.1851 dB	



CH2 CENTER 110.592 000 MHz SPAN 20.000 000 MHz

CH2 S22 1 U FS 1u 48.028 n 7 Aug 1998 16.08.48
SF1056A 8.5283 n 12.275 nH 110.592 000 MHz

MARKER 1
110.592 MHz



CH2 CENTER 110.592 000 MHz SPAN 20.000 000 MHz

SF1056A-000 Rev B

SF1056A

Rev B

8-7

1

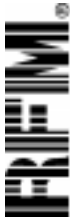
5.1/1

2

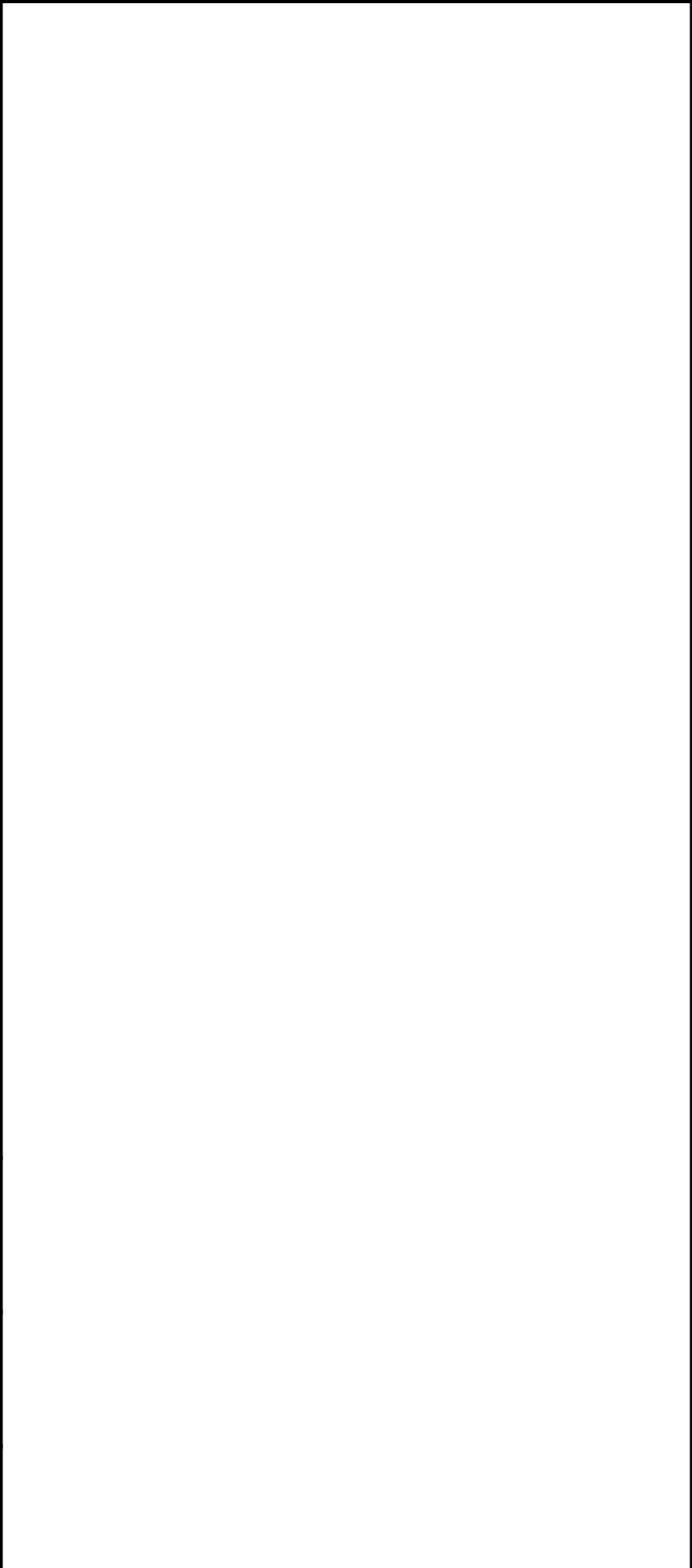
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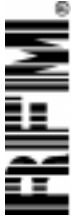
BILL OF MATERIALS

<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	FSCM NO.	DWG NO.		
		A	2U874	SF1056A-DEMO		
		W/O or ECN		REV	SHEET	
SCALE	NONE	7202		A	1	OF 2

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



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