

## The Big Deal

- Good VSWR (1.4:1 typical)
- Low insertion loss (1.3 dB typical)
- High rejection (65 dB typical)
- Miniature shielded package
- Suitable for Military and Avionics Radar systems



CASE STYLE: HF1139

## Product Overview

The SXBP-27R5+ is a 50Ω bandpass filter fabricated using SMT technology. Covering 27.5 MHz  $\pm$  3.5 MHz, these units offer good matching within the passband and high rejection. This unit uses a miniature high Q capacitors and wire welded inductors for high reliability. In addition it has repeatable performance across production lots and consistent performance across temperature.

## Key Features

Feature	Advantages
Good VSWR, 1.4:1 typical over Passband	This enables the filter to provide good matching when used with other devices.
High rejection up to 900MHz	This enables the filter to attenuate spurious signals and reject harmonics for broad band of frequency.
Shielded case	Reduced interference with the surrounding components.
Small size, 0.44" x 0.74" x 0.27"	The small surface mount package enables SXBP-27R5+ to be used in compact designs.

### Notes

A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.

B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.

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# Bandpass Filter

50Ω

24 to 31 MHz

SXBP-27R5+



CASE STYLE: HF1139

## Features

- Good VSWR, 1.4:1 typical over passband
- High rejection, (65 dB typical)
- Shielded case
- Aqueous washable

## Applications

- Test equipments
- Transmitters / receivers
- Harmonic rejection
- Military

## Electrical Specifications at 25°C

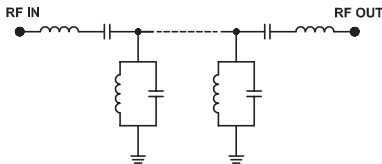
Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Center Frequency	—	—	27.5	—	MHz
	Insertion Loss	F1-F2	—	1.3	2.5	dB
	VSWR	F1-F2	—	1.4	1.7	:1
Stop Band, Lower	Insertion Loss	DC-F3	20	30	—	dB
	VSWR	DC-F3	—	75	—	:1
Stop Band, Upper	Insertion Loss	F4-F5	20	31	—	dB
	VSWR	F4-F5	—	15	—	:1

## Maximum Ratings

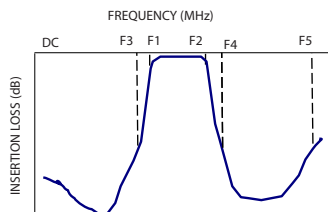
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	0.25W max.

Permanent damage may occur if any of these limits are exceeded.

## Functional Schematic



## Typical Frequency Response

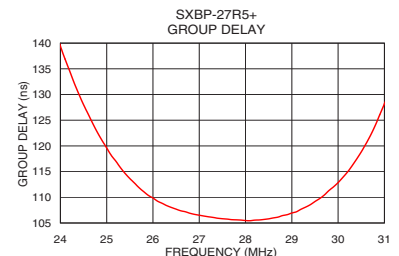
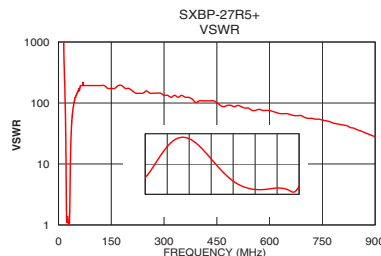
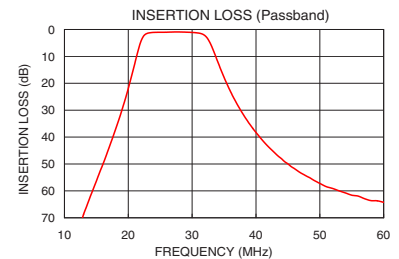
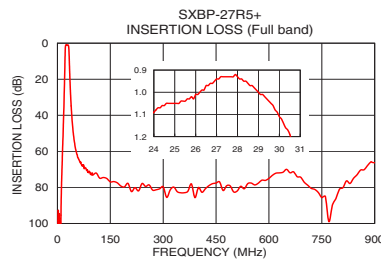


## Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
1.0	101.61	17371.78	24.00	139.42
16.0	50.21	434.30	24.50	128.02
19.0	29.96	102.19	25.00	119.60
21.0	12.84	18.70	25.50	113.64
21.8	5.66	5.36	26.00	109.87
22.4	2.44	2.15	26.50	107.70
24.0	1.09	1.11	26.80	106.89
25.6	1.03	1.38	27.00	106.51
27.5	0.93	1.15	27.30	106.08
31.0	1.33	1.05	27.40	105.92
33.0	5.96	4.74	27.50	105.83
34.0	11.91	11.85	27.70	105.65
35.5	20.50	26.33	28.00	105.48
39.0	35.12	59.91	28.30	105.59
45.0	49.95	108.58	28.50	105.81
60.0	64.24	173.72	29.00	106.95
100.0	73.19	193.02	29.50	109.18
250.0	79.46	157.93	30.00	112.85
500.0	82.50	86.86	30.50	118.83
900.0	66.25	28.03	31.00	128.17

## +RoHS Compliant

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



## Notes

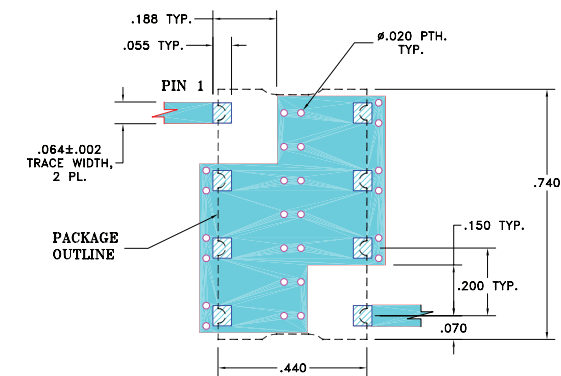
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Pad Connections

INPUT	1
OUTPUT	8
GROUND	2,3,4,5,6,7

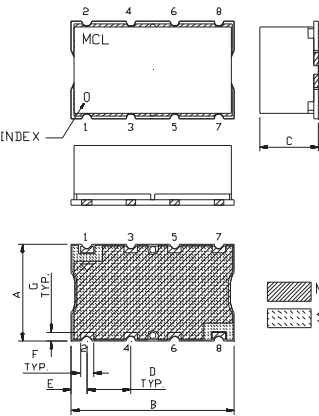
Demo Board MCL P/N: TB-368  
Suggested PCB Layout (PL-230)



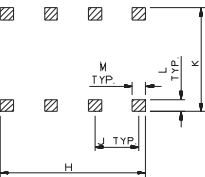
- NOTE:
- TRACE WIDTH IS SHOWN FOR FR4 WITH DIELECTRIC THICKNESS: .025"±.002". COPPER: 1/2 OZ. EACH SIDE.  
FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
  - BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Outline Drawing



PCB Land Pattern



Outline Dimensions ( inch mm )

A	B	C	D	E	F	G
.44	.74	.27	.200	.07	.060	.040
11.18	18.80	6.86	5.08	1.78	1.52	1.02
H	J	K	L	M		wt
.660	.200	.470	.055	.060		grams
16.76	5.08	11.94	1.40	1.52		3.0

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