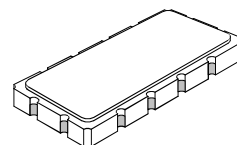




- **Designed for DECT and WLAN IF Applications**
- **Low Insertion Loss**
- **Excellent Size-to-Performance Ratio**
- **Hermetic 13.3 X 6.5 mm Surface-Mount Case**
- **Unbalanced Input and Output**
- **Complies with Directive 2002/95/EC (RoHS)**

**SF1056A****110.592 MHz
SAW Filter****SM13365-12****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 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

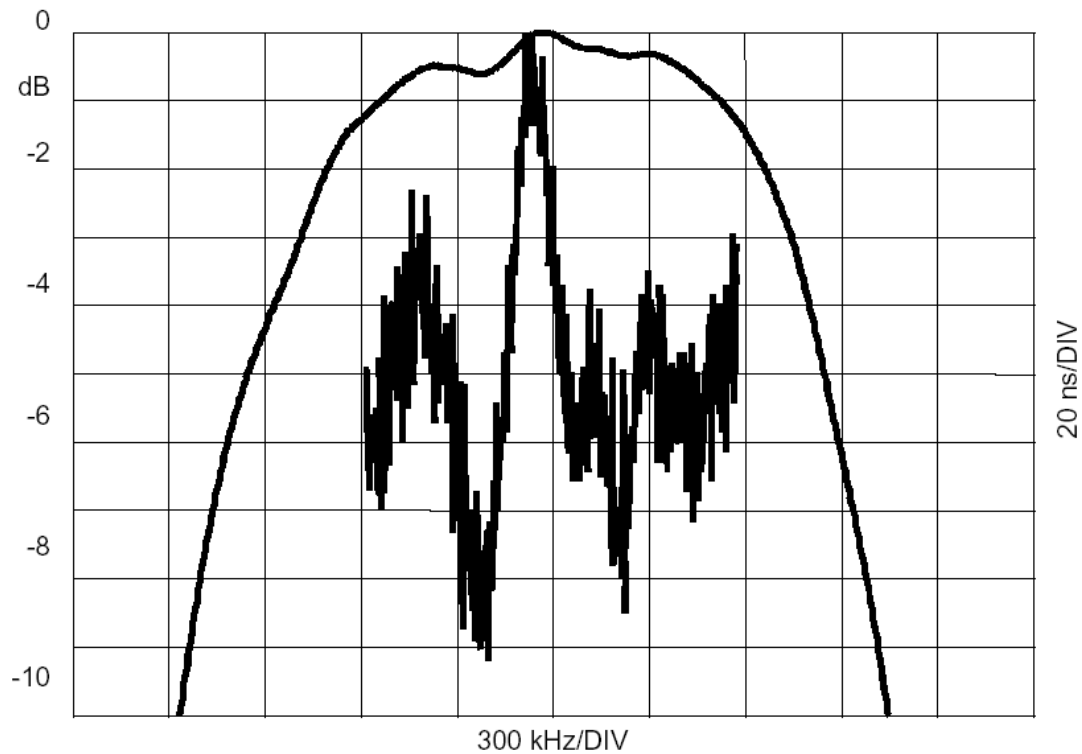
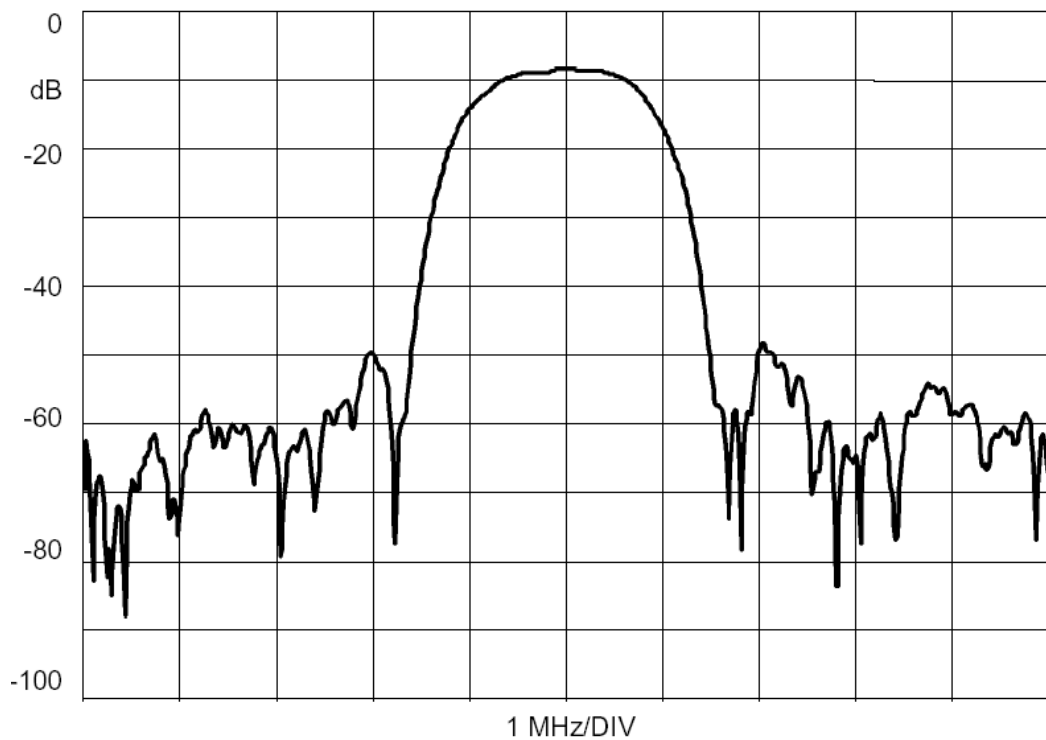
Electrical Connections

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

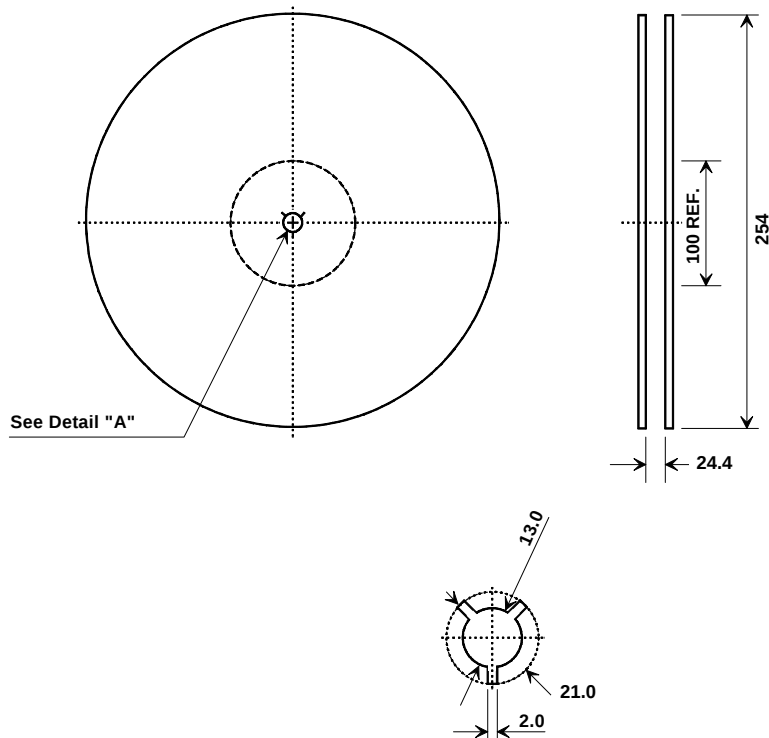
Notes:

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. "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.





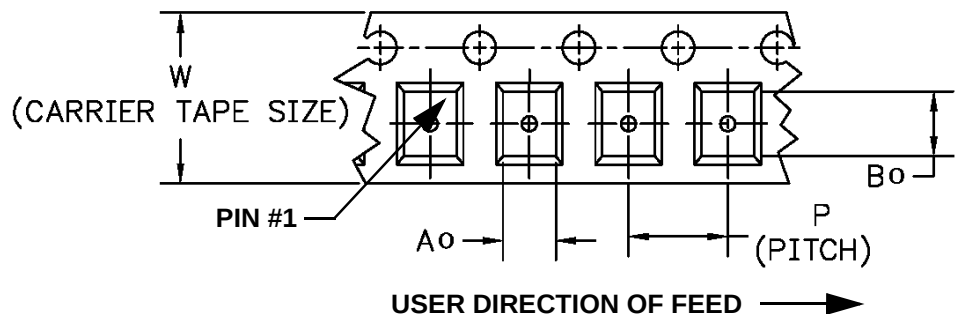
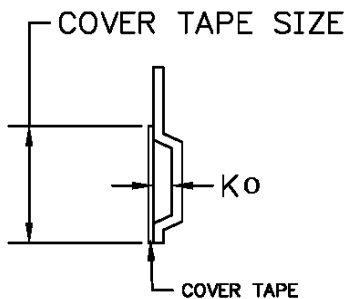
Tape and Reel Specifications



Quantity Per Reel	
100 Min	
1000 Max	

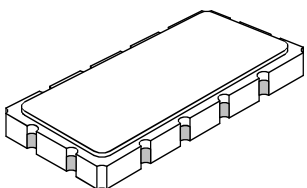
COMPONENT ORIENTATION and DIMENSIONS

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



SM13365-12 Case

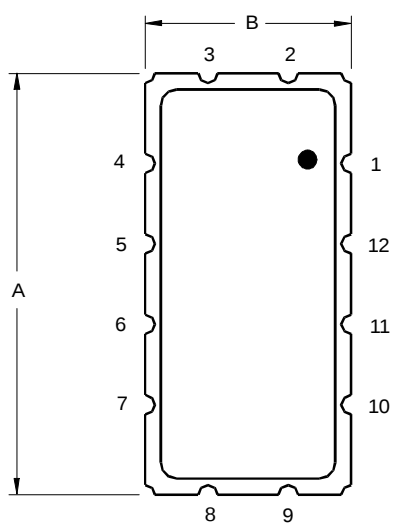
12-Terminal Ceramic Surface-Mount Case
13.3 x 6.5 mm Nominal Footprint



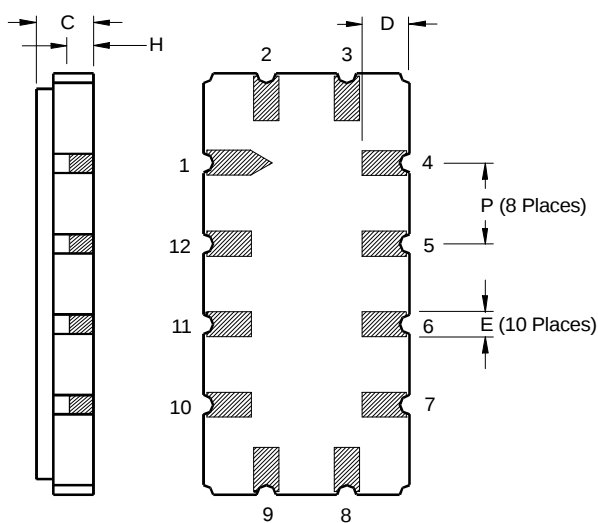
Case Dimensions						
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	13.08	13.31	13.60	0.515	0.524	0.535
B	6.27	6.50	6.80	0.247	0.256	0.268
C		1.91	2.00		0.075	0.079
D		1.50			0.059	
E		0.79			0.031	
H		1.0			0.039	
P		2.54			0.100	

Materials	
Solder Pad Termination	Au plating 30 - 60 μ inches (76.2-152 μ m) over 80-200 μ inches (203-508 μ m) Ni.
Lid	Fe-Ni-Co Alloy Electroless Nickel Plate (8-11% Phosphorus) 100-200 μ inches 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



TOP VIEW



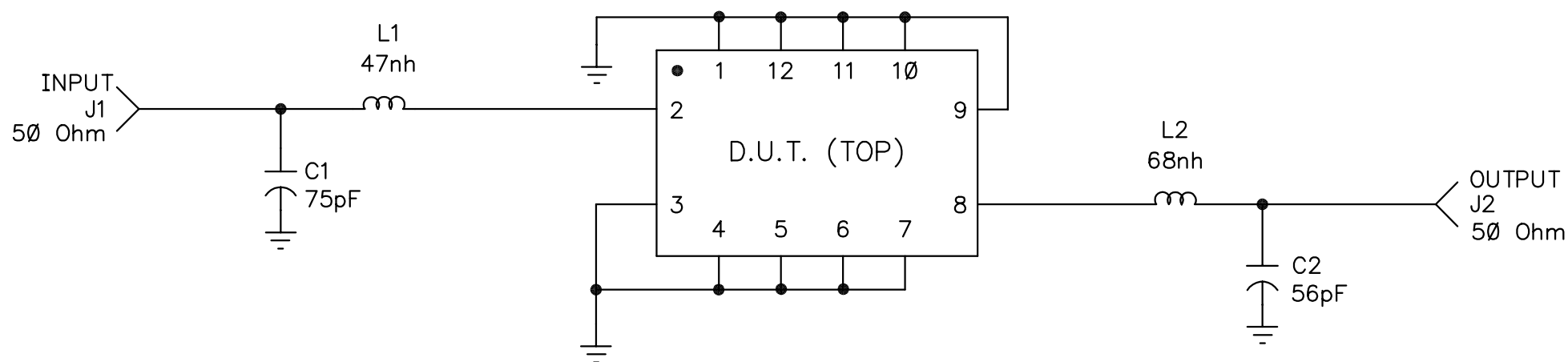
BOTTOM VIEW

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

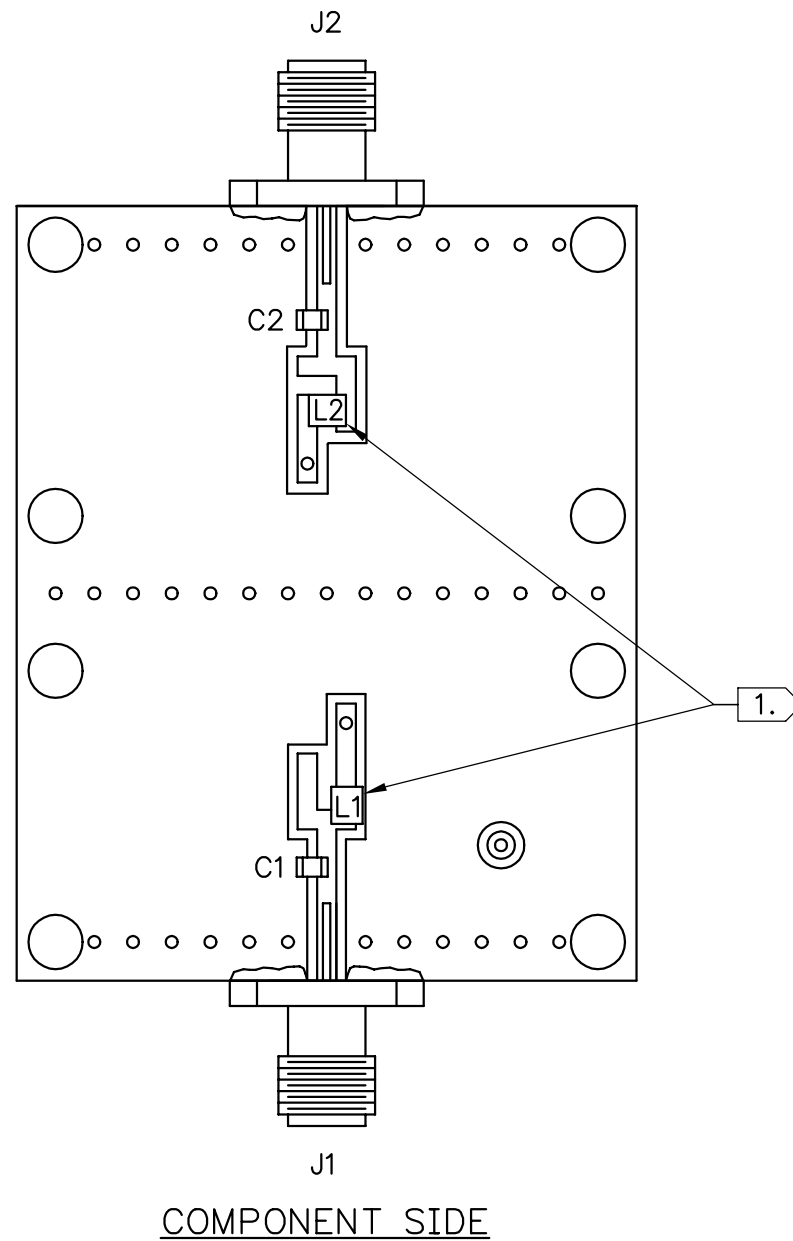
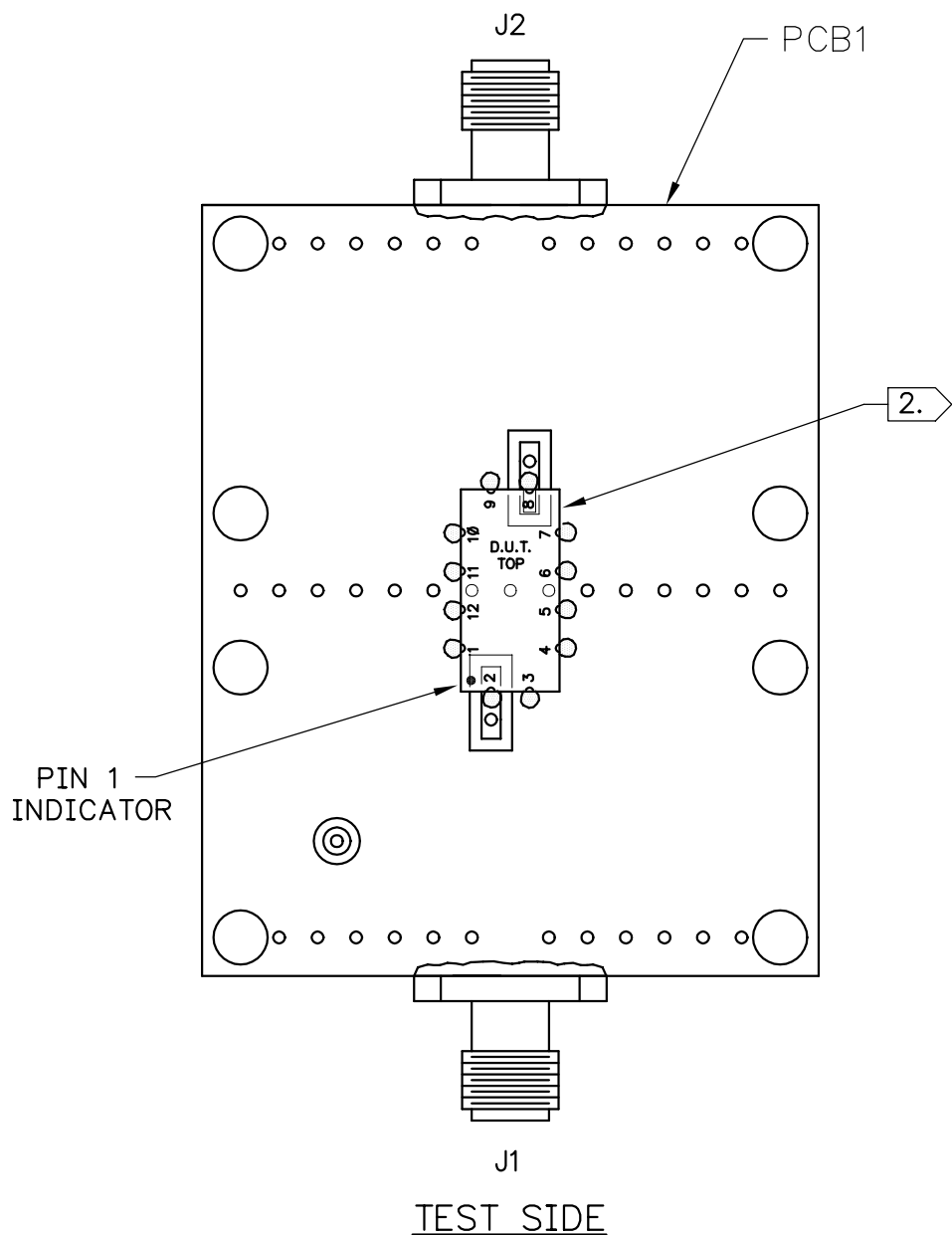
SIZE
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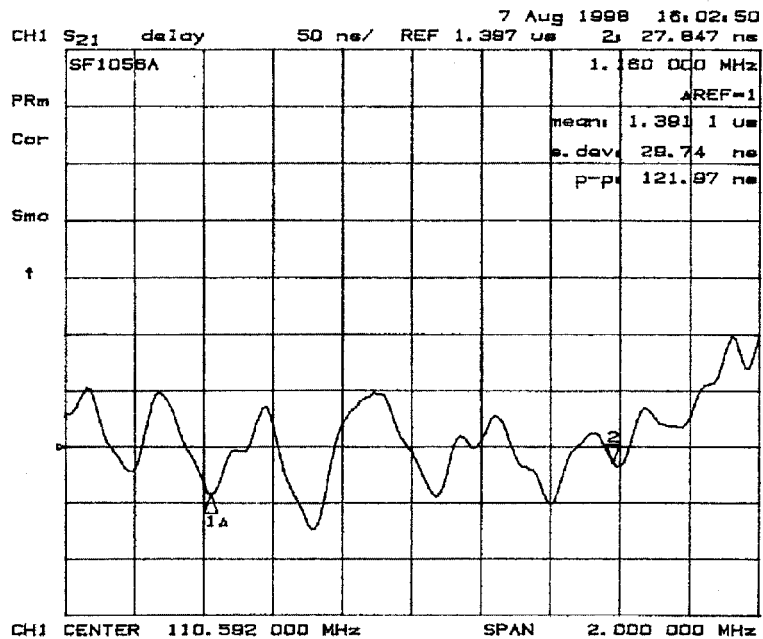
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2U874

DWG. NO. SF1056A-000

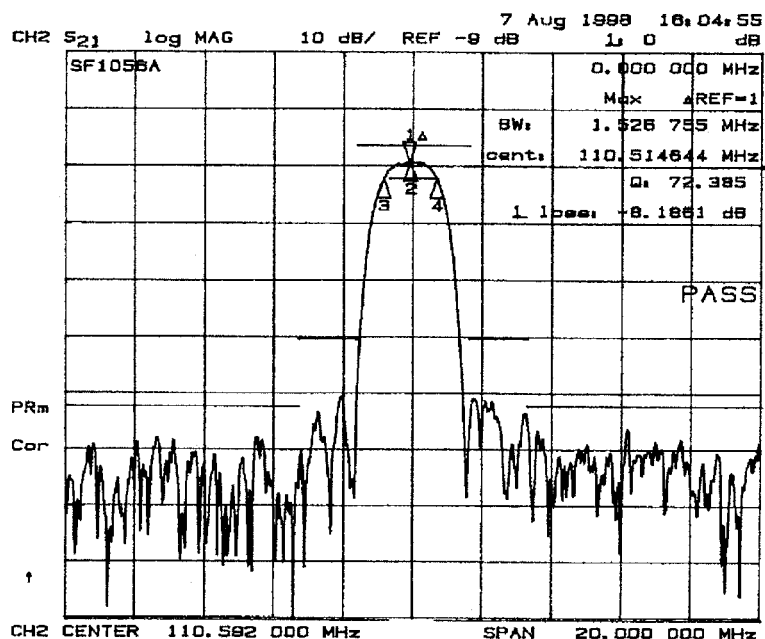
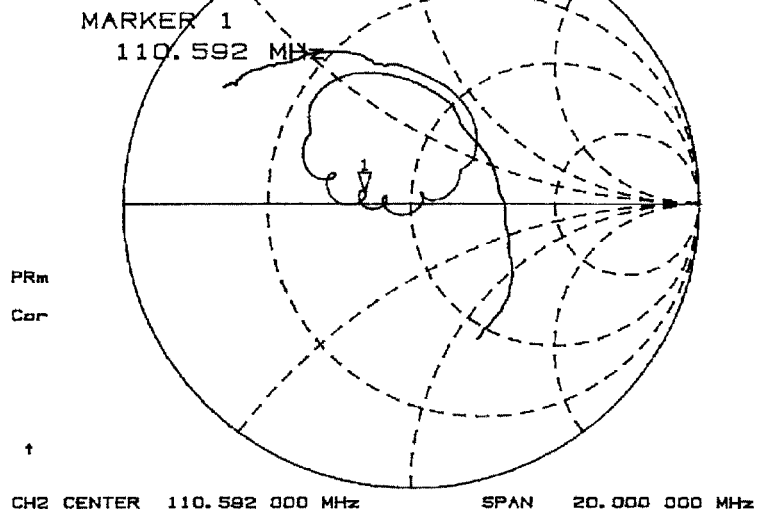
REV
B

SHEET
1/3

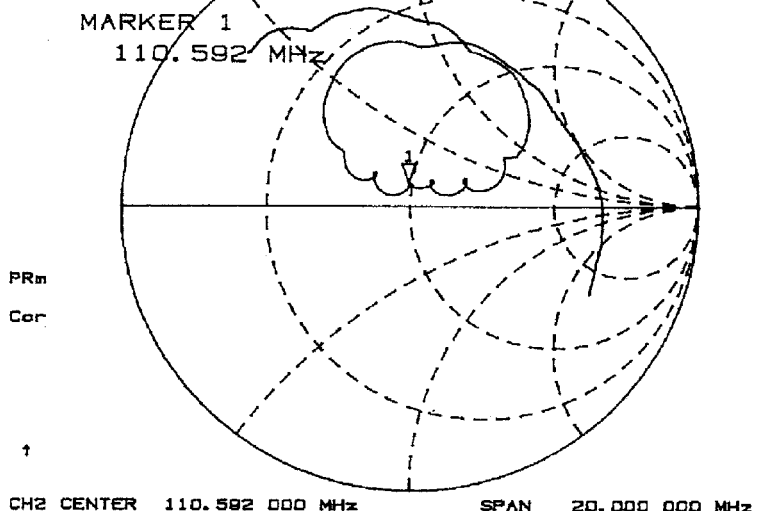




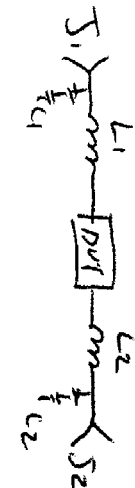
7 Aug 1998 16:06:53
CH2 S₁₁ 1 U F5 1: 36.1 n 3.332 n 4.7852 nH
SF1056A 110.592 000 MHz



7 Aug 1998 16:08:48
CH2 S₂₂ 1 U F5 1: 49.029 n 8.5263 n 12.275 nH
SF1056A 110.592 000 MHz



SF1056A
Demo #1
8-7-98
LP



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

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

1OF **2**

