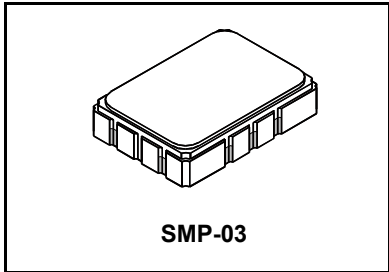


SF1140B

**75.00 MHz
SAW Filter**



- **Designed for SDARS IF Receiver**
- **Low Insertion Loss**
- **5.0 X 7.0 mm Surface-Mount Case**
- **Differential Input and Output**
- **Complies with Directive 2002/95/EC (RoHS)**



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	

Characteristic	Sym	Notes	Min	Typ	Max	Units
Nominal Center Frequency	f_c	1	75.000			MHz
Passband	IL	1		11.0	13.0	dB
Insertion Loss at f_c 1dB Passband	BW_1		± 2.1	± 2.7		MHz
Fast Amplitude Ripple over $f_c \pm 2.1$ MHz		1, 2			1.0	dB _{P-P}
Group Delay Variation over $f_c \pm 2.1$ MHz	GDV			40	200	ns _{P-P}
Rejection		1, 2, 3	40	43		dB
$f_c - 15$ to $f_c - 7.15$ and $f_c + 15$ to $f_c + 65$ MHz $f_c + 7.15$ to $f_c + 15$ MHz			36			
Operating Temperature Range	T_A	1	-40		+85	°C
Differential Input and Output Impedance			250 ohms			
Case Style		6	SMP-03 7 x 5 mm Nominal Footprint			
Lid Symbolization (YY=year, WW=week, S=shift) See note 4			RFM SF1140B YYWWS			

Electrical Connections

Connection	Terminals
Port 1 Hot	10
Port 1 Ground Return	1
Port 2 Hot	5
Port 2 Ground Return	6
Case Ground	All Others

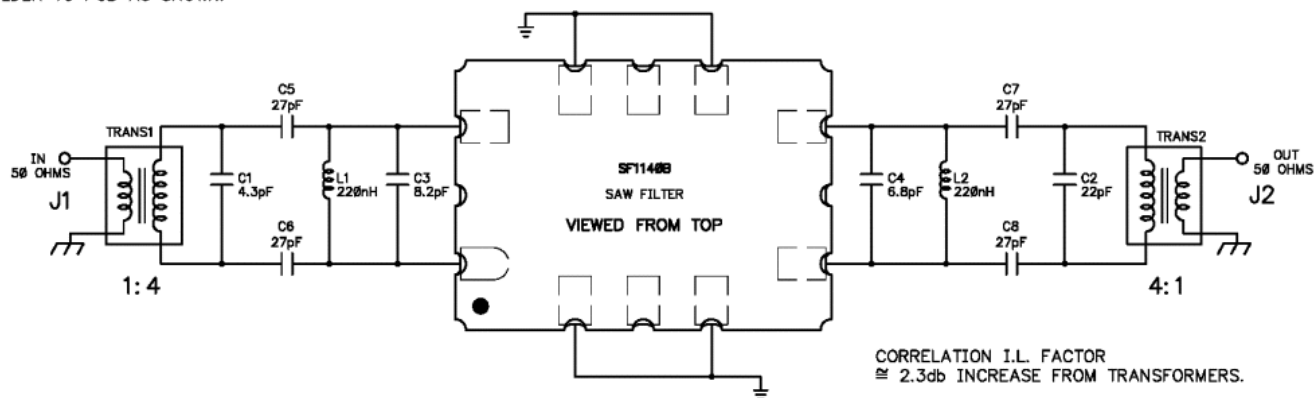
NOTES:

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. The design, manufacturing process, and specifications of this filter are subject to change.
4. 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.
5. US and international patents may apply.
6. Electrostatic Sensitive Device. Observe precautions for handling

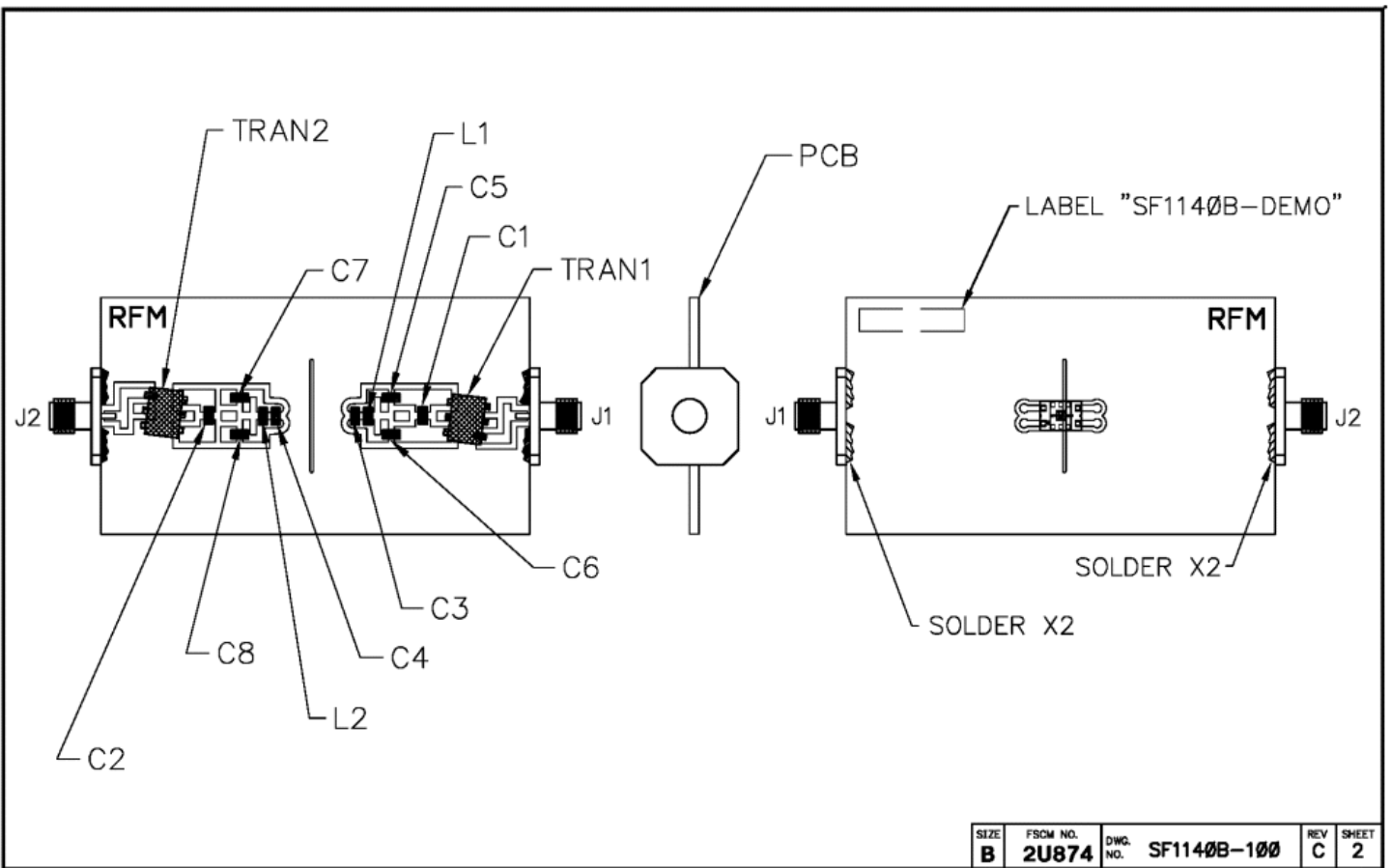
NOTES:

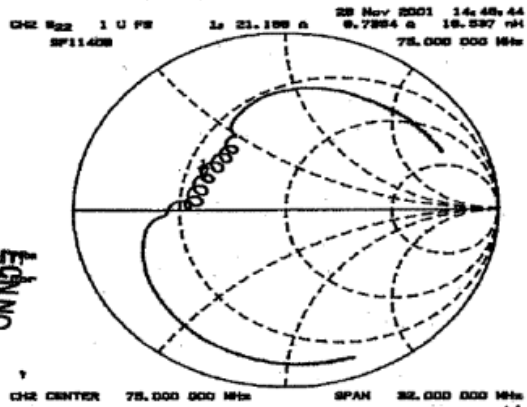
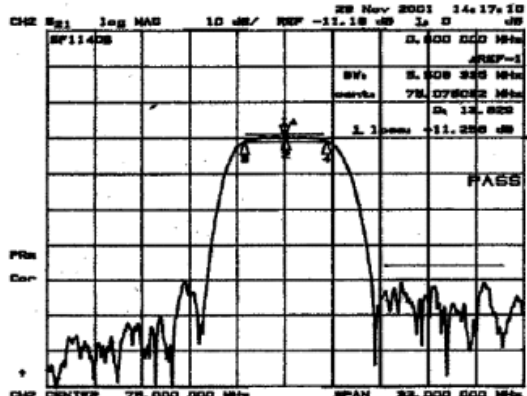
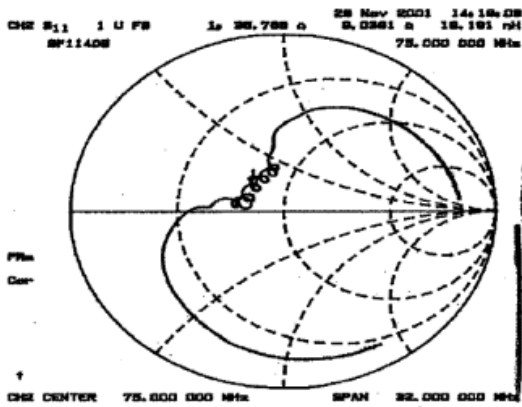
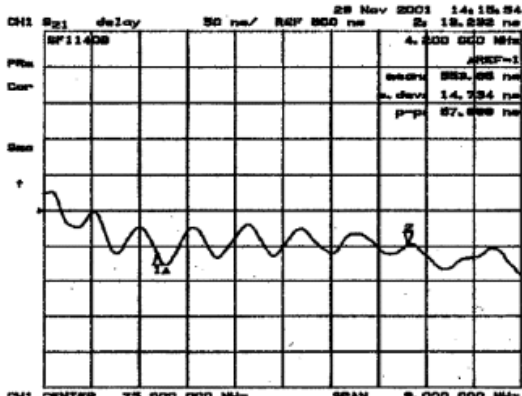
REV	EDN	DESCRIPTION	DATE
A	9214	INITIAL RELEASE	29nov00
B	10655	REVISED	30apr02
C	11078	REVISED	20nov02

- 1 ~~SOLDER "TAPE" 4 PLACES ONTO COMPONENT SIDE OF PCB AS SHOWN.~~
- 2 USE A WRIST STRAP WHEN SOLDERING TRANS 1, AND TRANS 2 TO PCB. (CUT LEADS .07 IN.)
- 3 MOUNT AND SOLDER ALL COMPONENTS ON PCB.
- 4 CUT CENTER CONDUCTORS FROM J1 AND J2 TO .10 IN.
- 5 MOUNT J1 AND J2 AS SHOWN (SOLDER BACKSIDE ALSO).
- 6 LABEL DEMO BOARD ACCORDINGLY.
- 7 MOUNT "FILTER" ON TOPSIDE OF PCB AS SHOWN.
8. ~~MOUNT L1 AND L2 90° TO EACH OTHER.~~
9. ~~CUT SHIELD IN TWO PIECES, "SHIELD A" AND "SHIELD B", SOLDER TO PCB AS SHOWN.~~

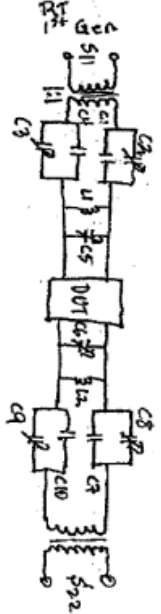


TITLE				
ASSY DIAGRAM, SF1140B-DEMO, S, TD				
SIZE	FSCM NO.	DWG. NO.	REV	SHEET
B	2U874	SF1140B-100	C	1/2





SF1140B
 Devs 3
 DC010612
 Fix EN61
 423-1140-100



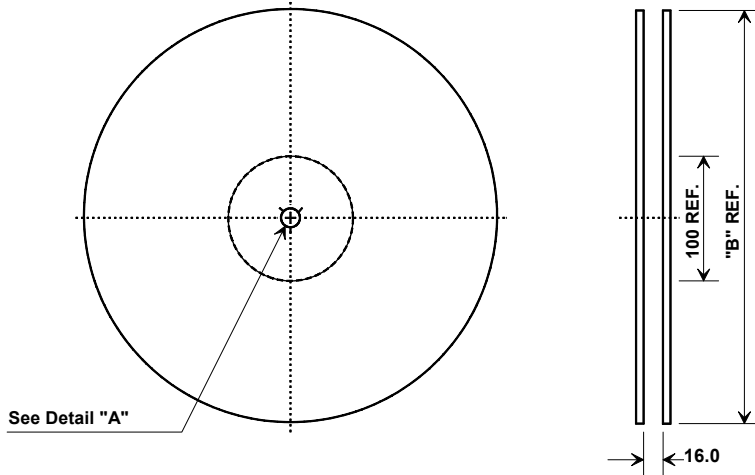
C1
 C4 = 22 pf
 C7
 C8
 C2 = 1-5 pf
 C3
 C6
 L1 = 220 nH
 L2 = 2.5-10 pf
 C5

11078
 SHEET 3/0

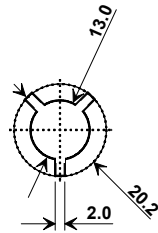
EDN NO.

SIZE	A	FSM NO.	2U874	DWG NO.	432-1140-113	REV	A
SCALE	NONE	EDN NO.	11078	SHEET	4	OF	4

Tape and Reel Specifications

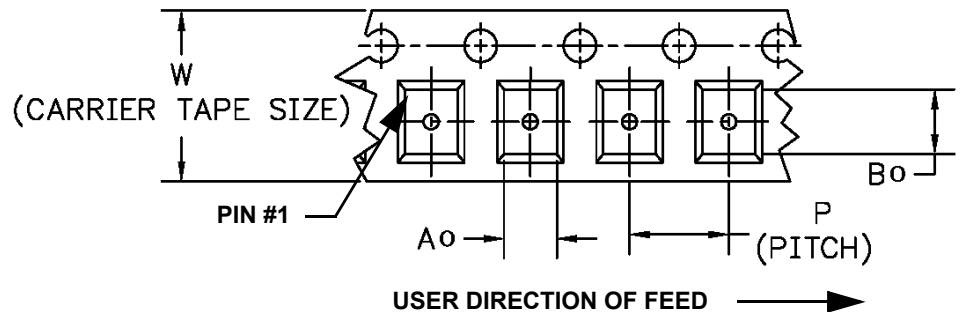


"B "		Quantity Per Reel
Nominal Size		
Inches	millimeters	
7	178	500
13	330	2000



COMPONENT ORIENTATION and DIMENSIONS

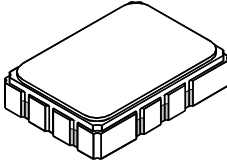
Carrier Tape Dimensions		Tolerance
Ao	5.5 mm	± 0.1mm
Bo	7.5 mm	± 0.1mm
Ko	2.0 mm	± 0.1mm
Pitch	8.0 mm	± 0.1mm
W	16.0 mm	± 0.2mm



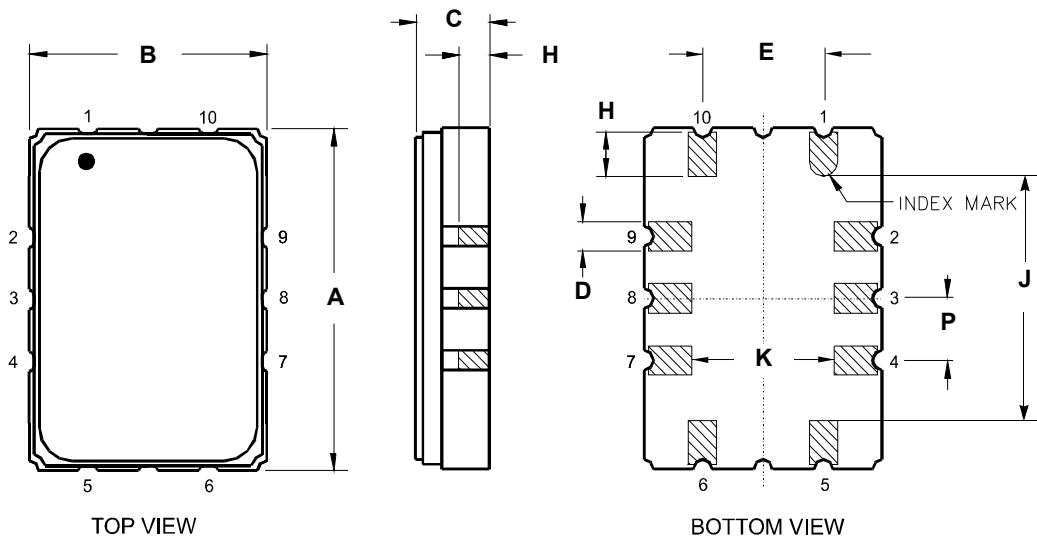
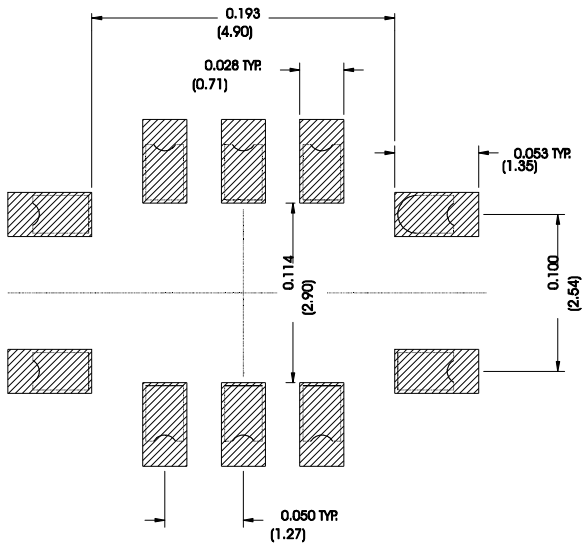
SMP-03 Case

10-Terminal Ceramic Surface-Mount Case

7 x 5 mm Nominal Footprint



Recommended PCB Footprint



Case Dimensions						
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	6.80	7.00	7.20	0.268	0.276	0.283
B	4.80	5.00	5.20	0.189	0.197	0.205
C		1.65	2.00		0.065	0.079
D	.47	0.60	.73	0.019	0.024	0.029
E	2.41	2.54	2.67	0.095	0.100	0.105
H	0.87	1.0	1.13	0.034	0.039	0.044
J	4.87	5.00	5.13	0.192	0.197	0.202
K	2.87	3.00	3.13	0.113	0.118	0.123
P	1.14	1.27	1.40	0.045	0.050	0.055

Materials	
Solder Pad Termination	Au plating 30 - 60 ulnches (76.2-152 uM) over 80-200 ulnches (203-508 uM) Ni.
Lid	Fe-Ni-Co Alloy Electroless Nickel Plate (8-11% Phosphorus) 100-200 ulnches 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

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