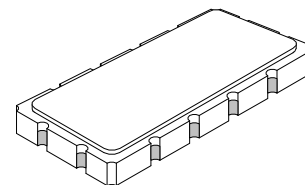


- **Designed for GSM BTS Transmitter IF Applications**
- **Low Insertion Loss**
- **Excellent Size-to-Performance Ratio**
- **Hermetic 13.3 x 6.5 mm Surface-Mount Case**
- **Unbalanced Input and Output**
- **Complies with Directive 2002/95/EC (RoHS)**



SF1086A

**125 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	125.000			MHz
Passband	IL	1, 2		6	8.0	dB
Insertion Loss at f_c	BW ₁		±150	±205		
1 dB Passband					1.25	kHz
Amplitude Ripple over $f_c \pm 150$ kHz	GDV			<100	150	nSp-p
Group Delay Variation over $f_c \pm 150$ kHz	GD		0.7	1.2	1.7	µs
Rejection		1, 2, 3	2			dB
$f_c - 0.6$ to $f_c - 0.4$ and $f_c + 0.4$ to $f_c + 0.6$ MHz			8			
$f_c - 1.2$ to $f_c - 0.6$ and $f_c + 0.6$ to $f_c + 1.2$ MHz			20	23		
$f_c - 1.8$ to $f_c - 1.2$ and $f_c + 1.2$ to $f_c + 1.8$ MHz			25	37		
$f_c - 3.4$ to $f_c - 1.8$ and $f_c + 1.8$ to $f_c + 3.4$ MHz			30	47		
$f_c - 9.5$ to $f_c - 3.4$ and $f_c + 3.4$ to $f_c + 9.5$ MHz			43	65		
$f_c - 13$ to $f_c - 9.5$ and $f_c + 9.5$ to $f_c + 13$ MHz			55	>60		
DC to $f_c - 13$ and $f_c + 13$ to 450 MHz			50			
Except Spurious Rejection near 1.6, 1.8, and 2.0 x f_c						
Operating Temperature Range	T _A	1	-10		+85	°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)	RFM SF1086A YYWW

Notes:

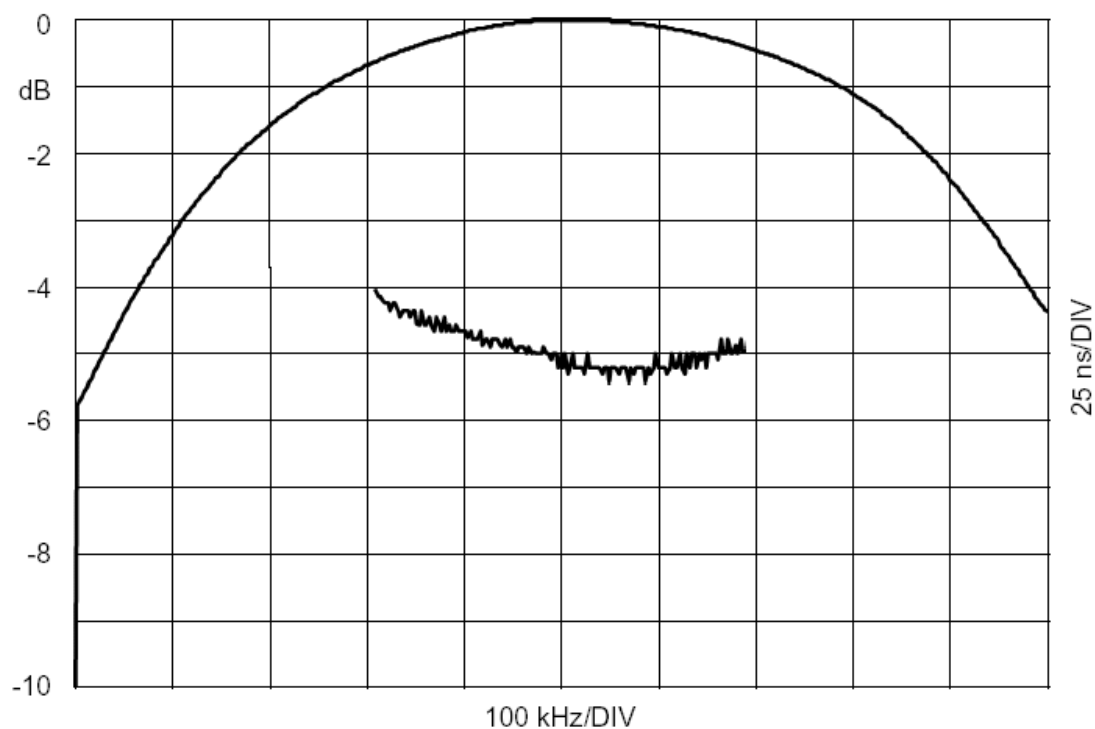
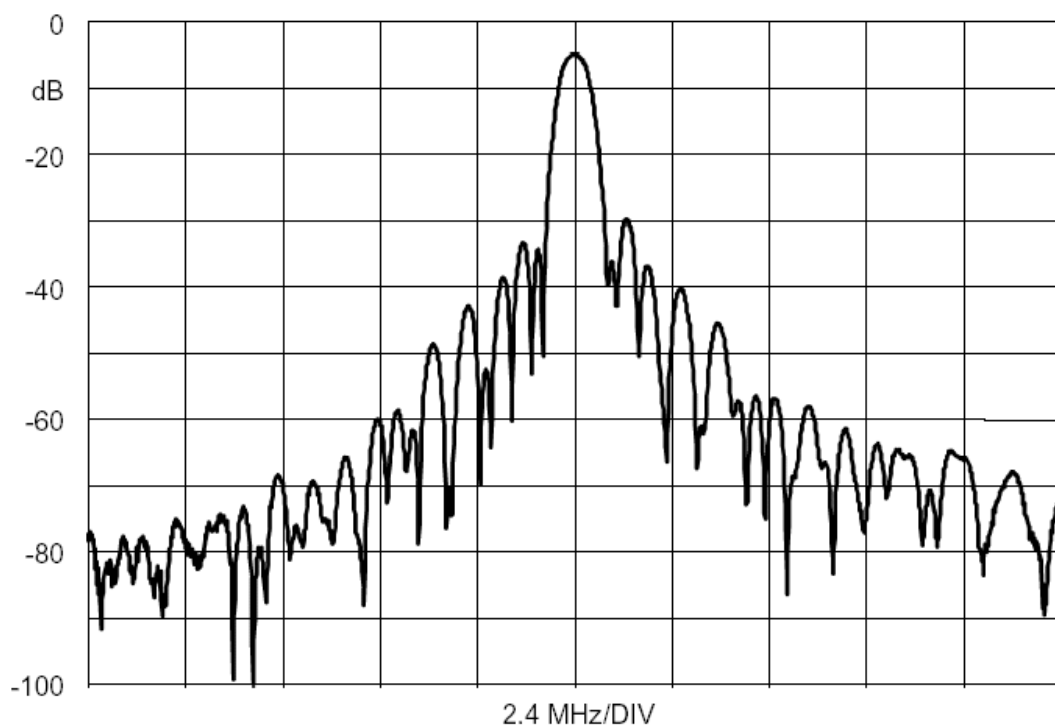
1. Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board with impedance matching to 50 Ω and measured with 50 Ω network analyzer.
2. Unless noted otherwise, all frequency specifications are referenced to the nominal center frequency, 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. 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

[查询"SF1086A"供应商](#)



125 MHz

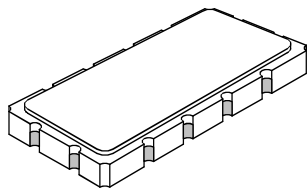
SAW Filter

[查询"SF1086A"供应商](#)

SM13365-12 Case

12-Terminal Ceramic Surface-Mount Case

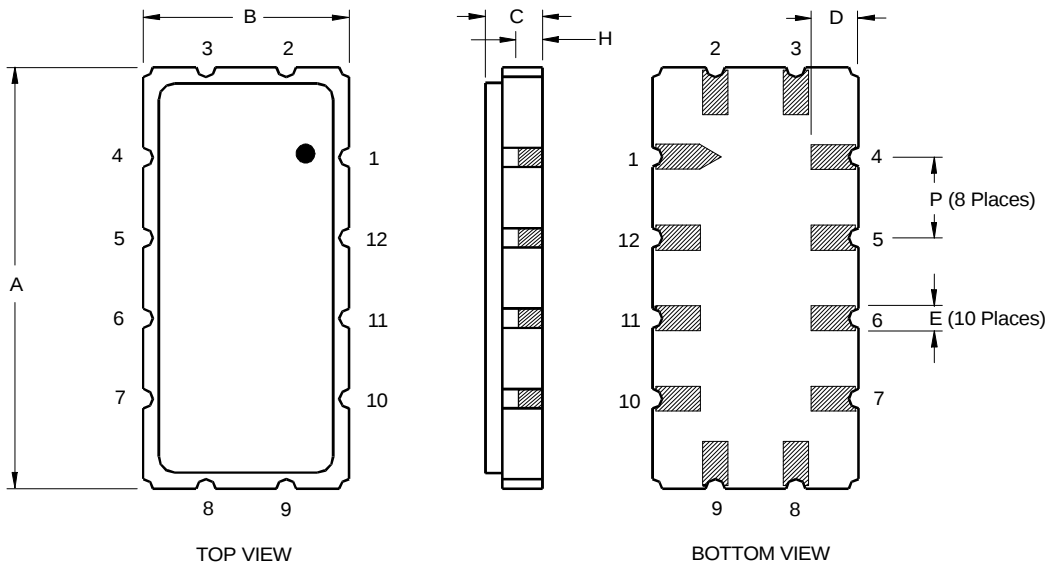
13.3 x 6.5 mm Nominal Footprint



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	

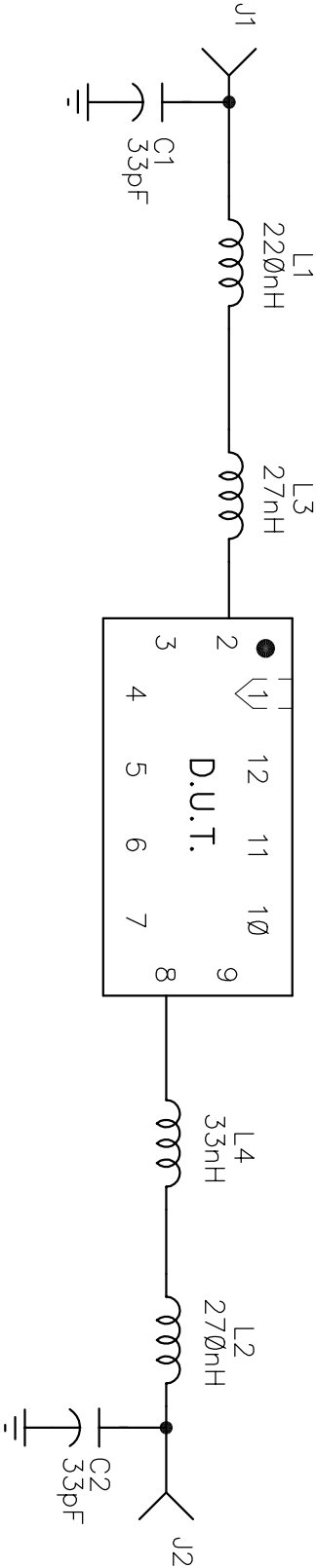
Electrical Connections		
Connection		Terminals
Port 1	Input or Return	2
	Return or Input	3
Port 2	Output or Return	8
	Return or Output	9
Ground		All others
Single Ended Operation		Return is ground
Differential Operation		Return is hot



NOTES:

- 1. L3 & L4 MAY BE INTERCHANGED DEPENDING ON TUNED RESPONSE.
- 2. ORIENTATION OF COMPONENTS MAY VARY FROM ASSEMBLY DIAGRAM IN ORDER TO FINE TUNE DEVICE.

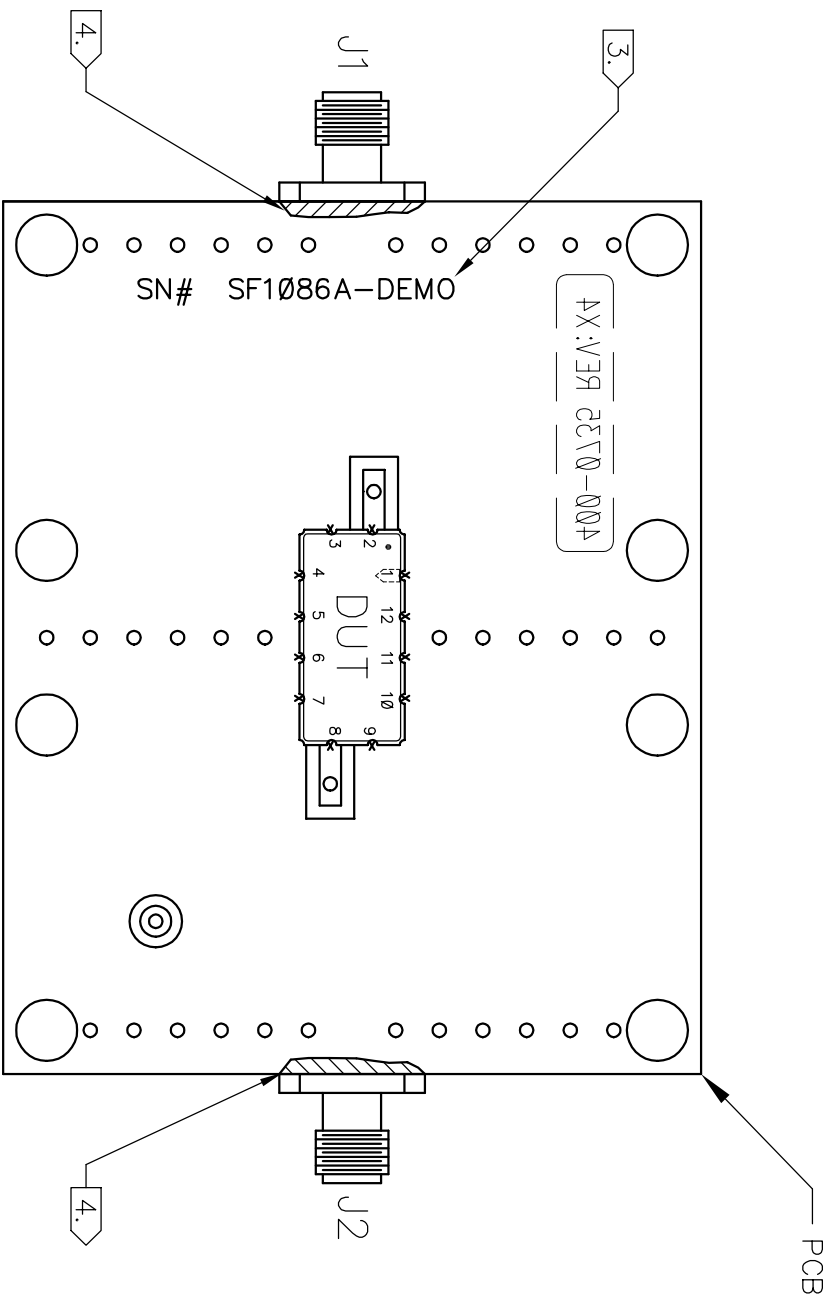
REV	ECN NO.	DESCRIPTION	DATE
A	6713	INITIAL RELEASE	18may98
B	10225	REVISED PIN NUMBERING	04oct01



DRAWN BY: J.J. LAYTON	DATE: 05/18/98	TITLE: DEMO PCB, SF1086A
查询"SF1086A"供应商		
RF Monolithics, Inc. DALLAS, TEXAS 75244	CHECKED/APPROVED	SIZE A
CODE IDENT 2U874		DWG. NO. SF1086A-000
REV B		SHEET 1/5

3. LABEL FIXTURE WITH ELECTRONIC METHOD AS SHOWN.

4. SOLDER J1 & J2 TO PCB AS SHOWN.



COMPONENT SIDE

[查询"SF1086A"供应商](#)

RF Monolithics, Inc.
DALLAS, TEXAS 75244

SIZE
A

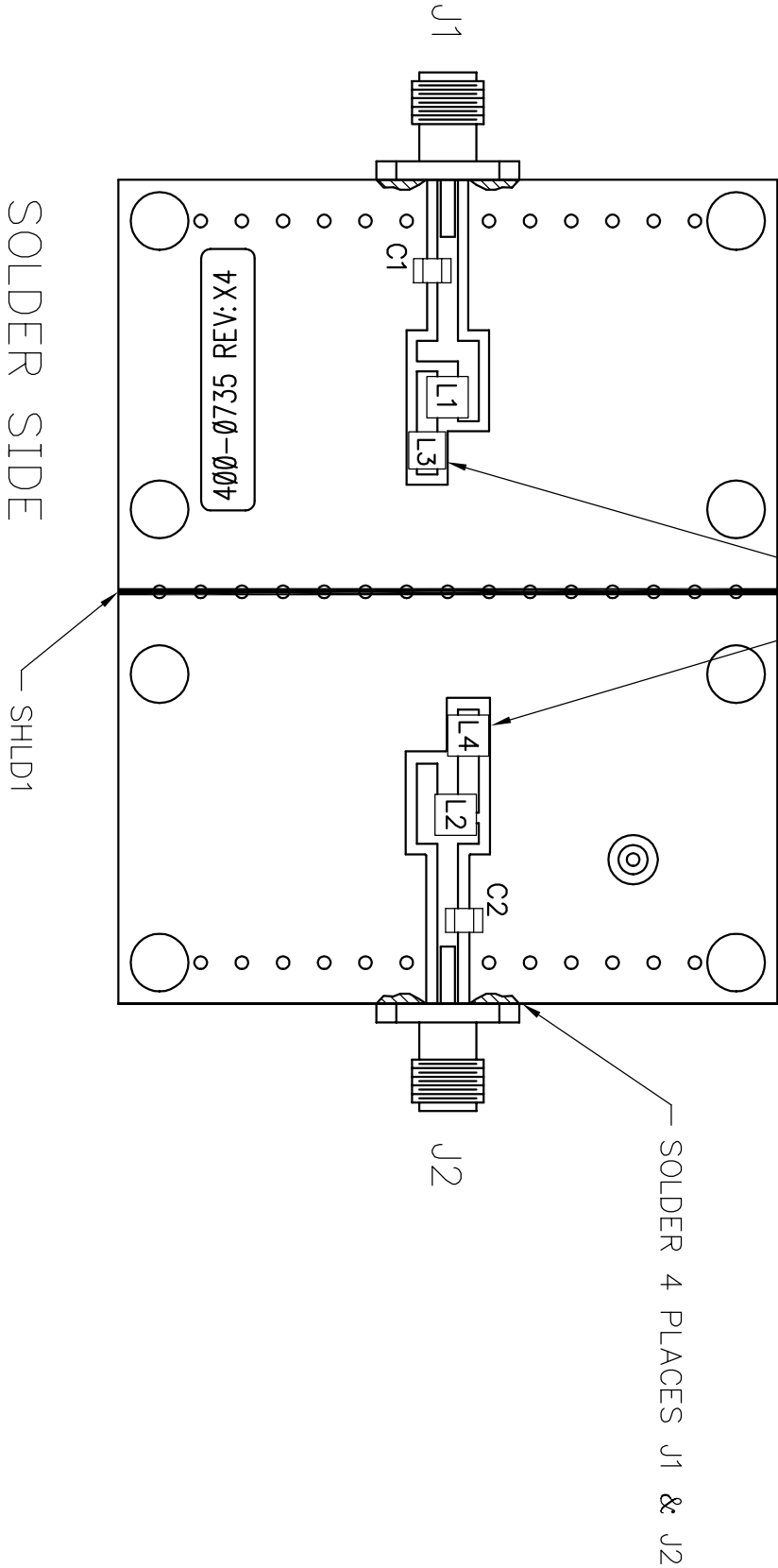
CODE IDENT
2U874

DWG. NO.
SF1086A-000

REV
B

SHEET
2

CUT TRACES 2 PLACES
TO ACCOMMODATE L3 & L4



[查询"SF1086A"供应商](#)

SF1086A (Demo), M.F., 3-30-98, Ac# 9812

30 Mar 1998 13:15:28

CH1 S21 delay 100 ns/ REF 1.3 us

SF1086A .300 000 MHz

PRM AREF=1

Cor mean: 1.126 6 us

s.dev: 20.345 ns

Smd p-p: 73.731 ns

H1d

CH1 CENTER 125.000 000 MHz

CH2 S21 log MAG 10 dB/ REF -6.4 dB

SF1086A 0.000 000 MHz

PRM MDX AREF=1

Cor BW: .421 931 MHz

cent: 125.048157 MHz

Q: 296.37

loss: -4.7787 dB

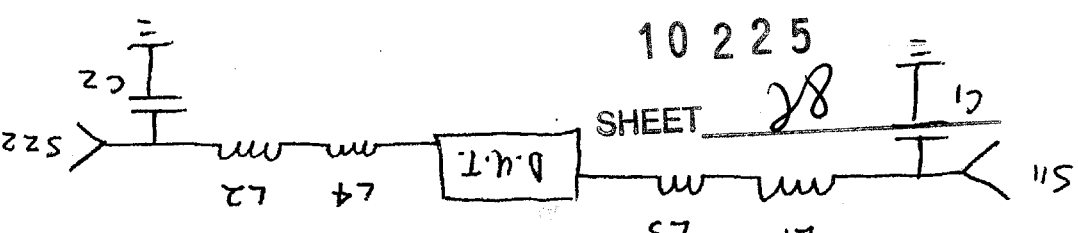
H1d

CH2 CENTER 125.000 000 MHz

ECN NO.

10 225

SHEET



C1, C2 = 33 pF

L1 = 220 nH

L2 = 270 nH

L3 = 27 nH

L4 = 33 nH

Rev B

SF1086A-000 SHEET 4

查询"SF1086A"供应商

CH1 S11 1 U FS
SF1086A

1 58.318 Ω

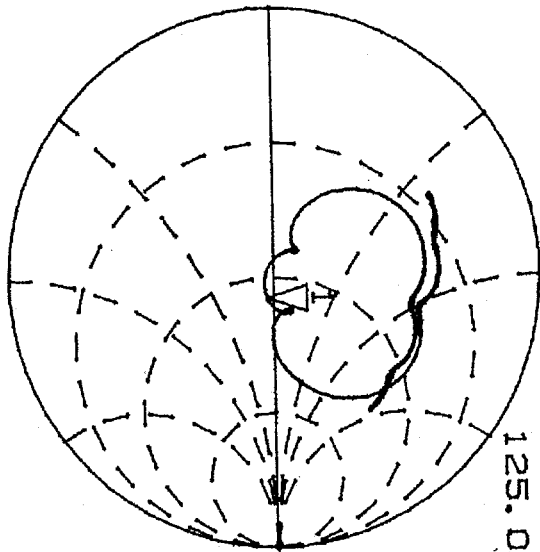
30 Mar 1998 13:35:04
-2.918 Ω 436.34 PF

125.000 000 MHz

PRM

COR

H1d



CH2 S22 1 U FS
SF1086A

1 49.691 Ω

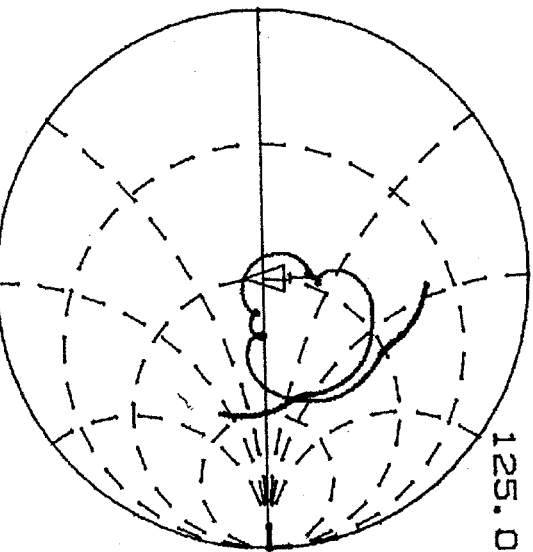
-7.1426 Ω 178.26 PF

125.000 000 MHz

PRM

COR

H1d



CENTER 125.000 000 MHz

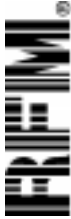
SPAN 5.000 000 MHz

ECN NO.

BILL OF MATERIALS

<u>PART IDENTIFIER</u>	<u>DESCRIPTION 1</u>	<u>DESCRIPTION 2</u>	<u>QTY/ASSY</u>	<u>REFERENCE DESCRIPTION</u>
SF1086A-DEMO	DEMO BOARD,SF1086A			
SF1086A-000	ASSY DIAGRAM,DEMO BOARD,	SF1086A	0	
400-0735-001	PCB,DEMO BOARD,13.3 X 6.5		1.0000	PCB
400-0533-001	SHIELD,TO-39 TEST FIXTURE		1.0000	SHLD1
500-0003-330	CAP,CHIP,NPO,33(J),STD		2.0000	C 1,2
500-0248-001	CONN,COAX,FLANGE MT,JACK	4 HOLE	2.0000	J 1,2
500-0010-221	IND,CHIP,1008CS,220NH,10%		1.0000	L 1
500-0010-271	IND,CHIP,1008CS,270NH,10%		1.0000	L 2
500-0010-270	IND,CHIP,1008CS,27NH,10%		1.0000	L 3
500-0010-330	IND,CHIP,1008CS,33NH,10%		1.0000	L 4

[查询"SF1086A"供应商](#)

	SIZE	FSCM NO.	DWG NO.	
	A	2U874	REV	A
SCALE		W/O or ECN	SHEET	OF
NONE		6713	A	1 2
SF1086A-DEMO				

[illegible][illegible]

	PRIME[®]		SIZE	FSCM NO.	DWG NO.	SF1086A-DEMO			
			A	2U874					
	SCALE	NONE	W/O or EGN	6713	REV		A	SHEET	2