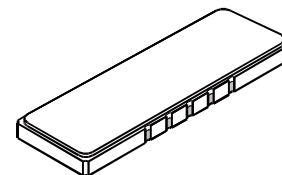




- **Designed for GSM PCS Receiver IF Applications**
- **Simple External Impedance Matching**
- **Hermetic SMP-87 Surface-Mount Case**
- **Unbalanced Input and Output**
- **Complies with Directive 2002/95/EC (RoHS)**

**SF1062A****211.0 MHz
SAW Filter****SMP-87****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	211.000			MHz
Passband Insertion Loss at f_c	IL	1, 2		6	9.0	dB
1.5 dB Passband	$BW_{1.5}$		±50			kHz
2 dB Passband	BW_2		±80			
3 dB Passband	BW_3		±100	±135		
Amplitude Ripple over $f_c \pm 50$ kHz					1.5	dB _{p-p}
Group Delay Variation over $f_c \pm 50$ kHz	GDV			200	500	ns _{p-p}
Absolute Group Delay	GD			2.6		µs
Rejection $f_c - 400$ to $f_c - 200$ and $f_c + 200$ to $f_c + 400$ MHz		1, 2, 3	5			dB
$f_c - 600$ to $f_c - 400$ and $f_c + 400$ to $f_c + 600$ MHz			25			
$f_c - 800$ to $f_c - 600$ and $f_c + 600$ to $f_c + 800$ MHz			30	35		
191 MHz to $f_c - 800$ kHz and $f_c + 800$ kHz to 231 MHz			35	45		
Operating Temperature Range	T_A	1	-40		+85	°C

Impedance Matching to 50 Ω unbalanced	External L-C
Case Style	SMP-87 22.1 X 8 mm Nominal Footprint
Lid Symbolization (YY=year, WW=week)	RFM SF1062A 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

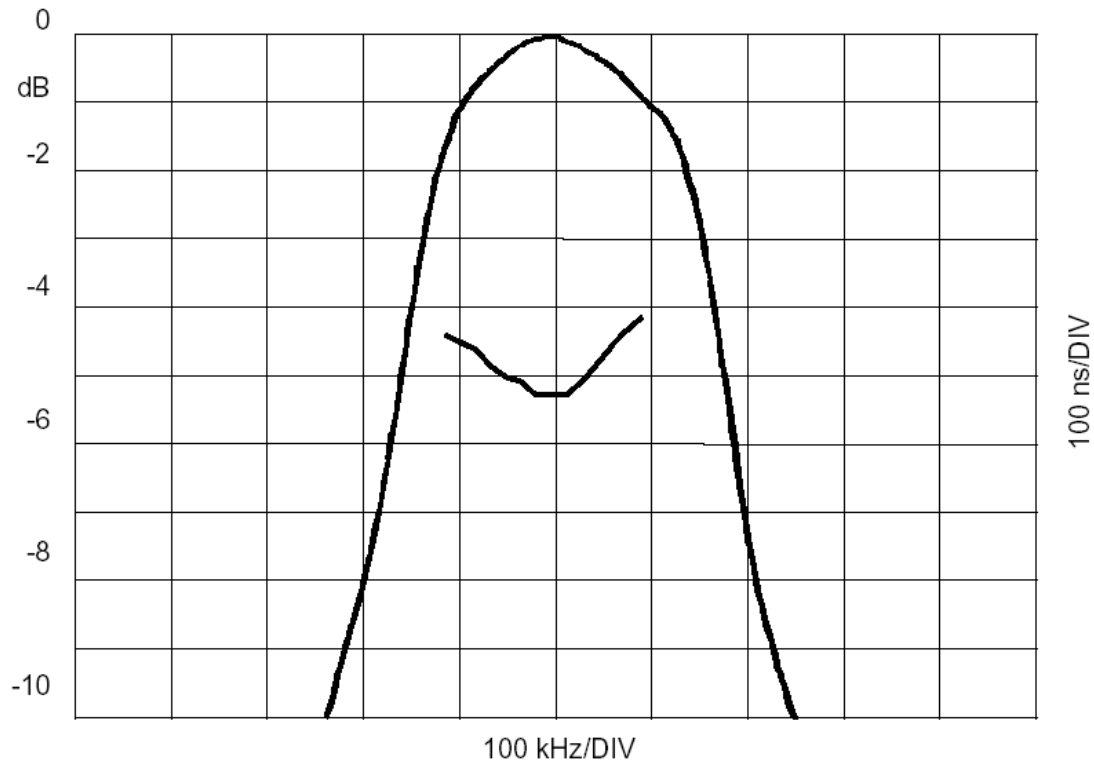
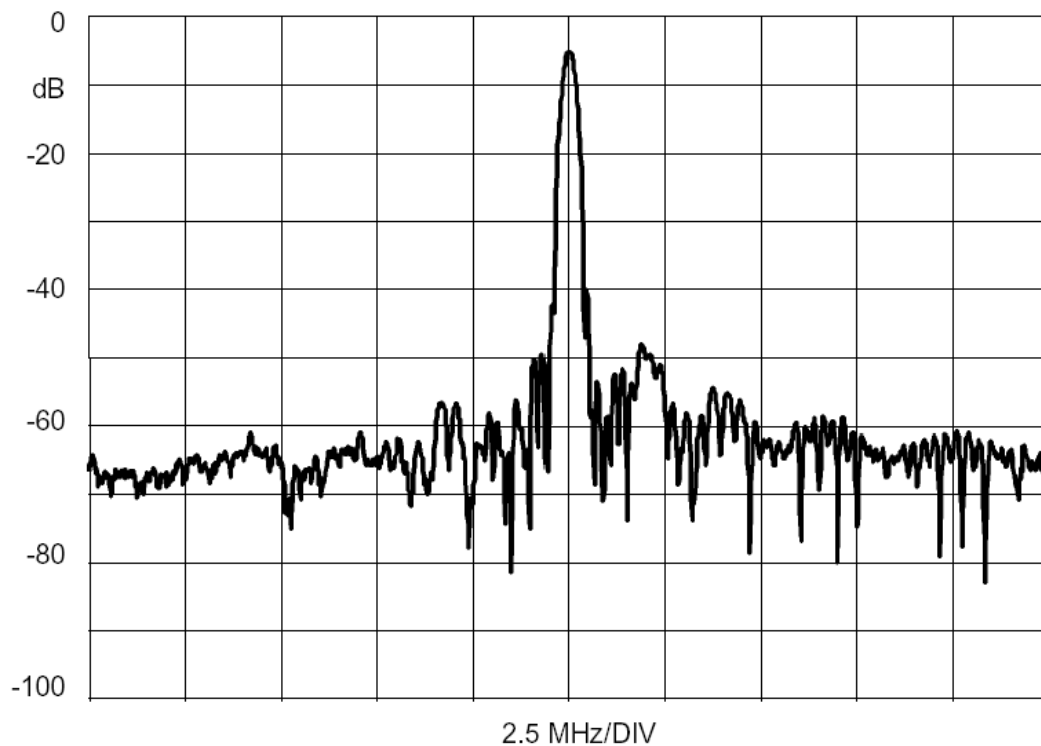
Notes:

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



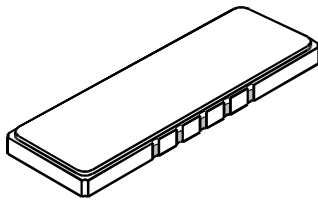
211.00 MHz

SAW Filter



SMP-87 Case

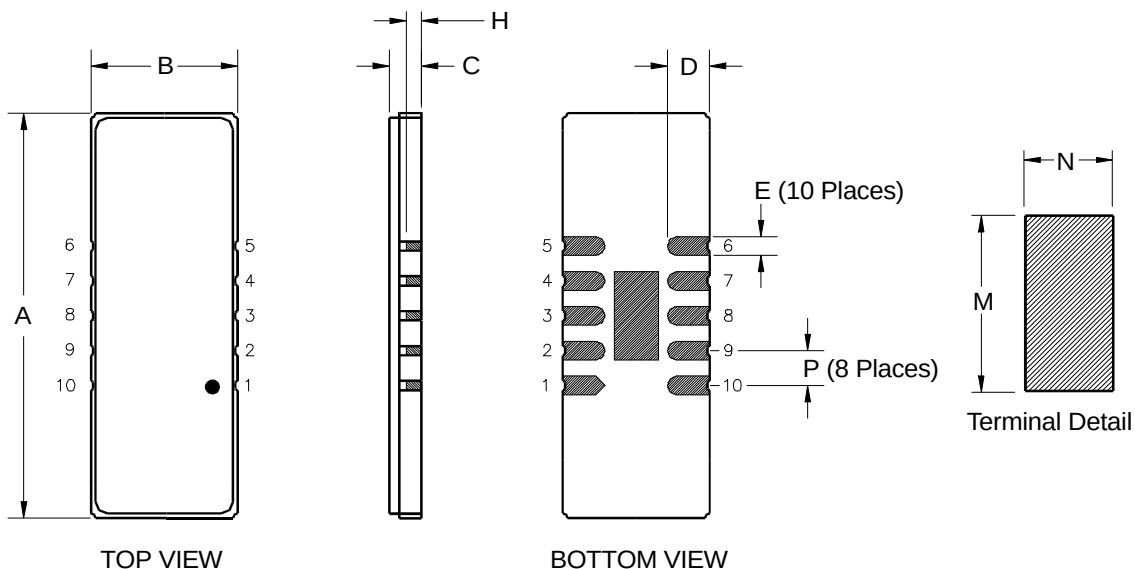
10-Terminal Ceramic Surface-Mount Case
22.1 x 8 mm Nominal Footprint



Case Dimensions						
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	21.90	22.10	22.40	0.862	0.870	0.882
B	7.80	8.00	8.30	0.307	0.315	0.327
C		1.78	2.00		0.070	0.079
D		2.29			0.090	
E		1.02			0.040	
H		1.0			0.039	
M		4.83			0.190	
N		2.41			0.095	
P		1.905			0.075	

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	

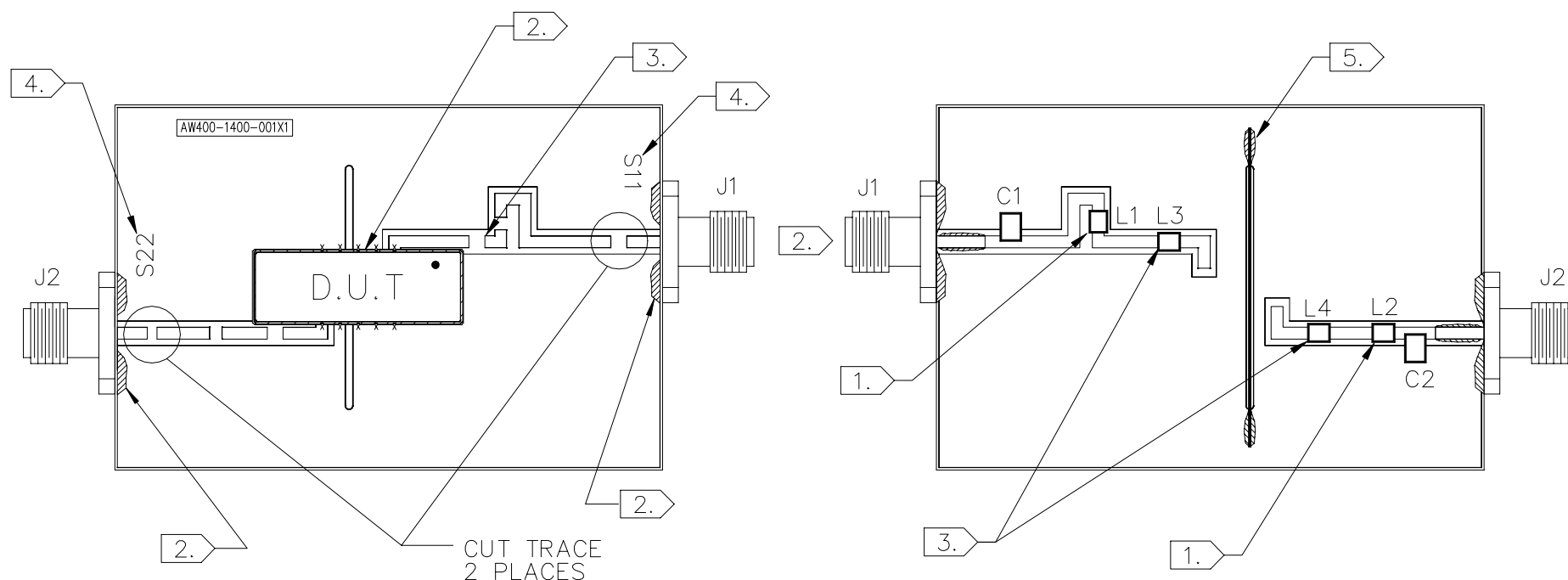
Electrical Connections		
Connection		Terminals
Port 1	Input or Return	10
	Return or Input	1
Port 2	Output or Return	5
	Return or Output	6
Ground		All others
Single Ended Operation		Return is ground
Differential Operation		Return is hot



NOTES:

1. NOTE PROPER ORIENTATION OF INDUCTORS L1 & L4. THEY ARE TO BE POSITIONED 90° TO EACH OTHER.
2. SOLDER SURFACE MOUNT PACKAGE TO TEST SIDE OF PCB. SOLDER 10 PLACES AND CONNECTORS AS SHOWN.
3. CUT TRACES ON BOTH SIDES OF THE PCB BETWEEN THE SAME HOLES TO PROVIDE GAP FOR L3 & L4.
4. LABEL BOARD USING ELECTRONIC METHOD.
5. CUT SHIELD TAB SO THAT IT IS EVEN WITH TEST SIDE. SOLDER AS SHOWN.

REV	ECN NO.	DESCRIPTION	DATE
A	7387	INITIAL RELEASE	12jan99



DRAWN BY/DATE: L. ASHMORE 11 JAN 99

TITLE: ASSEMBLY DIAGRAM, SF1062A-DEMO

RF Monolithics, Inc.
DALLAS, TEXAS 75244

CHECKED/APPROVED

SIZE
A

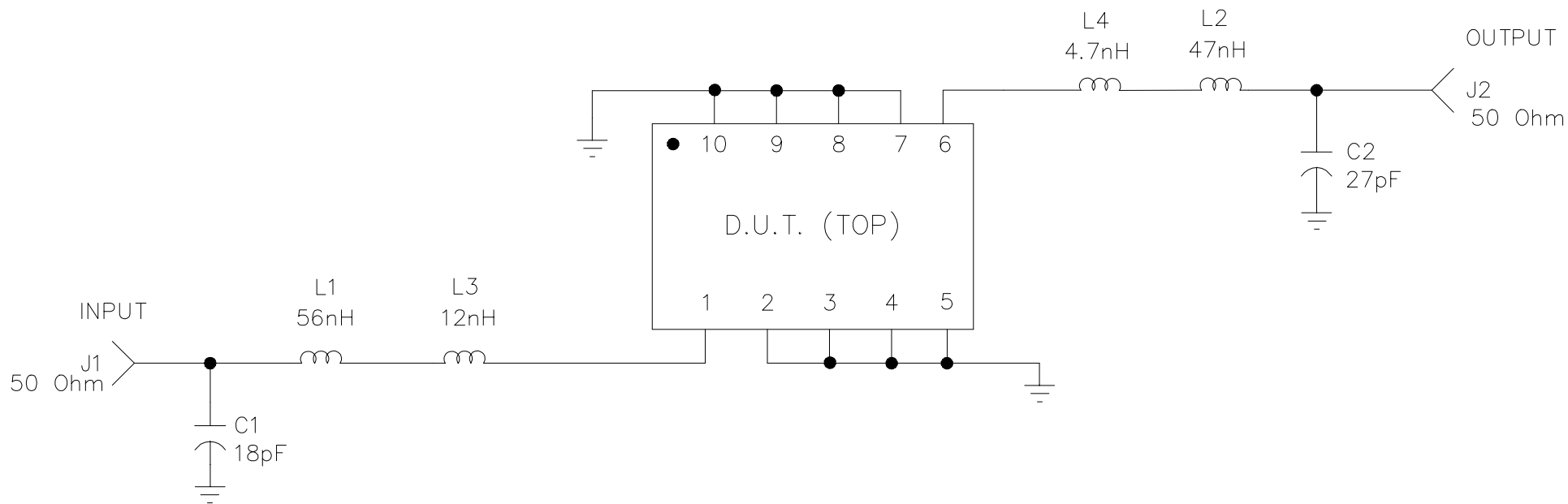
CODE IDENT
2U874

DWG.
NO.

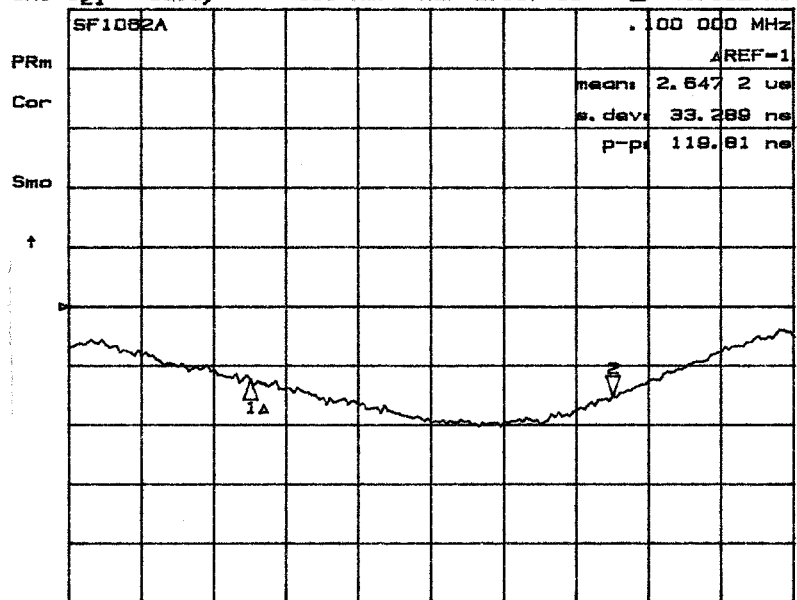
SF1062A-000

REV
A

SHEET
1/3

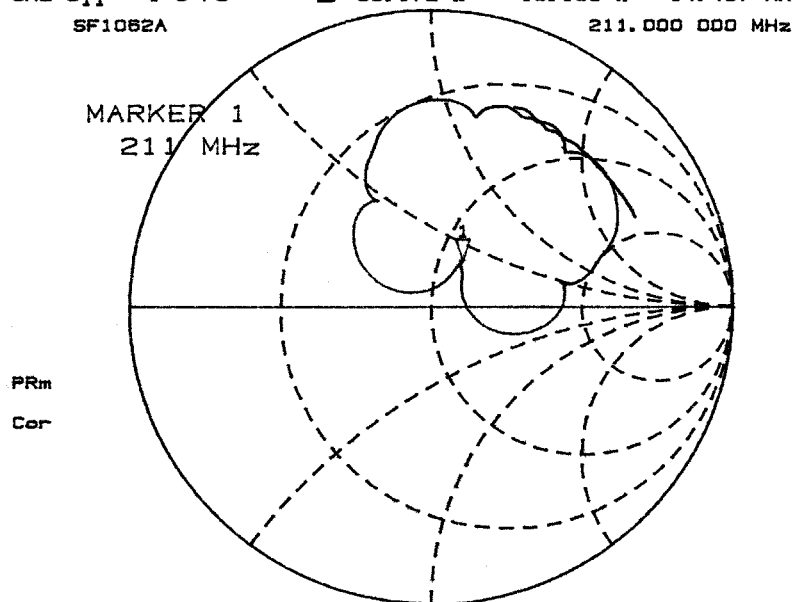


11 Nov 1998 14:33:02
CH1 S21 delay 150 ns/ REF 2.907 us 2 -41.962 ns



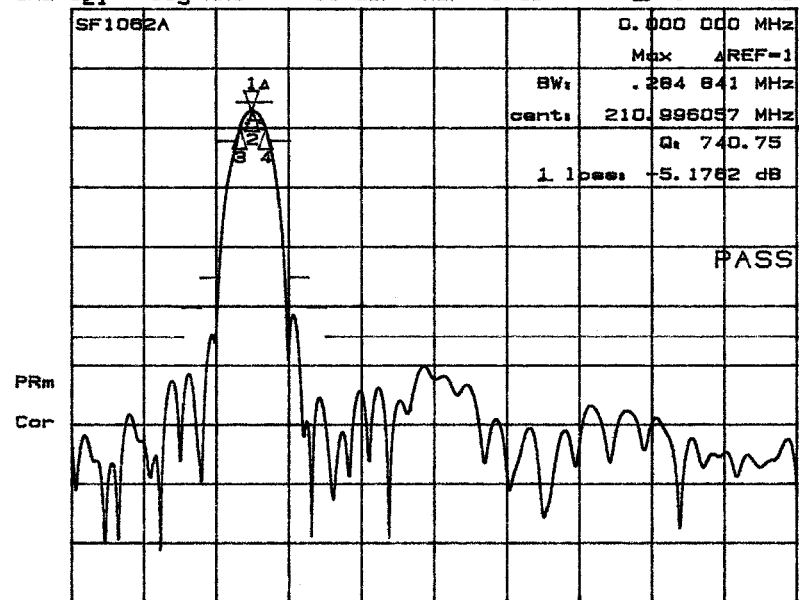
CH1 CENTER 211.000 000 MHz SPAN .200 000 MHz

11 Nov 1998 14:37:27
CH2 S11 1 U FS 1 58.172 n 19.166 n 14.457 nH
SF1062A 211.000 000 MHz



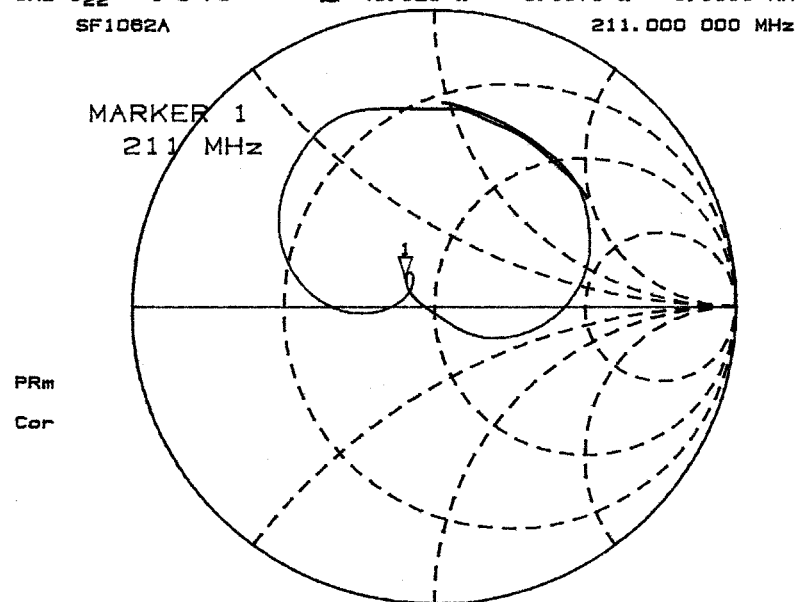
CH2 CENTER 212.999 000 MHz SPAN 8.000 000 MHz

11 Nov 1998 14:35:14
CH2 S21 log MAG 10 dB/ REF -8 dB 1 0 dB



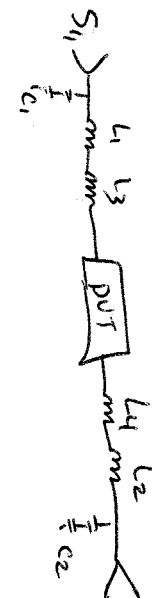
CH2 CENTER 212.999 000 MHz SPAN 8.000 000 MHz

11 Nov 1998 14:39:41
CH2 S22 1 U FS 1 40.523 n 8.1973 n 6.1831 nH
SF1062A 211.000 000 MHz



CH2 CENTER 212.999 000 MHz SPAN 8.000 000 MHz

SF1062
Demo #2
Epat-338468
11/11/98
LP



L₁ - 56 nH
L₂ - 47 nH
L₃ - 12 nH
L₄ - 4.7 nH
C₁ - 18 pF
C₂ - 27 pF

BILL OF MATERIALS

<u>PART IDENTIFIER</u>	<u>DESCRIPTION 1</u>	<u>DESCRIPTION 2</u>	<u>QTY/ASSY</u>	<u>REFERENCE DESCRIPTION</u>
SF1062A-DEMO	DEMO BOARD, SF1062A,	NORTEL MATRA CELLULAR		
400-1400-001	PCB, DEMO BOARD, SF1081A		1.0000	
400-0533-001	SHIELD, TO-39 TEST FIXTURE		1.0000	
500-0319-001	TAPE, COPPER FOIL, SCOTCH	TYPE 1181, 44F3260, 1/2"	0	
SF1062A-LRIP	FILTER, SM, 211.000 MHZ	NORTEL MATRA	1.0000	
SF1062A-000	ASSY DIAGRAM, DEMO BOARD,	SF1062A	0	
500-0003-180	CAP, CHIP, NPO, 18(J), STD		1.0000	C 1
500-0003-270	CAP, CHIP, NPO, 27(J), STD		1.0000	C 2
500-0248-001	CONN, COAX, FLANGE MT. JACK	4 HOLE	2.0000	J 1, 2
500-0010-560	IND, CHIP, 1008CS, 56 NH, 10%	COIL CRAFT 1008CS-560	1.0000	L 1
500-0010-470	IND, CHIP, 1008CS, 47 NH, 10%		1.0000	L 2
500-0010-120	IND, CHIP, 1008CS, 12 NH, 10%		1.0000	L 3
500-0010-047	IND, CHIP, 1008CS, 10%		1.0000	L 4



SIZE

A

FSCM NO.

2U874

DWG NO.

SF1062A-DEMO

SCALE

NONE

W/O or ECN

7387

REV

A

SHEET

1

OF

2

REV HISTORY	
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[illegible]

		SIZE A	FSCM NO. 2U874	DWG NO. SF1062A-DEMO	
	SCALE NONE	W/O or ECN 7387		REV A	SHEET 2 OF 2