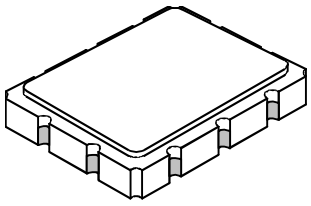
SF1126A

127 MHz SAW Filter

- ***Designed for Interactive Video Applications***
- ***Wide Bandwidth and Excellent GD Variation***
- ***9.1 x 7.1 mm Surface-mount Case***
- ***Single Ended Input and Output***
- ***Complies with Directive 2002/95/EC (RoHS)***



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		127.000		MHz
Passband	Insertion Loss at fc	IL			14	15.0	dB
	1.3 db Passband	$BW_{1.3}$	1, 2	±15.0			MHz
	Group Delay Variation over fc ±fc12.0 MHz	GDV			11	30	ns_{P-P}
	Phase Linearity over fc±12.0 MHz					10	$^{\circ}_{P-P}$
Rejection	< 107.0 MHz		1, 2, 3	40			dB
	> 147.25 MHz			40			
	Ultimate				40		
Operating Temperature Range		T_A	1	+25		+30	°C
Frequency Temperature Coefficient		FTC			-94		ppm/°C

Impedance Matching to 50Ω Unbalanced	External L-C
Case Style	SM9171-10 9.1 x 7.1 mm Nominal Footprint
Lid Symbolization (YY = year, WW = week)	RFM SF1126A 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, 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. Part to part absolute delay measurement records the absolute delay mean across 1 dB passband.
5. "LRIP" or "L" after the part number indicates "low rate initial production" and "ENG" or "E" indicates "engineering prototypes."
6. The design, manufacturing process, and specifications of this filter are subject to change.
7. 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.
8. US and international patents may apply.
9. Electrostatic Sensitive Device. Observe precautions for handling.

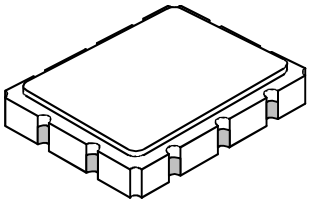
Electrical Connections

Connection	Terminals
Port 1 Hot (Input)	1
Port 1 Gnd Return	10
Port 2 Hot (Output)	6
Port 2 Gnd Return	5
Case Ground	All others

RF Monolithics, Inc. Phone: (972) 233-2903 Fax: (972) 387-8148 E-mail: info@rfm.com
RFM Europe Phone: 44 1963 251383 Fax: 44 1963 251510 http://www.rfm.com

SM9171-10 Case

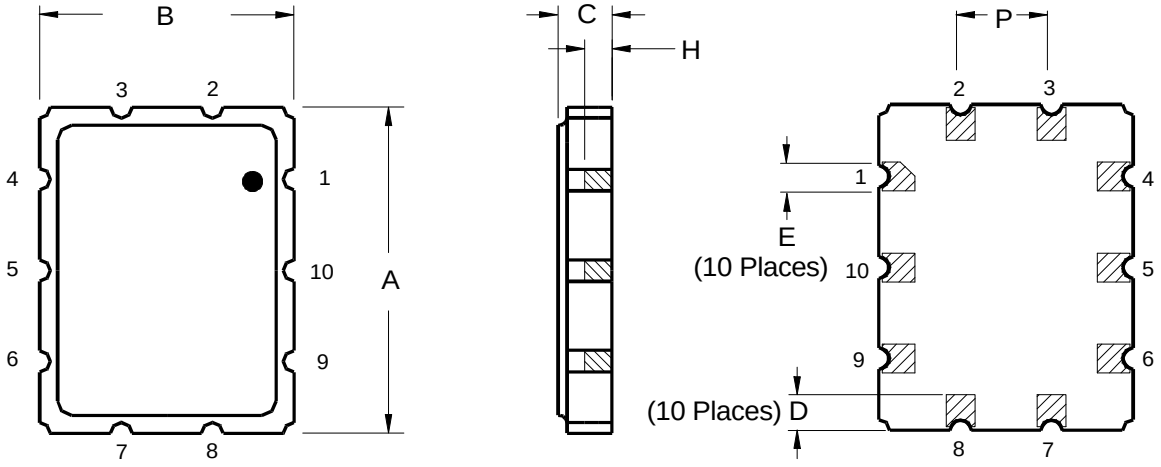
10-Terminal Ceramic Surface-Mount Case
9.1 x 7.1 mm Nominal Footprint



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	

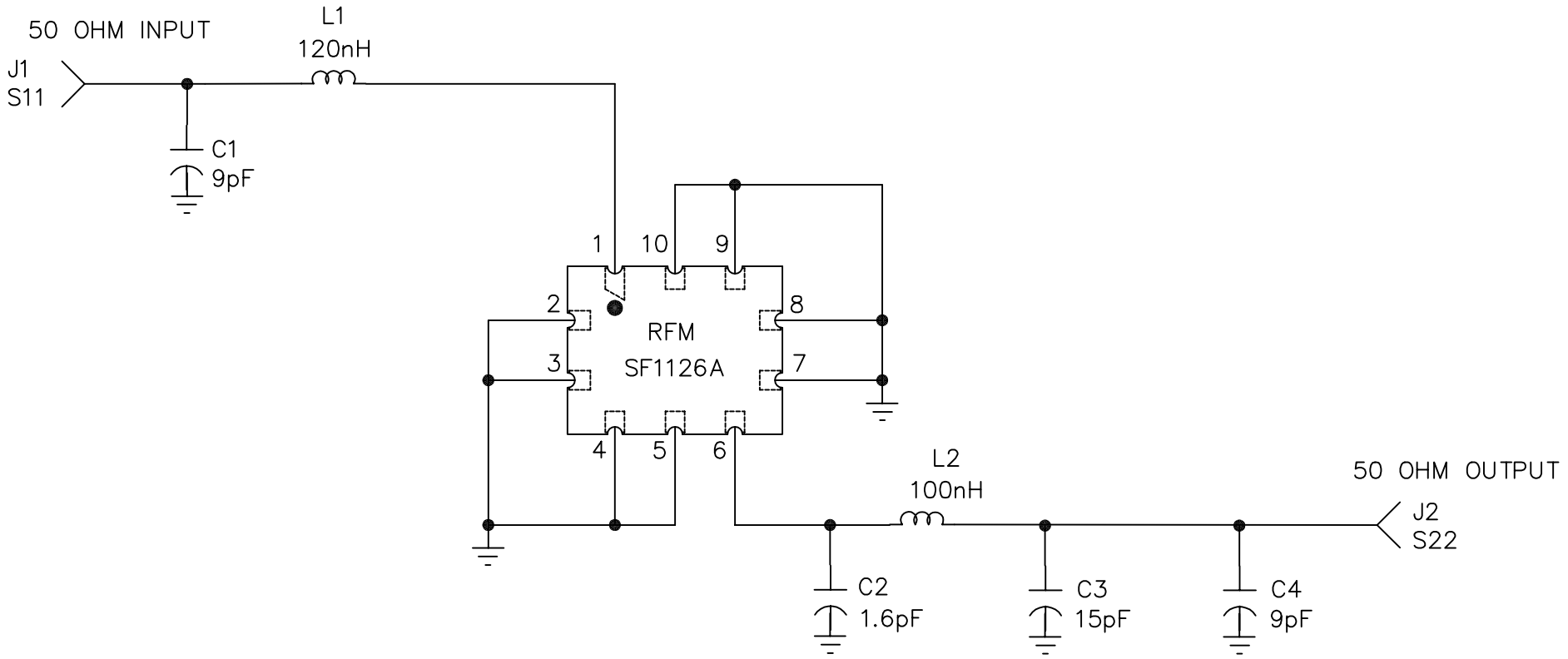
Materials	
Solder Pad Termination	Au plating 30 - 60 µinches (76.2-152 µm) over 80-200 µinches (203-508 µm) Ni.
Lid	Fe-Ni-Co Alloy Electroless Nickel Plate (8-11% Phosphorus) 100-200 µinches Thick
Body	Al_2O_3 Ceramic
Pb Free	

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**



NOTES:

REV	ECN NO.	DESCRIPTION	APP/DATE
A	8180	INITIAL RELEASE	08oct99



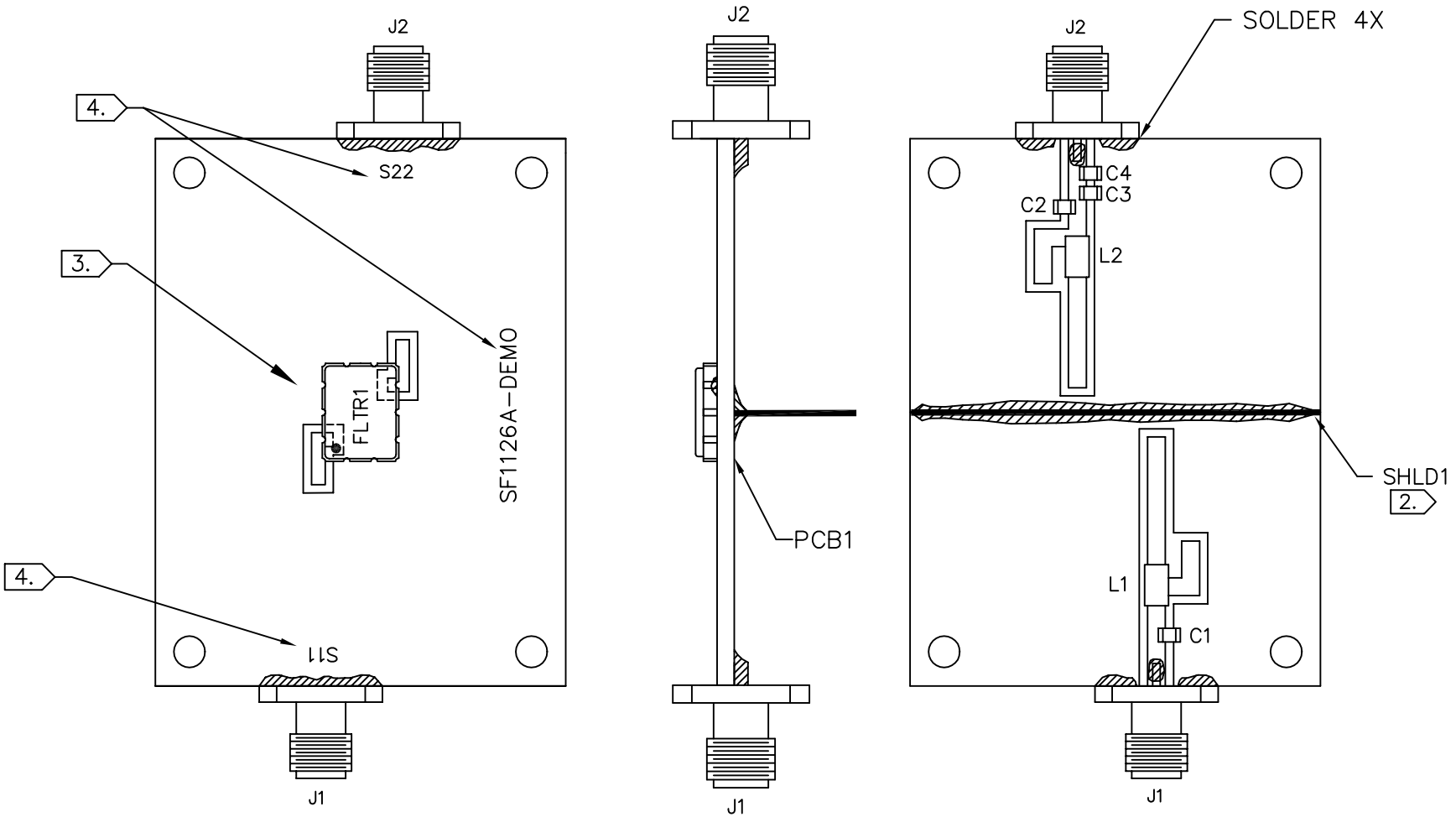
SCHEMATIC

D.U.T. VIEWED FROM TOP

DRAWN BY/DATE: J.F.Christopherson 08oct99		TITLE: ASSEMBLY DIAGRAM, SF1126A-DEMO				
RF Monolithics, Inc. DALLAS, TEXAS 75244		SIZE A	CODE IDENT 2U874	DWG. NO. SF1126A-000	REV A	SHEET 1/3

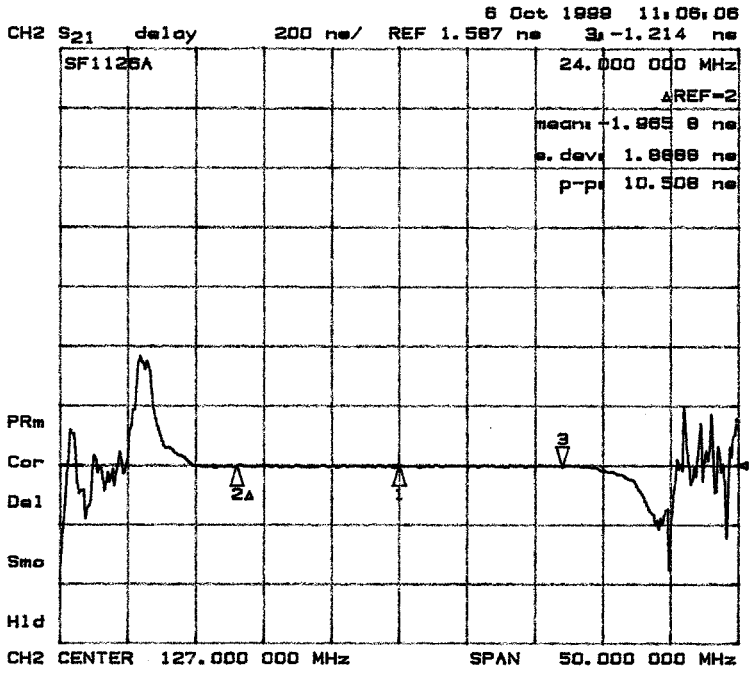
NOTES:

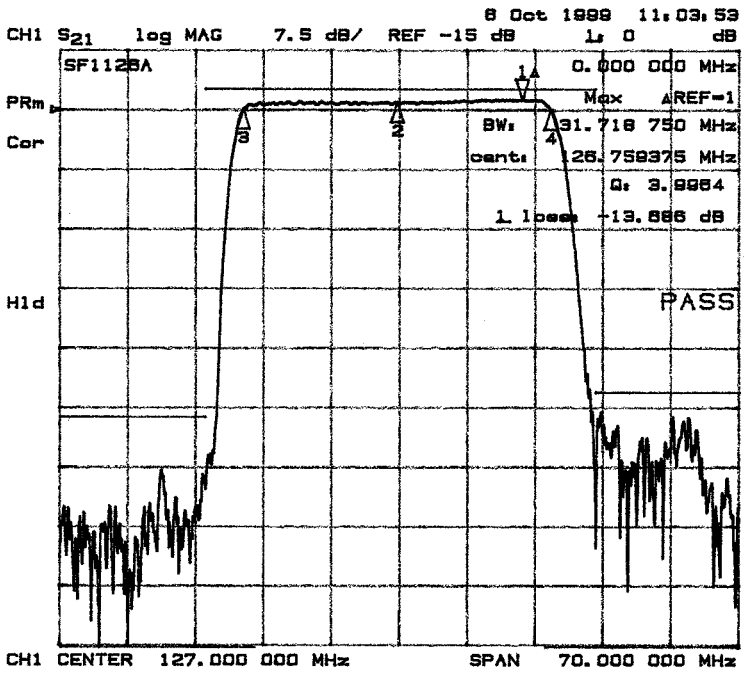
1. SOLDER MOUNT COMPONENTS AND CONNECTORS TO PCB1
2. SOLDER SHLD1 AS SHOWN AND TRIM TAB FROM SHIELD SO THAT IT IS FLUSH WITH PCB.
3. ORIENT THE FLTR1 AND SOLDER IT DOWN TO THE BOARD AS SHOWN
4. LABEL AS SHOWN.

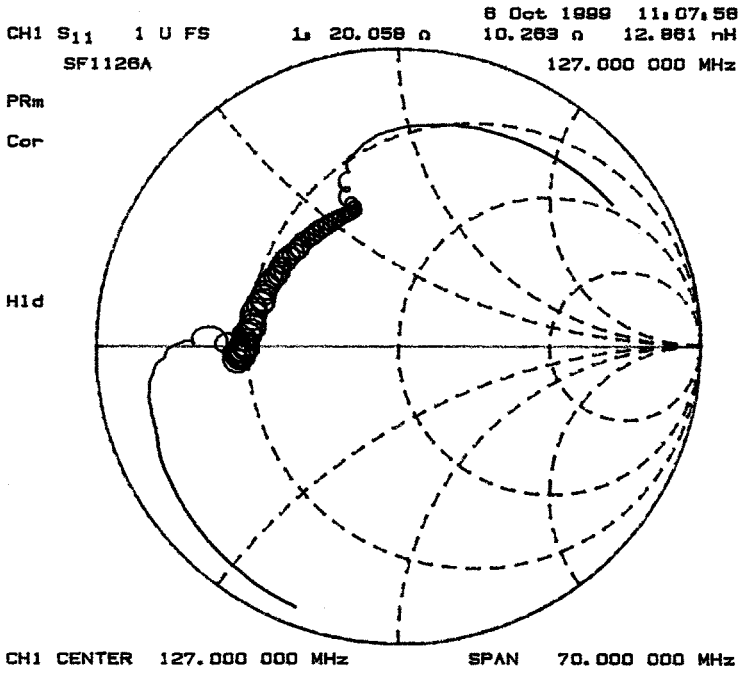


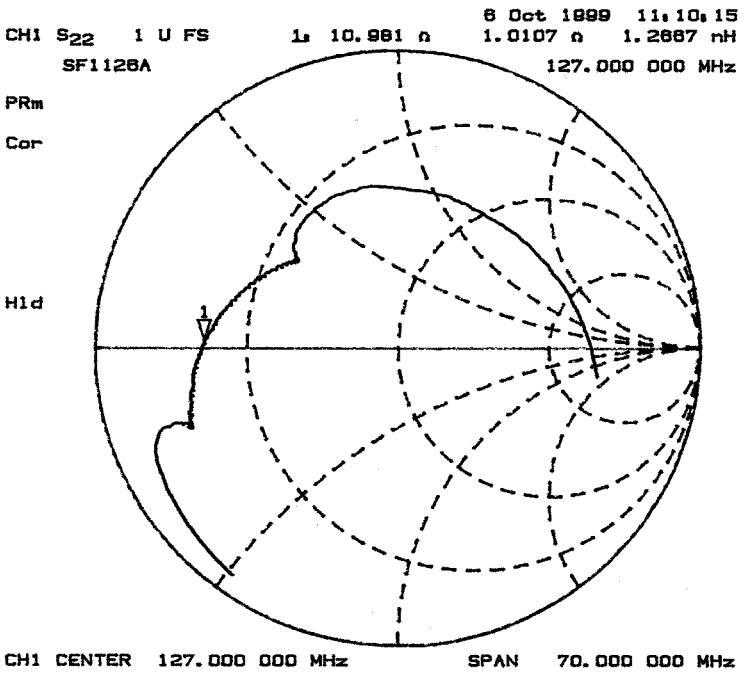
RF Monolithics, Inc. DALLAS, TEXAS 75244		SIZE A	CODE IDENT 2U874	DWG. NO. SF1126A-000	REV A	SHEET 2

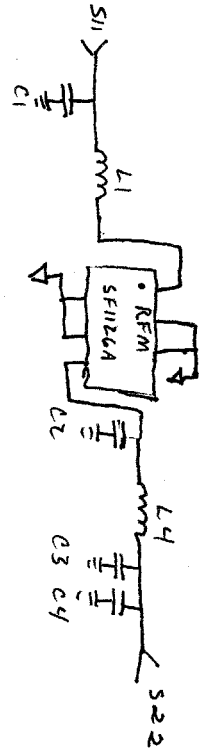
SF1126A
DEMO BOARD #1
10-6-99
@
Lot #13











$C_1, C_4 = 9.0$ pf.
$C_2 = 1.6$ pf.
$C_3 = 15$ pf.
$L_1 = 120$ nH
$L_2 = 100$ nH

SF1126A-000