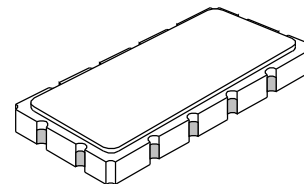


SF1086A 125 MHz SAW Filter



- 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



Characteristic	Sym	Min	Typ	Max	Units	Notes
Nominal Center Frequency	fc		125.000		MHz	1
Passband	Insertion Loss at fc	IL	6	8.0	dB	1, 2
	1 dB Passband	BW ₁	±150	±205	KHz	
	Amplitude Ripple over fc ±150 kHz			1.25	dB _{P-P}	
	Group Delay Variation over fc ±150 kHz	GDV	<100	150	nS _{P-P}	
Rejection	Absolute Group Delay	GD	0.7	1.2	µs	1, 2, 3
	fc-0.6 to fc-0.4 and fc+0.4 to fc+0.6 MHz		2		dB	
	fc-1.2 to fc-0.6 and fc+0.6 to fc+1.2 MHz		8		dB	
	fc-1.8 to fc-1.2 and fc+1.2 to fc+1.8 MHz		20	23	dB	
	fc-3.4 to fc-1.8 and fc+1.8 to fc+3.4 MHz		25	37	dB	
	fc-9.5 to fc-3.4 and fc+3.4 to fc+9.5 MHz		30	47	dB	
	fc-13 to fc-9.5 and fc+9.5 to fc+13 MHz		43	65	dB	
	DC to fc-13 and fc+13 to 450 MHz		55	>60	dB	
Except Spurious Rejection near 1.6, 1.8, and 2.0 x fc			50		dB	
Operating Temperature Range	T _A	-10		+85	°C	1
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					

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
Max Soldering Profile	265°C for 10 s	

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, fc.
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.

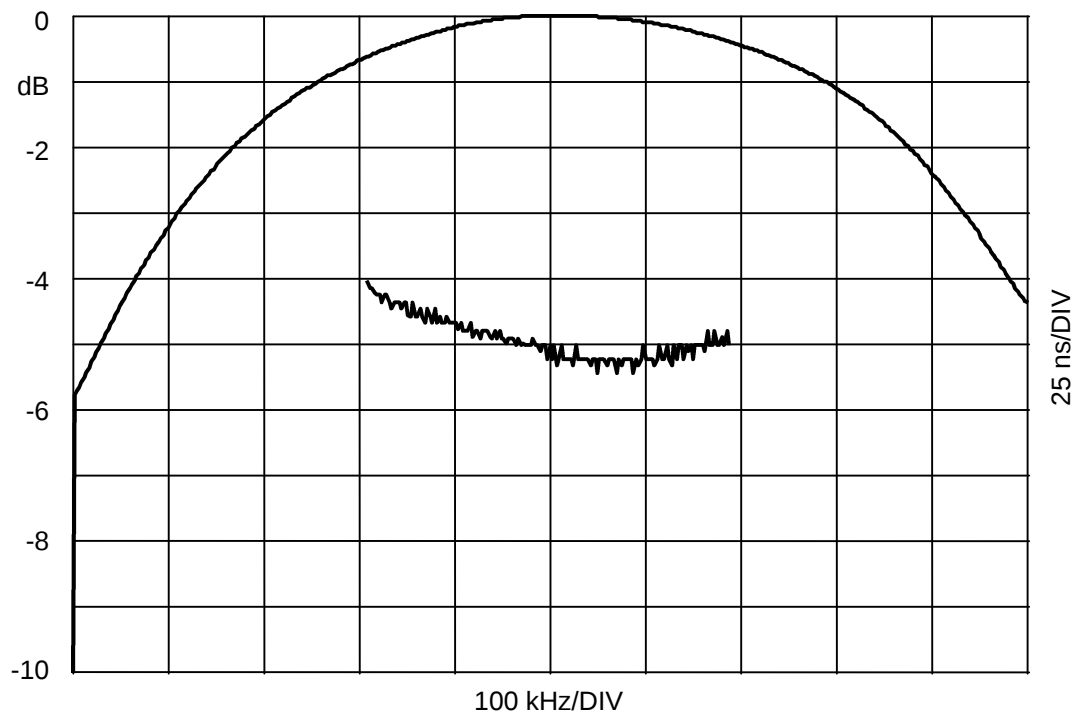
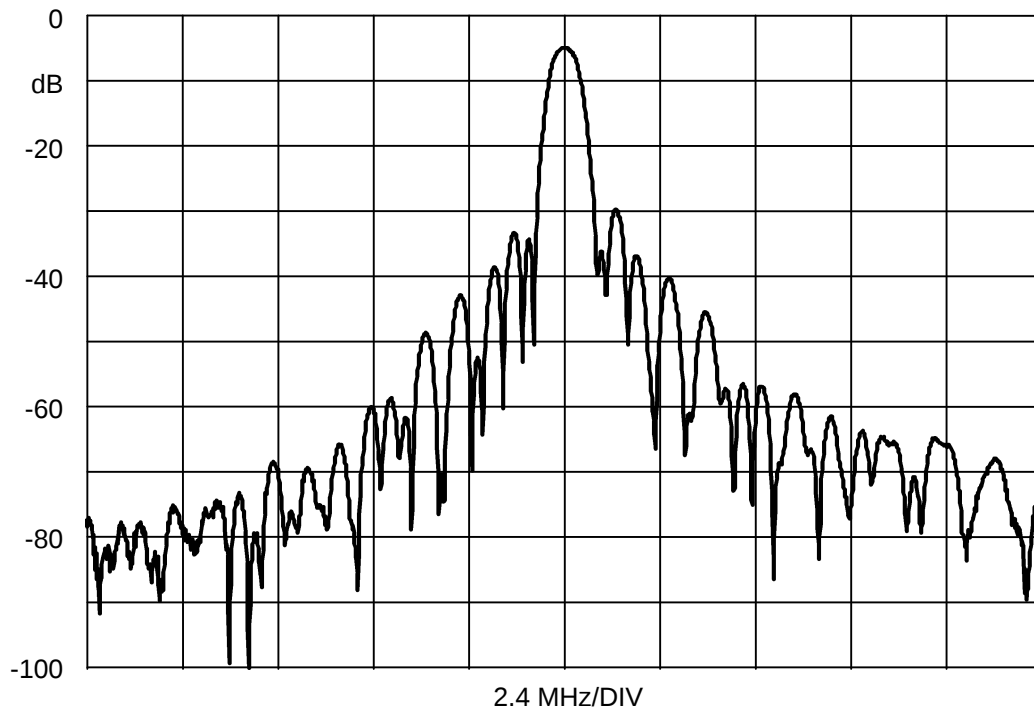


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Home page: www.rfm.com

European Sales Office
44 1963 251383
44 1963 251510

SF1086A 125 MHz SAW Filter

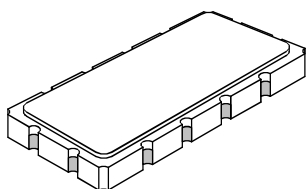


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12-Terminal Ceramic Surface-Mount Case 13.3 x 6.5 mm Nominal Footprint

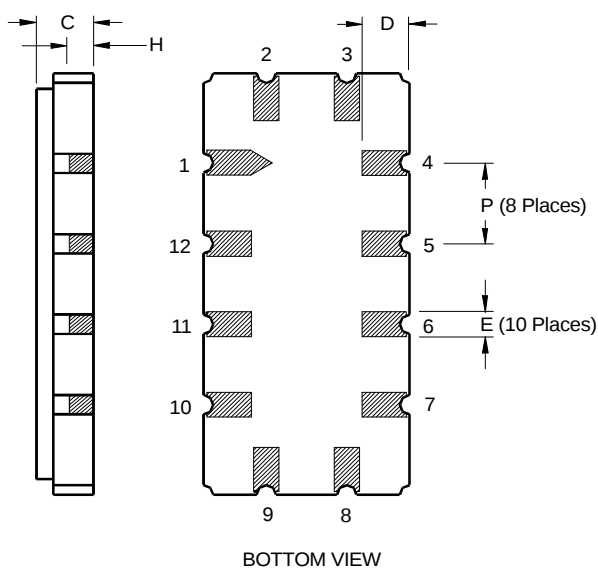
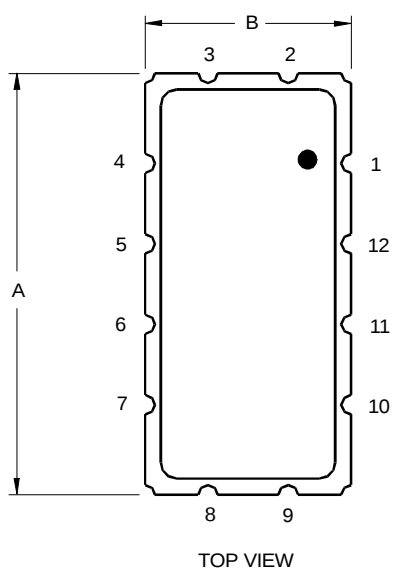


Case Dimensions

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	

Electrical Connections

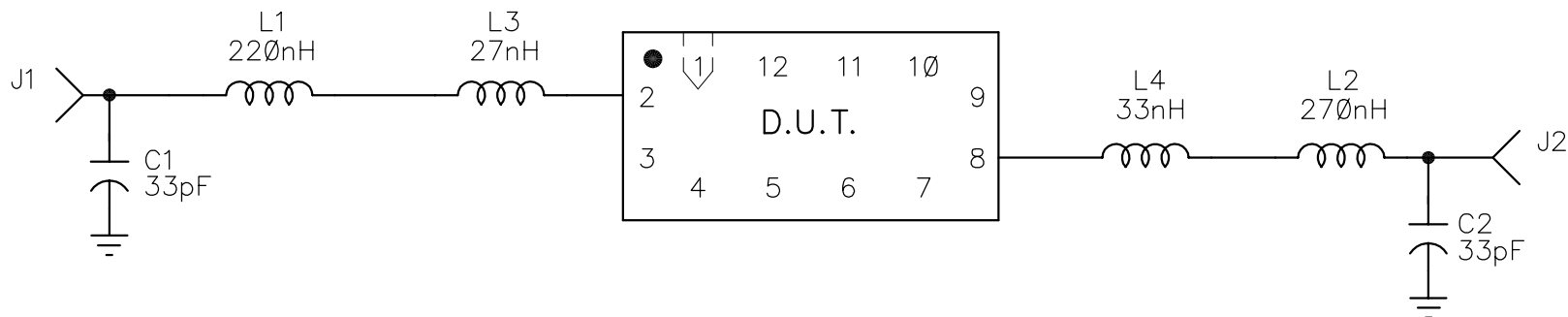
Connection		Terminals
Port 1	Input or Return	2
	Return or Input	3
Port 2	Output or Return	8
	Return or Output	9
Ground		All others
Single Ended Operation		Return is ground
Differential Operation		Return is hot



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/DATE: J.J. LAYTON 05/18/98

TITLE: DEMO PCB, SF1086A

RF Monolithics, Inc.
DALLAS, TEXAS 75244

CHECKED/APPROVED

SIZE
A

CODE IDENT
2U874

DWG.
NO.

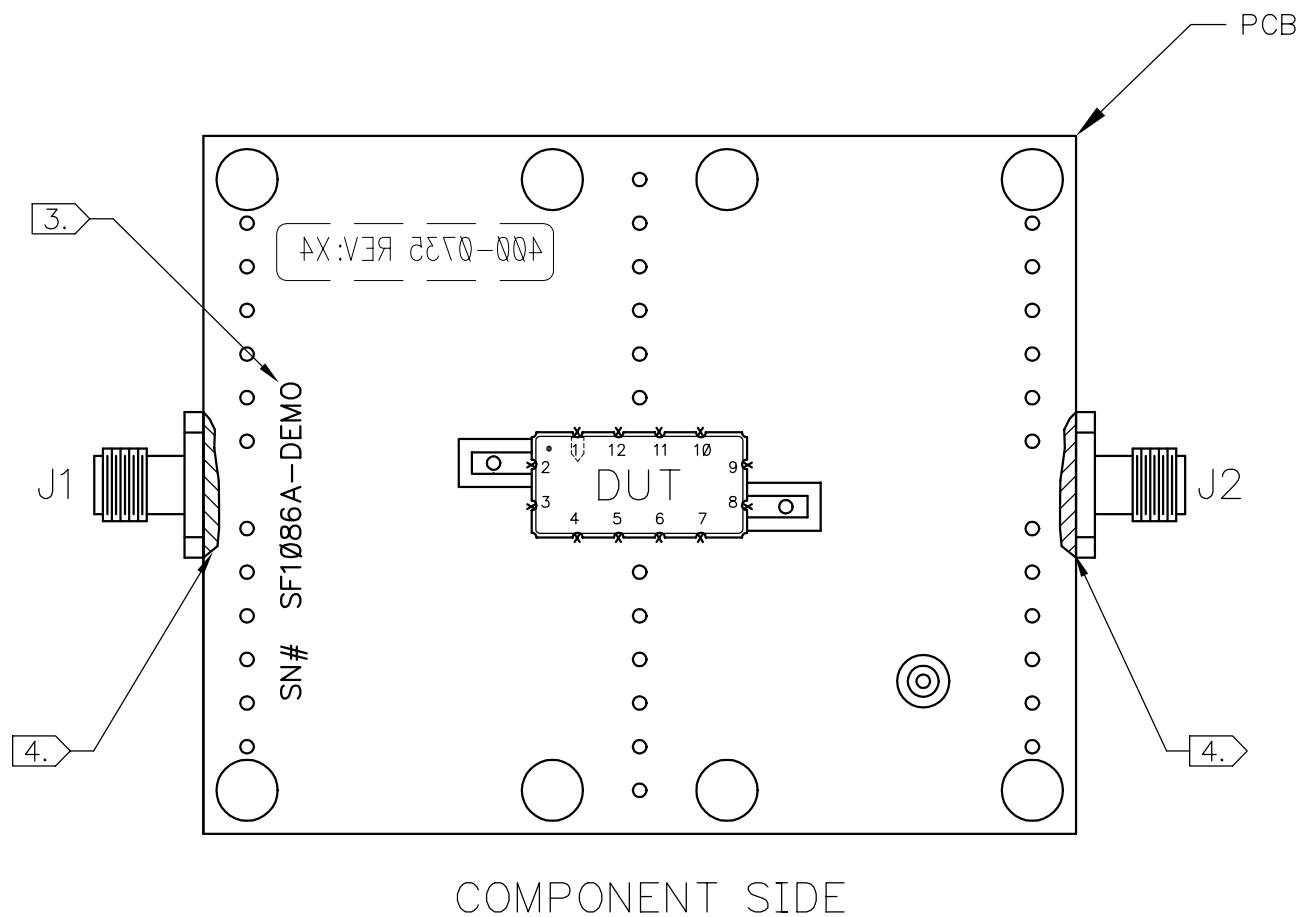
SF1086A-000

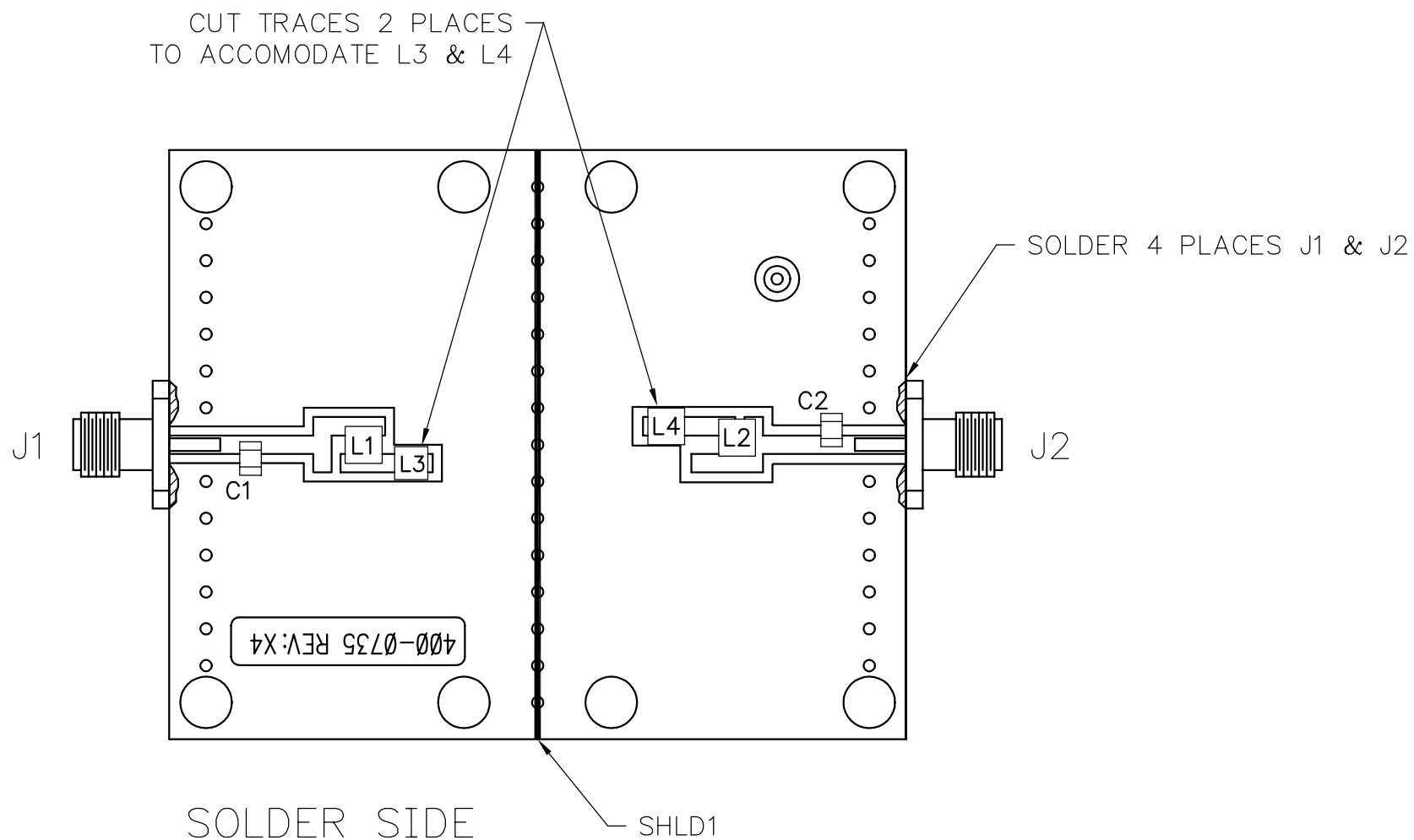
REV
B

SHEET
1/5

3. LABEL FIXTURE WITH ELECTRONIC METHOD AS SHOWN.

4. SOLDER J1 & J2 TO PCB AS SHOWN.

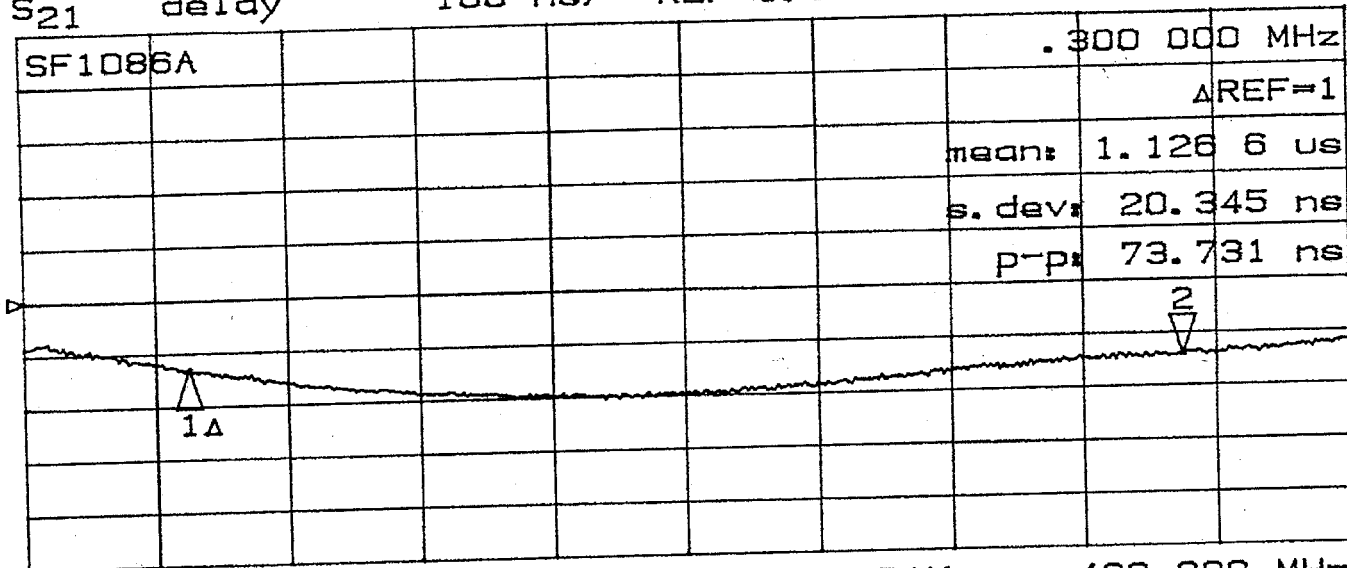




SF1086A (DEMO), M.F., 3-30-98, DC# 9812

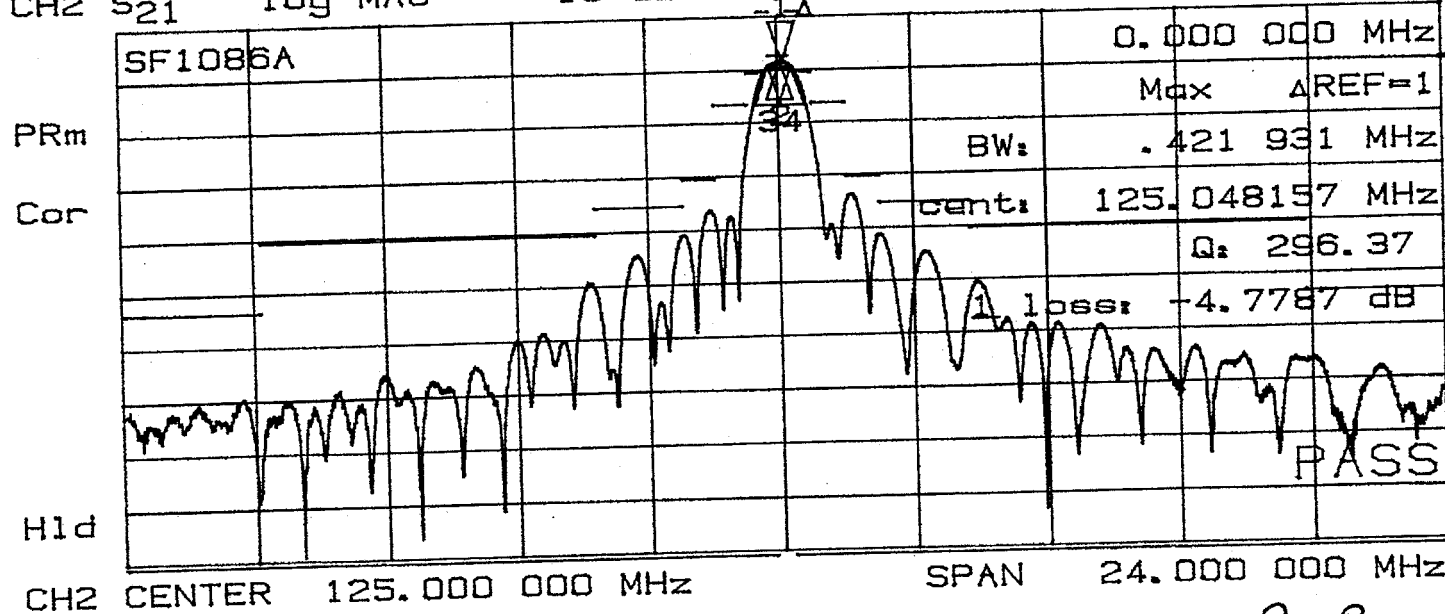
30 Mar 1998 13:15:28

CH1 S21 delay 100 ns/ REF 1.3 us 2 -9.2984 ns



CH1 CENTER 125.000 000 MHz SPAN .400 000 MHz

CH2 S21 log MAG 10 dB/ REF -6.4 dB 1: 0 dB

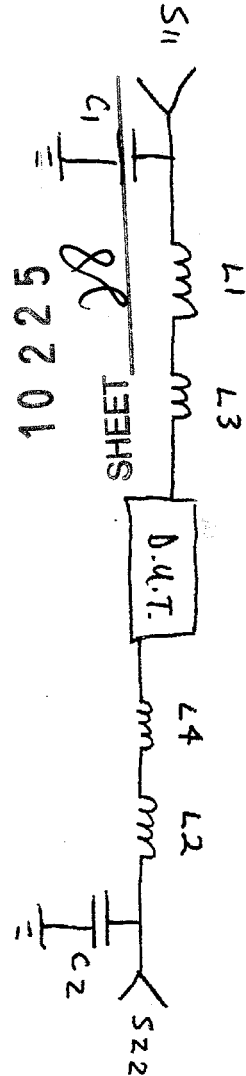


CH2 CENTER 125.000 000 MHz SPAN 24.000 000 MHz

Rev B

SF1086A-000 SHEET 4

ECN NO.



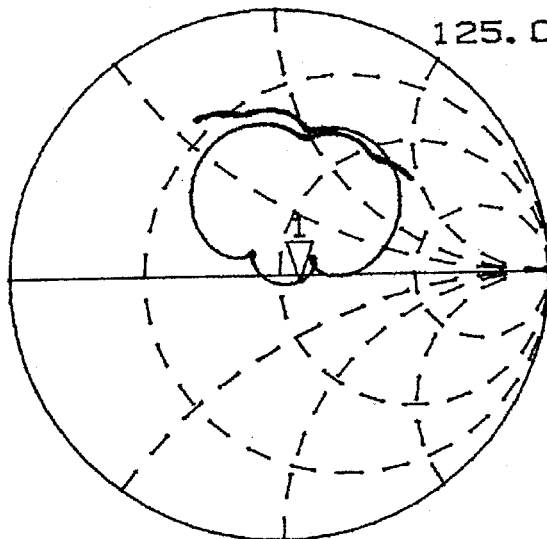
CH1 S₁₁ 1 U FS
SF1086A

30 Mar 1998 13:35:04
1 58.318 Ω -2.918 Ω 436.34 pF

125.000 000 MHz

PRm

Cor



H1d

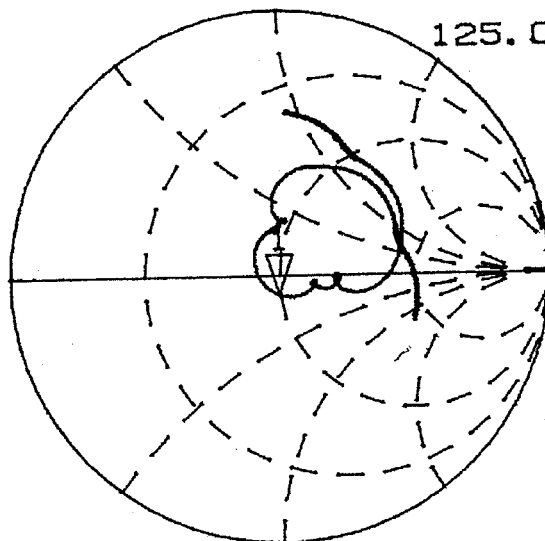
CH2 S₂₂ 1 U FS
SF1086A

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

SF1086A⁰⁰⁰ SHEET 5 Rev B

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



SIZE

A

FSCM NO.

2U874

DWG NO.

SF1086A-DEMO

SCALE

NONE

W/O or ECN

6713

REV

A

SHEET

1

OF **2**

REV HISTORY	
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[illegible]

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