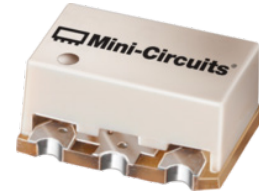


# Surface Mount Bandpass Filter

## SYBP-1950+

50Ω      1700 to 2200 MHz



Generic photo used for illustration purposes only  
CASE STYLE: TT1423

### The Big Deal

- Small size (0.25" X 0.31" X 0.15")
- Excellent power handling, 10 W
- Low insertion loss, 1.2 dB typ.

### Product Overview

SYBP-1950+ is a 50Ω bandpass filter fabricated using SMT technology. The bandpass filter covers from 1700 to 2200 MHz offering low insertion loss and good matching within the passband. It is fabricated in a tiny housing with very good power handling capabilities.

### Key Features

Feature	Advantages
Small size (0.25" X 0.31" X 0.15")	Saves space in dense circuit board layouts.
Excellent power handling, 10 W	Supports a wide range of system power requirements.
Low insertion loss, 1.2 dB typ.	Low insertion loss enables usage in satellite transmitters.

#### Notes

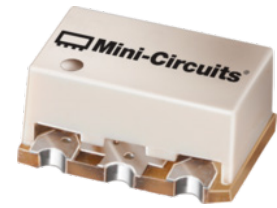
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# Surface Mount Bandpass Filter

50Ω 1700 to 2200 MHz

## SYBP-1950+



Generic photo used for illustration purposes only  
CASE STYLE: TT1423

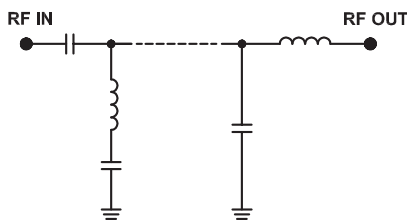
### Features

- Excellent power handling
- Small size
- Temperature stable

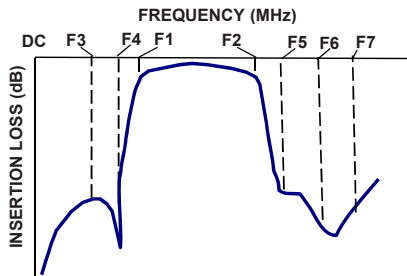
### Applications

- Military radio
- Lab use
- Satellite communication

### Functional Schematic

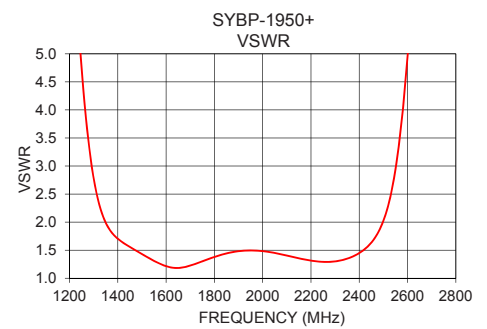
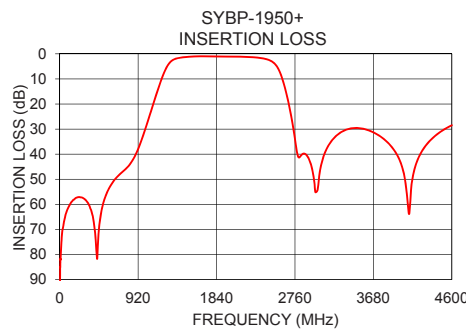
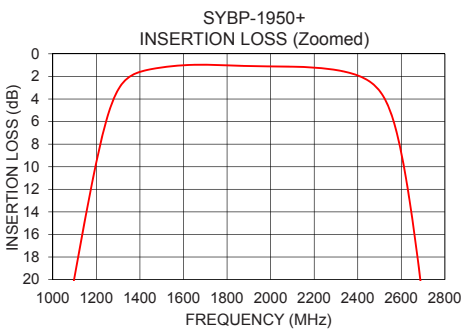


### Typical Frequency Response



#### +RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications



### Electrical Specifications at 25°C

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band	Center frequency	-	-	1950	-	MHz	
	Insertion Loss	F1-F2	1700 - 2200	-	1.2	2.2	dB
	VSWR	F1-F2	1700 - 2200	-	1.9	-	:1
Stop Band, Lower	Insertion Loss	DC-F3	DC - 880	30	39	-	dB
	VSWR	F3-F4	880 - 1030	20	26	-	dB
	VSWR	DC-F4	DC - 1030	-	29	-	:1
Stop Band, Upper	Insertion Loss	F5-F6	2900 - 4000	20	28	-	dB
	VSWR	F6-F7	4000 - 4600	-	20	-	dB
	VSWR	F5-F7	2900 - 4600	-	23	-	:1

### Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power Input*	10 W max. at 25°C

\*Passband rating, derate linearly to 3.75 W at 100°C ambient. Permanent damage may occur if any of these limits are exceeded.

### Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
10	81.78	386.31
100	61.33	626.21
200	57.33	686.16
250	57.20	552.76
800	45.00	64.90
880	40.90	51.78
1000	30.40	35.57
1030	27.25	31.55
1090	20.82	23.13
1300	3.18	2.39
1700	0.97	1.35
1950	1.10	1.54
2200	1.22	1.27
2490	3.04	1.50
2690	20.43	6.36
2750	31.68	8.77
2900	40.53	13.34
3000	55.15	14.52
4000	43.40	16.96
4600	28.46	26.27

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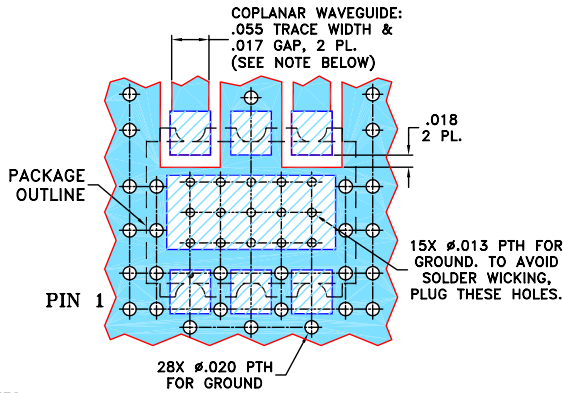
REV. OR  
M175559  
SYBP-1950+  
EDU3636  
URJ  
191114  
Page 2 of 3

**Pad Connections**

INPUT	4
OUTPUT	6
GROUND	1,2,3,5

Demo Board MCL P/N: TB-1122+  
Suggested PCB Layout (PL-308)

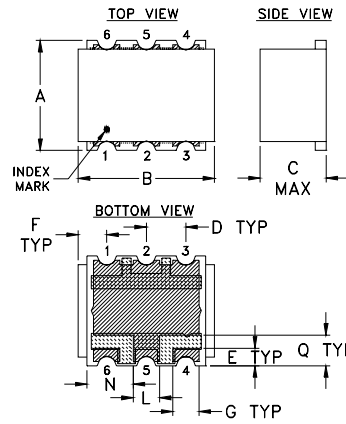
**SUGGESTED MOUNTING CONFIGURATION  
FOR TT1423 CASE STYLE "06FL04" PIN CONNECTION**



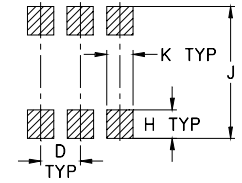
**NOTES:**

1. COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS RO4350B WITH THICKNESS .030" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH AND GAP MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
  - DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
  - DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

**Outline Drawing**



**PCB Land Pattern**



Suggested Layout,  
Tolerance to be within ±.002

- METALLIZATION
- SOLDER RESIST

**Outline Dimensions (inch/mm)**

A	B	C	D	E	F	G	H
.25	.31	.15	.090	.040	.065	.060	.065
6.35	7.87	3.81	2.29	1.02	1.65	1.52	1.65
J	K	L	N	Q	wt.		
.300	.060	.060	.105	.070	grams		
7.62	1.52	1.52	2.67	1.78	0.50		

Note: Please refer to case style drawing for details

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