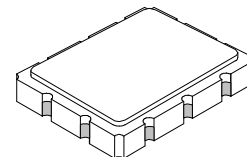


- **Designed for GSM BTS Transmitter Applications**
- **Low Insertion Loss**
- **9.1 x 7.1 mm Surface-Mount Case**
- **Unbalanced Input and Output**
- **Complies with Directive 2002/95/EC (RoHS)** 

SF1082A

**125.000 MHz
SAW Filter**



SM9171-10

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 Insertion Loss at f_c 3 dB Passband Amplitude Ripple over $f_c \pm 75$ kHz	IL	1, 2		6.0	8.0	dB
	BW_3		± 275	± 440		kHz
					0.3	dB _{p-p}
Group Delay Variation over $f_c \pm 75$ kHz	GDV				100	ns _{p-p}
Rejection $f_c - 7.5$ to $f_c - 6.0$ and $f_c + 6.0$ to $f_c + 7.5$ MHz Ultimate		1, 2, 3	20	40		dB
				>40		
Operating Temperature Range	T_A	1	-40		+85	°C

Impedance Matching to 50 Ω unbalanced	External L-C
Case Style	SM9171-10 9.1 x 7.1 mm Nominal Footprint
Lid Symbolization (XX = 2 character date code)	RFM SF1082A XX

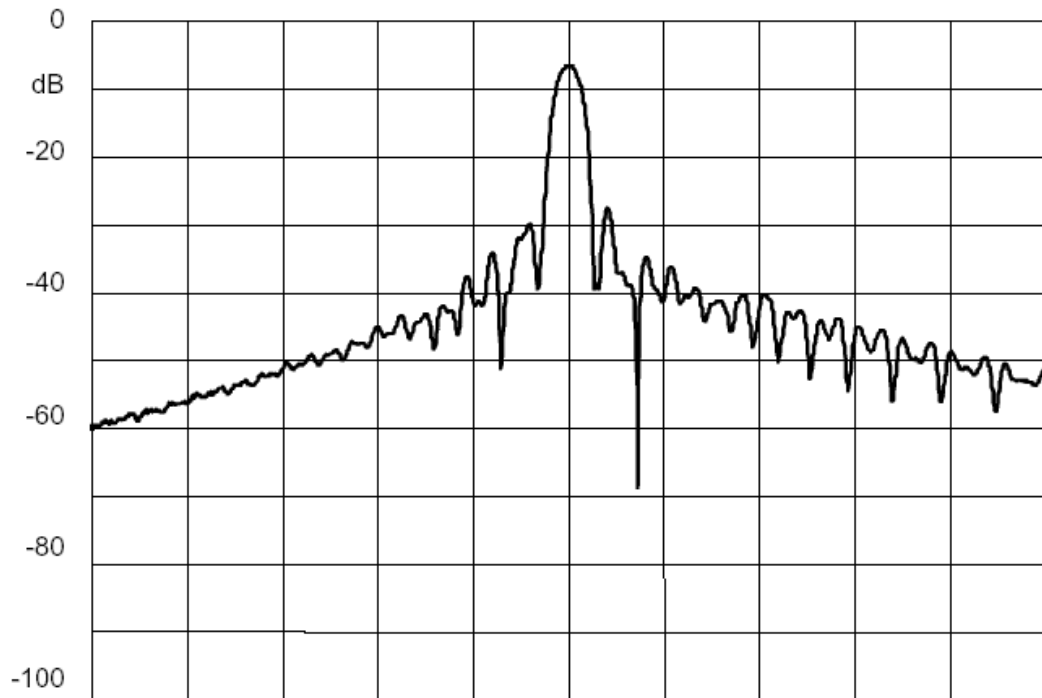
Electrical Connections

Connection	Terminals
Port 1 Hot	1
Port 1 Gnd Return	4
Port 2 Hot	6
Port 2 Gnd Return	9
Case Ground	All others

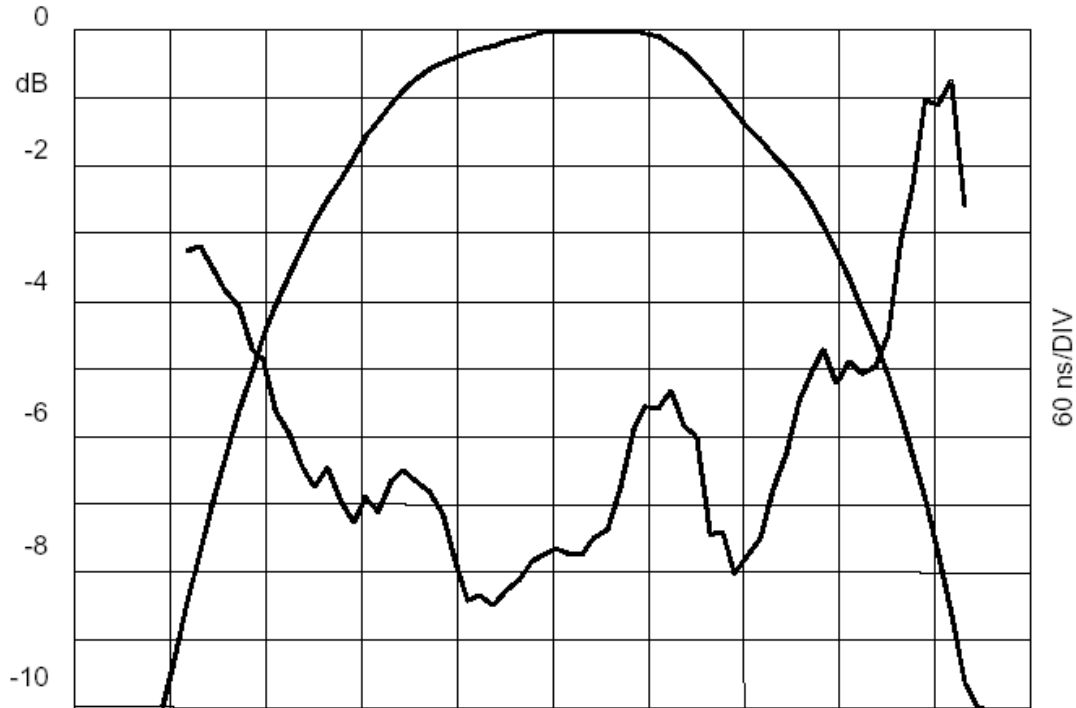
Notes:

1. Unless noted otherwise, all specification apply over the operating temperature range with filter soldered to the specified demonstration board with impedanced matching to 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. Electrostatic Sensitive Device. Observe precautions for handling. 

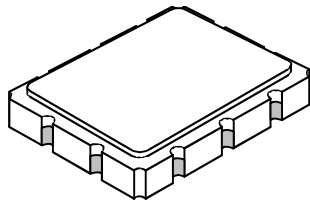
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4 MHz/DIV



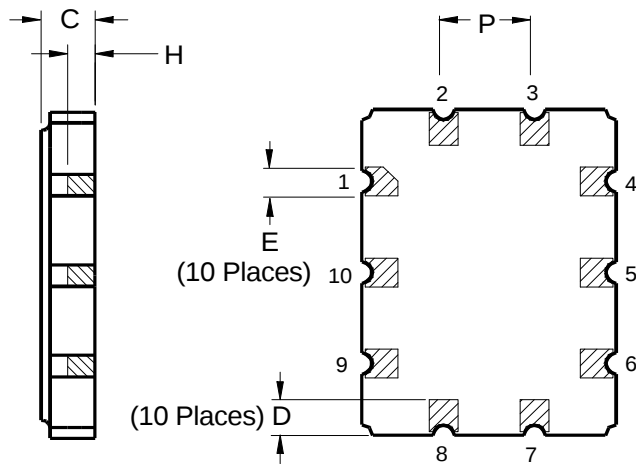
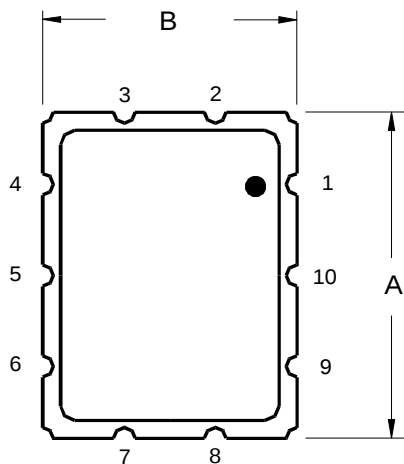
200 kHz/DIV

SM9171-10 Case
10-Terminal Ceramic Surface-Mount Case
9.1 x 7.1 mm Nominal Footprint


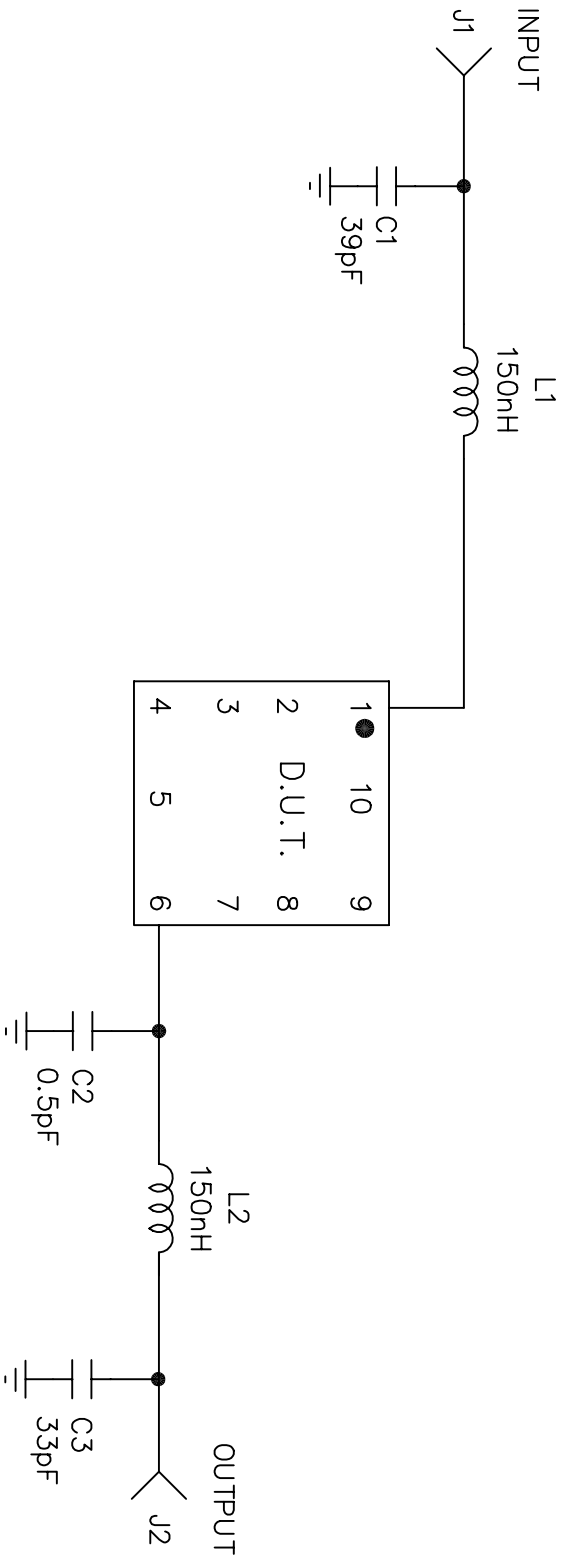
Case Dimensions						
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	8.86	9.09	9.40	0.349	0.358	0.370
B	6.88	7.11	7.40	0.271	0.280	0.291
C		1.91	2.00		0.075	0.079
D		0.99			0.039	
E		0.79			0.031	
H		1.0			0.039	
P		2.54			0.100	

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



REV	ECN NO.	DESCRIPTION	APP /DATE
A	6254	INITIAL RELEASE	



DRAWN BY: J.J. LAYTON

DATE: 01/15/98

TITLE: ASSY DIAGRAM, SF1082A-DEMO

RF Monolithics, Inc.

DALLAS, TEXAS 75244

CHECKED/APPROVED

SIZE A

CODE IDENT 2U874

DWG. NO. SF1082A-000

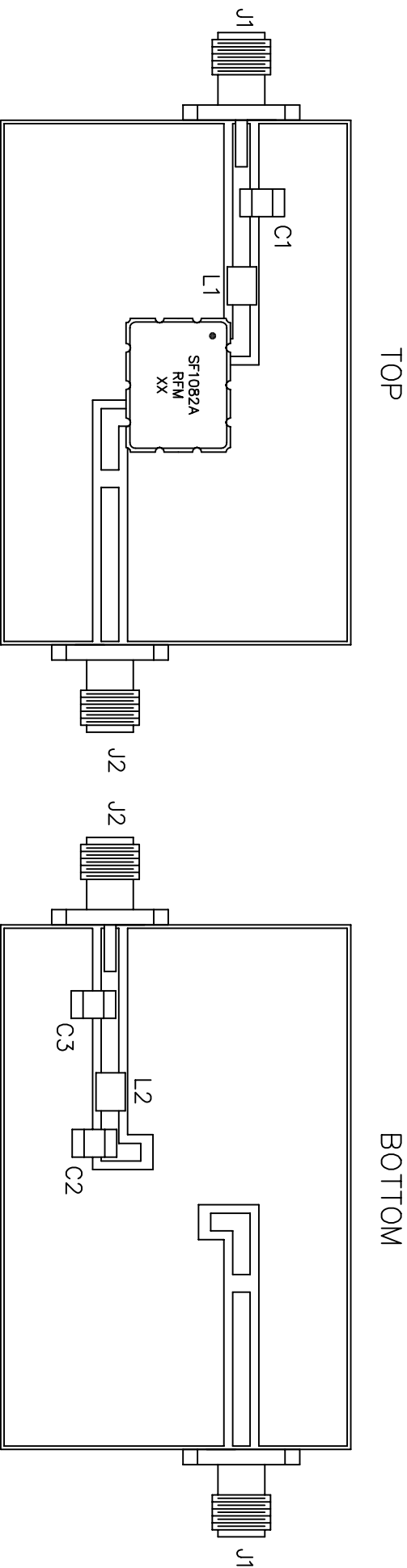
REV A

SHEET 1/3

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NOTES:

- 1. SOLDER MOUNT COMPONENTS TO PCB.
- 2. NOTE PROPER ORIENTATION OF INDUCTORS IS 90° TO EACH OTHER.
- 3. COMPONENT VALUES MAY NEED TO BE TRADED FOR SLIGHTLY HIGHER OR LOWER VALUES DUE TO TOLERANCE LEVELS OF EACH INDIVIDUAL COMPONENT.

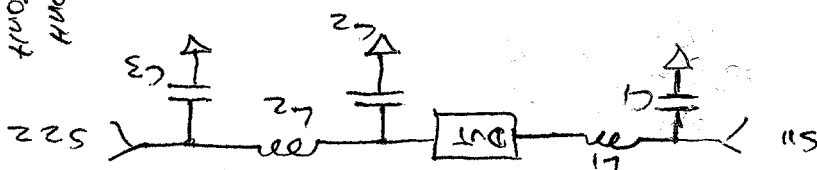
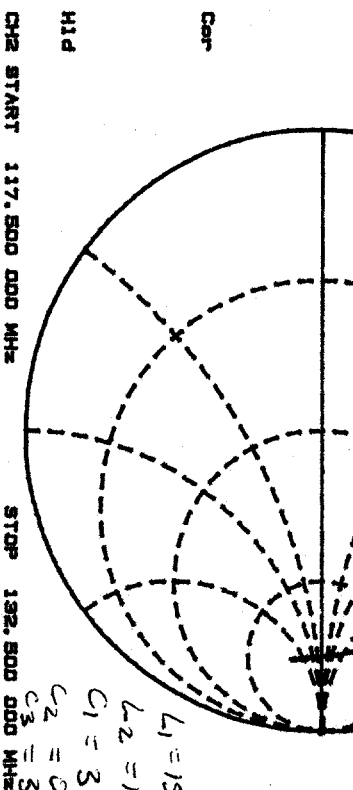
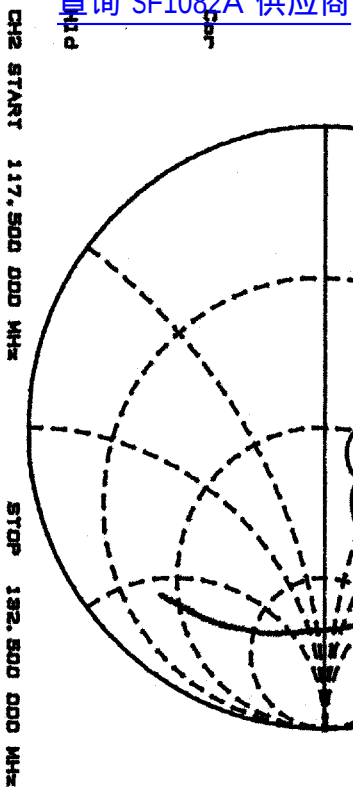


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DEMO

unferth

D-CH

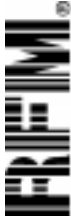

$$330 = 11 \times 30$$

Q21:14 Sld 3 of 3
SF1082-~~Demid-SF1082ACDEmj~~

BILL OF MATERIALS

<u>PART IDENTIFIER</u>	<u>DESCRIPTION 1</u>	<u>DESCRIPTION 2</u>	<u>QTY/ASSY</u>	<u>REFERENCE DESCRIPTION</u>
SF1082A-DEMO	DEMO BOARD,SF1082A			
SF1082A-000	ASSY DIAGRAM,DEMO BOARD,	SF1082A	0	
400-1389-001	PCB,DEMO BD,9 X 7		1.0000	CHAS1
500-0003-390	CAP,CHIP,NPO,39(J),STD		1.0000	C 1
500-0013-005	CAP,CHIP,NPO,0.5(E),STD	0805	1.0000	C 2
500-0003-330	CAP,CHIP,NPO,33(J),STD		1.0000	C 3
500-0583-151	IND,CHIP,0805CS,150NH		2.0000	L 1,2

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			SIZE	FSCM NO.	DWG NO.	SF1082A-DEMO	
	SCALE	NONE	A	2U874		REV	A
		W/O or ECN	6254		SHEET	1	OF 2

REV HISTORY

[illegible]

			FSCM NO.		DWG NO.	
	SIZE	A	2U874			
	SCALE	NONE	W/O or ECN	6254	REV	A
			SF1082A-DEMO			
					SHEET	2 OF 2