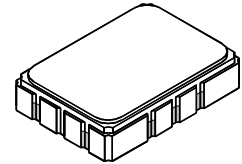


- **Designed for SDARS IF Receiver**
- **Low Insertion Loss**
- **5.0 X 7.0 mm Surface-Mount Case**
- **Differential Input and Output**
- **Complies with Directive 2002/95/EC (RoHS)**
- **Moisture Sensitivity Level: 1**
- **AEC-Q200 Qualified**

SF1142B

315.00 MHz
SAW Filter



SMP-03

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 Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Nominal Center Frequency	f_C		315.000			MHz
Passband	IL	Insertion Loss at f_C		13.0	14.0	dB
	BW_1	1dB Passband	± 2.1	± 2.25		MHz
		Fast Amplitude Ripple over $f_C \pm 2.1$ MHz			1.0	dB _{P-P}
	GDV	Group Delay Variation over $f_C \pm 2.1$ MHz		75	200	ns _{P-P}
Rejection		100 to $f_C - 4.6$ and $f_C + 4.85$ to $f_C + 100$ MHz	40	47		dB
Operating Temperature Range	T_A		-40		+85	°C
Differential Input and Output Impedance			250 ohms			
Case Style			SMP-03 7 x 5 mm Nominal Footprint			
Lid Symbolization (YY=year, WW=week, S=shift, ## = Sequence Code)			RFM, SF1142B, <u>YYWWS##</u>			

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



CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

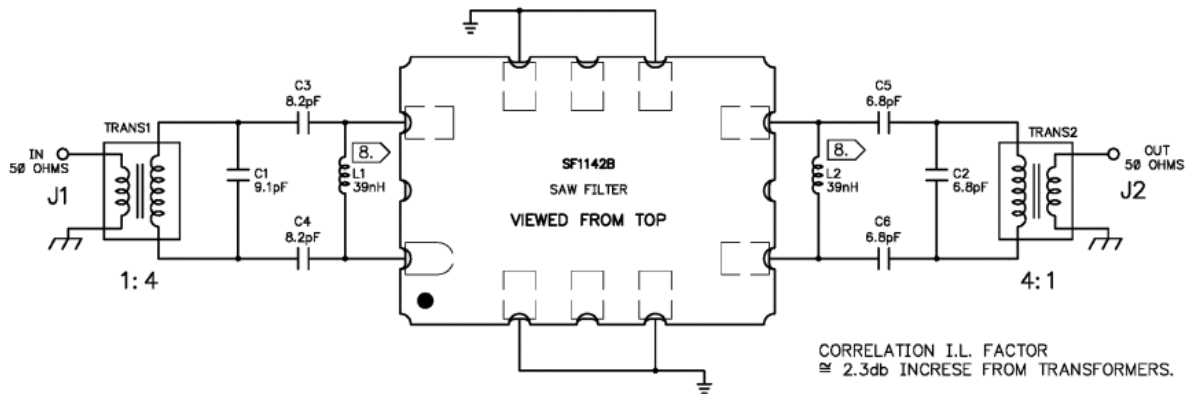
NOTES:

1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

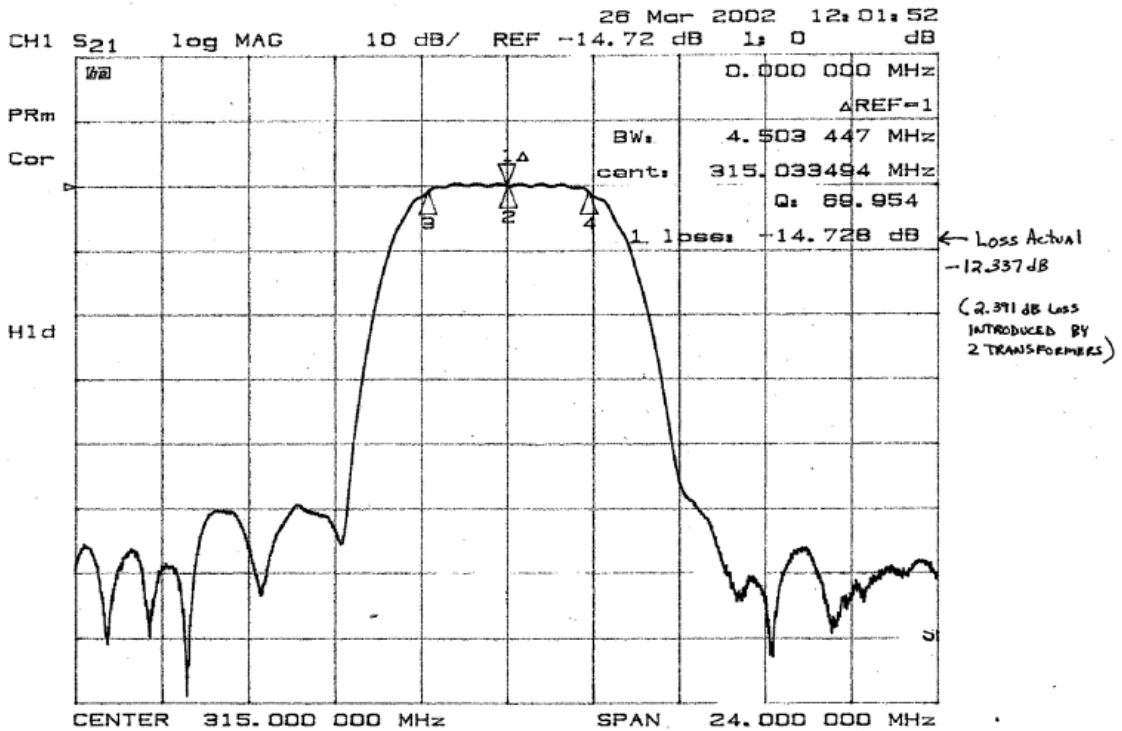
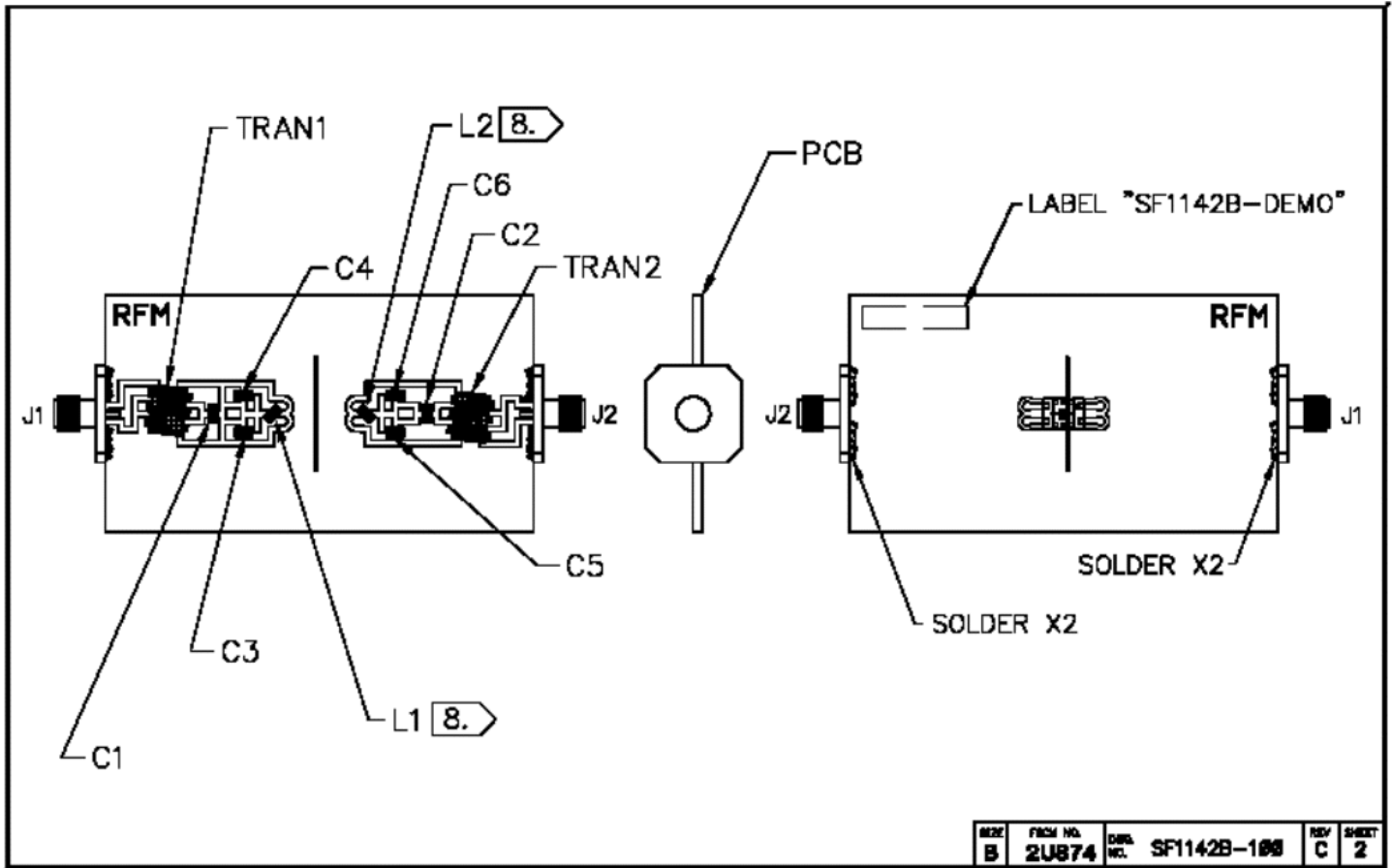
NOTES:

- 1 ~~SOLDER "TAPE" 4 PLACES ON TO 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.~~

REV	ECN	DESCRIPTION	DATE
A	9121	INITIAL RELEASE	26oct00
B	10655	REVISED	30apr02
C	11077	REVISED	20nov02

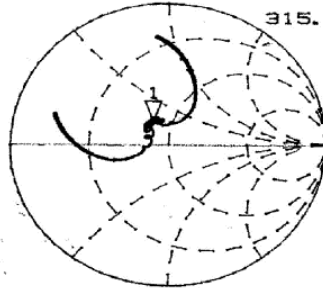


TITLE				
ASSY DIAGRAM, SF1142B-DEMO, S, TD				
SIZE	FSCM NO.	DWG. NO.	REV	SHEET
B	2U874	SF1142B-100	C	1/2



26 Mar 2002 12:06:01
 CH1 S11 1 U FS 1: 39.736 Ω 13.131 Ω 6.6344 nH
 315.000 000 MHz

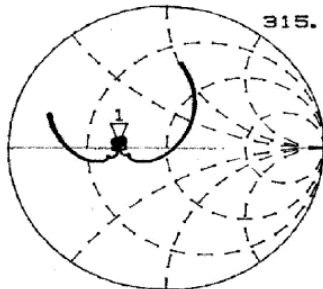
PRm
 Cor



H1d

CH2 S22 1 U FS 1: 26.956 Ω 1.5781 Ω 797.35 pF
 315.000 000 MHz

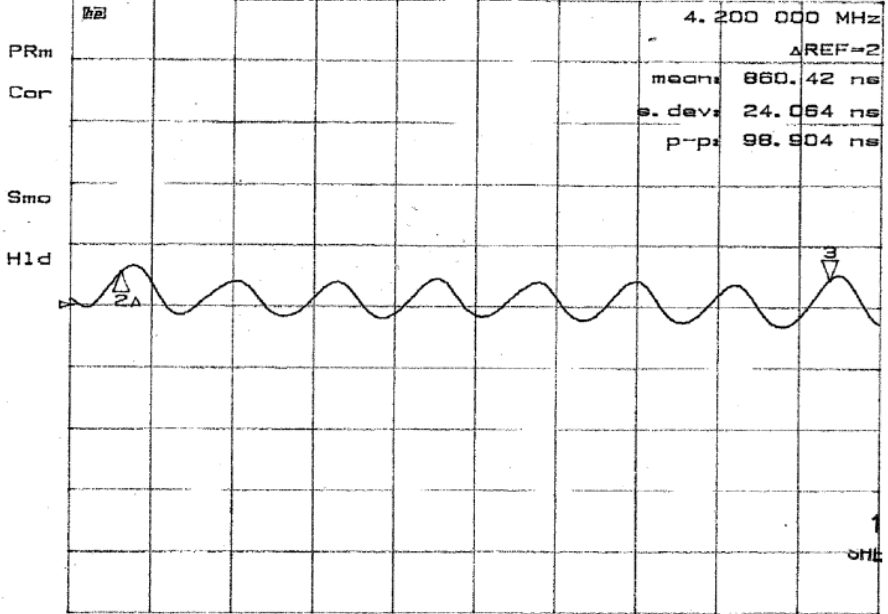
PRm
 Cor



H1d

CENTER 315.000 000 MHz SPAN 24.000 000 MHz

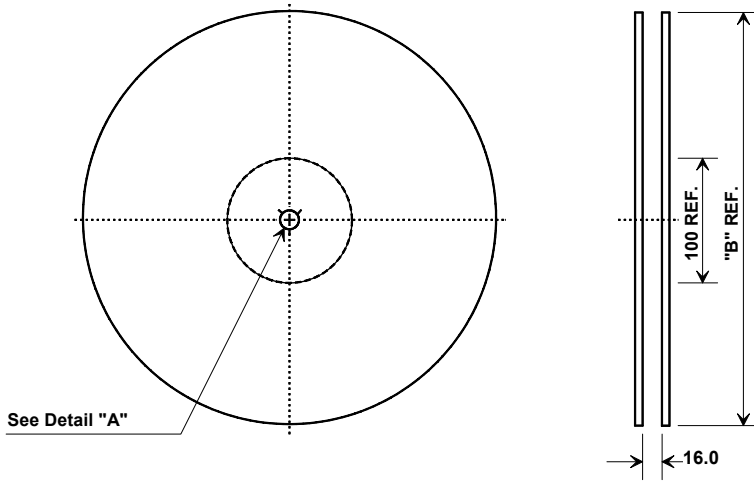
26 Mar 2002 11:56:40
 CH1 S21 delay 100 ns/ REF 850 ns 3: -10.133 ns



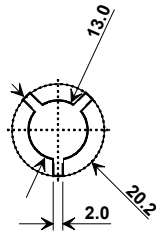
CENTER 315.000 000 MHz SPAN 4.800 000 MHz

Tape and Reel Specifications

Tape and Reel Standard per ANSI/EIA-481

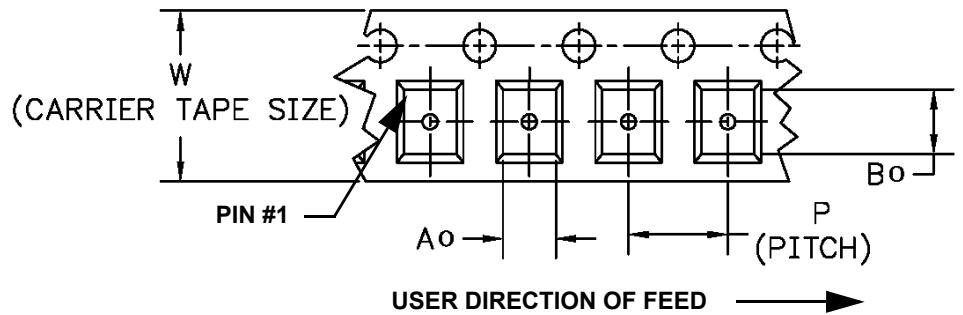
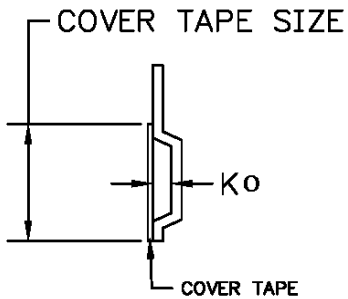


"B" Nominal Size		Quantity Per Reel
Inches	millimeters	
7	178	500
13	330	2000



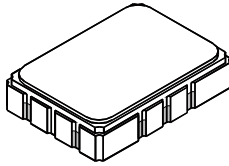
COMPONENT ORIENTATION and DIMENSIONS

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

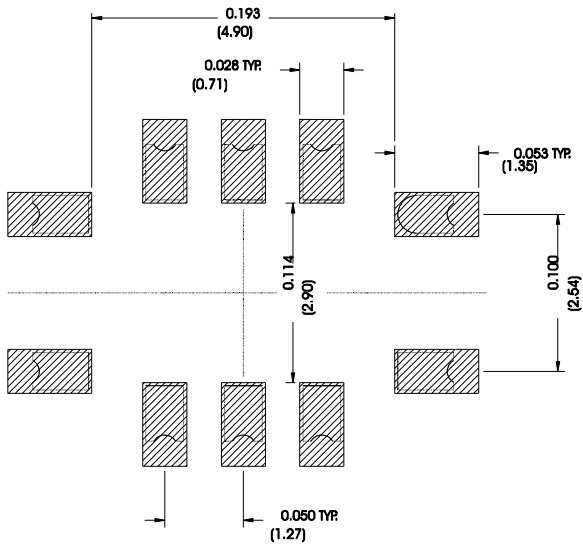


SMP-03 Case

10-Terminal Ceramic Surface-Mount Case 7 x 5 mm Nominal Footprint



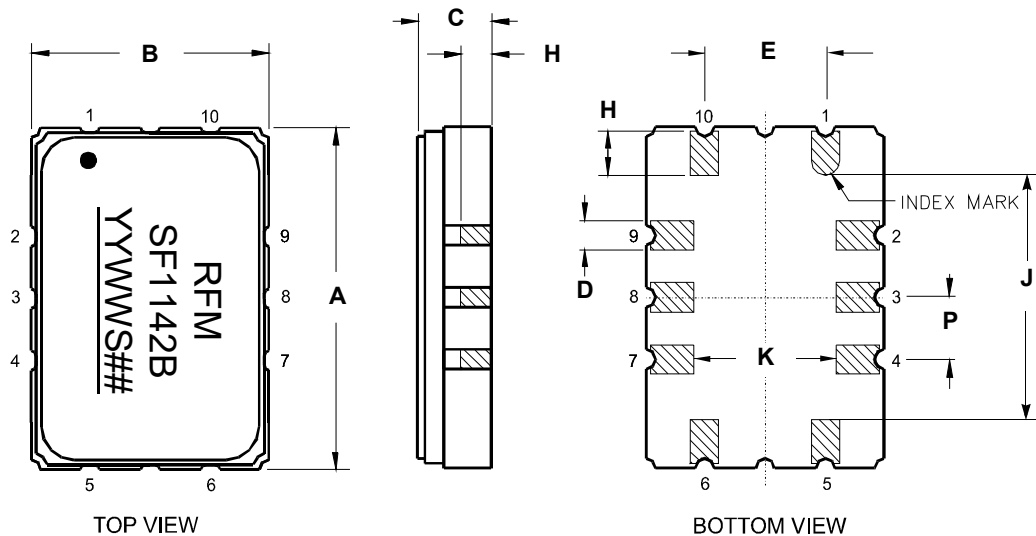
Recommended PCB Footprint



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

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



Recommended Reflow Profile

1. Preheating shall be fixed at 150~180°C for 60~90 seconds.
2. Ascending time to preheating temperature 150°C shall be 30 seconds min.
3. Heating shall be fixed at 220°C for 50~80 seconds and at 260°C+0/-5°C peak (10 seconds).
4. Time: 5 times maximum.

