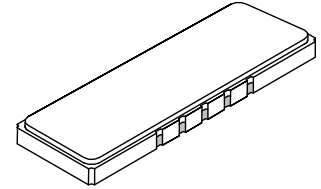


- *Designed for GSM BTS Receiver IF Applications*
- *Low Insertion Loss*
- *Excellent Size-to-Performance Ratio*
- *Hermetic SMP-75 Surface-Mount Case*
- *Unbalanced Input and Output*
- *Complies with Directive 2002/95/EC (RoHS)*
- *Tape and Reel Standard per ANSI/EIA-481*
- *Moisture Sensitivity Level: 1*

**SF1092A**

**199 MHz  
SAW Filter**



**SMP-75**

**Absolute Maximum Ratings**

Rating	Value	Units
Maximum Incident Power in Passband	+18	dBm
Maximum DC voltage between any 2 terminals	30	VDC
Storage Temperature Range	-40 to +85	°C
Suitable for lead-free soldering - Maximum Soldering Profile	260°C for 30 s	

**Electrical Specifications**

Characteristic	Sym	Notes	Min	Typ	Max	Units
<b>Nominal Center Frequency</b>	$f_c$			199.000		MHz
Passband	Insertion Loss at $f_c$	IL		5.5	7.0	dB
		1 dB Passband	$BW_1$	$\pm 100$	$\pm 140$	kHz
	Amplitude Ripple over $f_c \pm 100$ kHz				1.0	dB <sub>P-P</sub>
		Group Delay Variation over $f_c \pm 100$ kHz	GDV		300	500
Rejection	$f_c - 800$ to $f_c - 600$ and $f_c + 600$ to $f_c + 800$ kHz		35			dB
		119 MHz to $f_c - 800$ kHz	45			
		$f_c + 800$ kHz to 278 MHz	45			
Operating Temperature Range	$T_A$		-10		+85	°C
Frequency Temperature Coefficient	FTC			0.32		ppm/°C <sup>2</sup>

Impedance Matching to 50 $\Omega$ unbalanced	External L-C
Lid Symbolization (YY = year, WW = week, S = shift, ## = sequence code)	RFM, SF1092A, YYWWWS##
Case Style: SMP-75 19 x 6.5 mm Nominal Footprint	Reel Count: 7" = 500, 13" = 1000

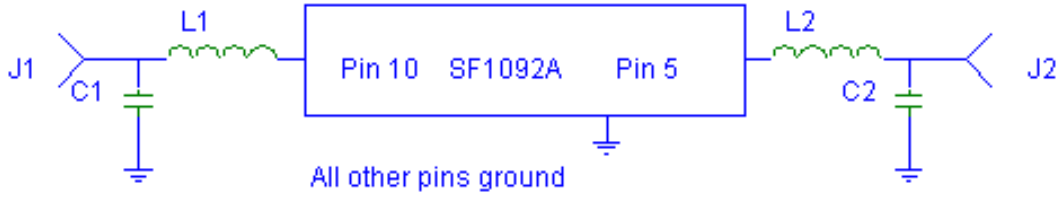


**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

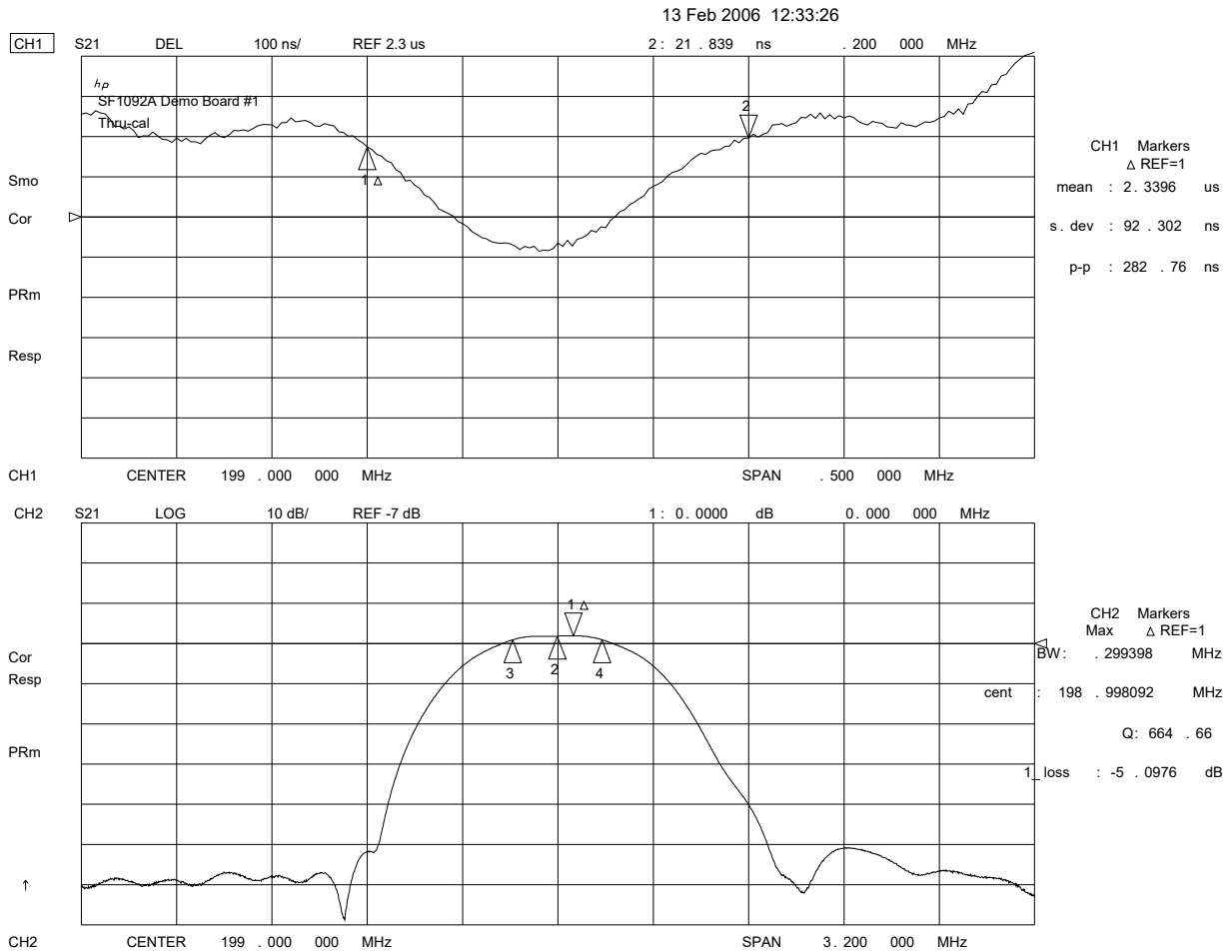
**NOTES:**

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.

### SF1092A Demo Board



PCB=400-1467-001 19 mm demo  
 J1, J2=500-0248-001 4 hole flange SMA connector  
 C1, C2=500 0903 220 22pF  
 L1=500 0782 820 0805CS 82 nH  
 L2=500-0782-680 0805CS 68 nH  
 Note: L1 and L2 are at 90 degree angle to each other



13 Feb 2006 12:34:35

CH1

S11 1 UFS

1: 27.100 Ω 26.697 Ω 21.352 nH

199.000 000 MHz

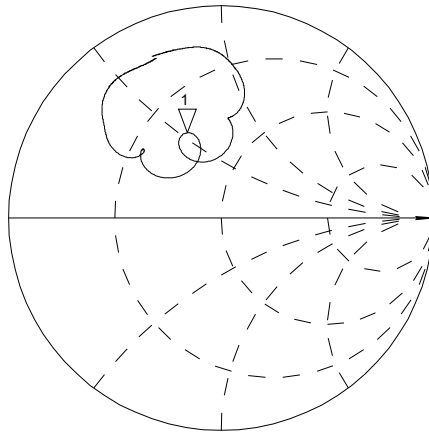
*hp*  
SF1092A Demo Board #1  
Full 2-port cal

Cor

PRm

Full

↑



CH2

S22 1 UFS

1: 36.609 Ω 31.684 Ω 25.340 nH

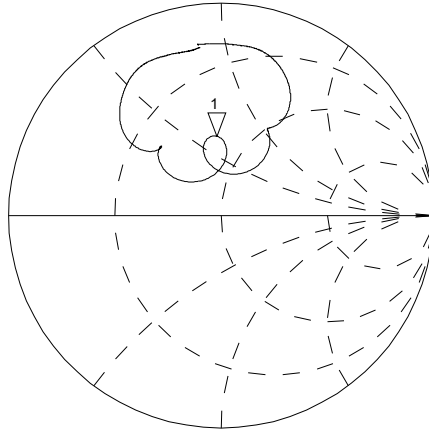
199.000 000 MHz

Cor

Full

PRm

↑

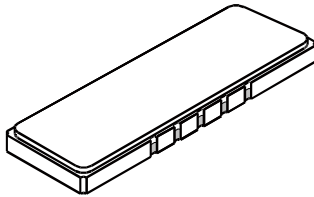


CENTER 199.000 000 MHz

SPAN 3.200 000 MHz

# SMP-75 Case

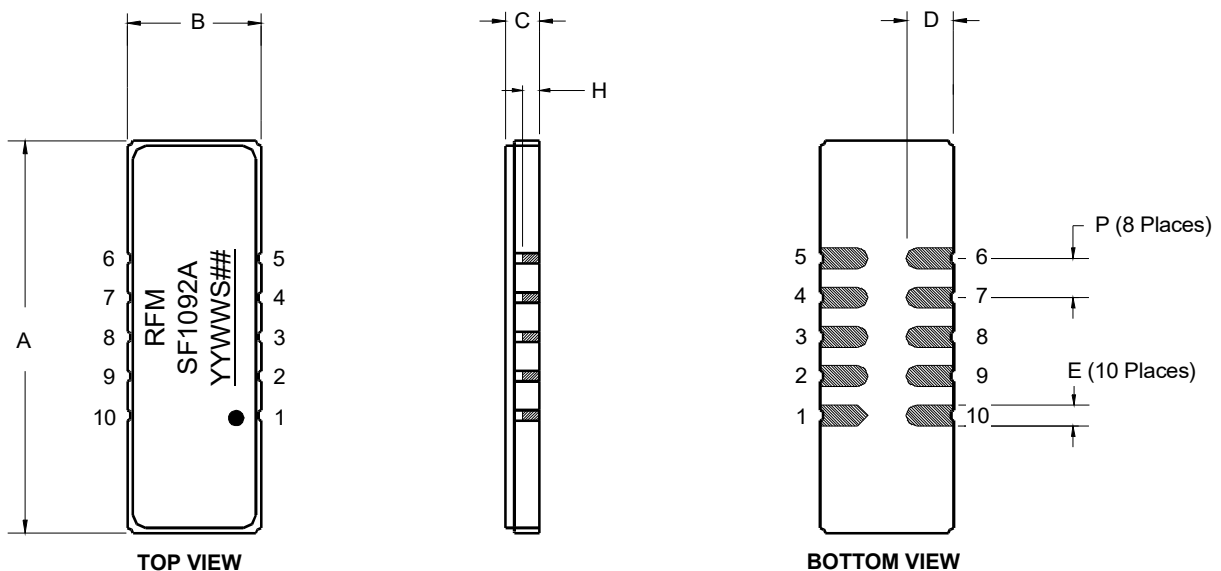
## 10-Terminal Ceramic Surface-Mount Case 19 x 6.5 mm Nominal Footprint



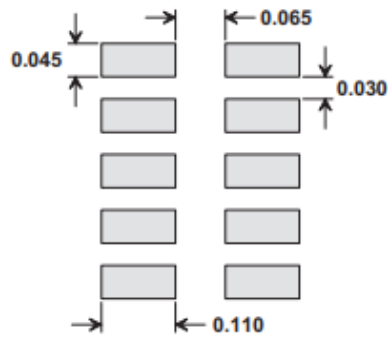
Case Dimensions						
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	18.80	19.00	19.30	0.740	0.748	0.760
B	6.30	6.50	6.80	0.248	0.256	0.268
C		1.75	2.00		0.069	0.079
D		2.29			0.090	
E		1.02			0.040	
H		1.0			0.039	
P		1.905			0.075	

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 <sub>2</sub> O <sub>3</sub> 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

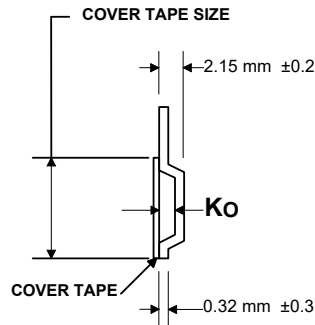
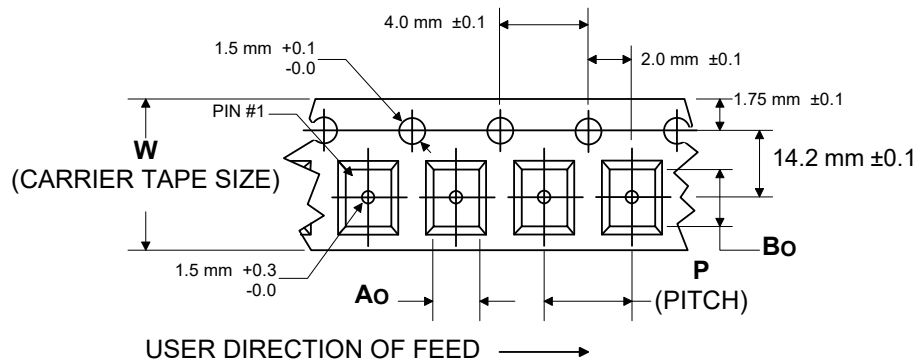


### SMP-75 Pad Layout



Dimensions are in inches. All pads have the same dimensions. Vertical spacing between pads is 0.030

### COMPONENT ORIENTATION AND DIMENSIONS



Carrier Tape Dimensions		
<b>Ao</b>	7.2 mm	$\pm 0.1$
<b>Bo</b>	19.51 mm	$\pm 0.1$
<b>Ko</b>	2.24 mm	$\pm 0.1$
<b>Pitch</b>	12.0 mm	$\pm 0.1$
<b>W</b>	32.0 mm	$\pm 0.3$

## 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.

