

Surface Mount

Bandpass Filter

SXBP-27R5+

50Ω

24 to 31 MHz

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 ± 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.
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp



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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

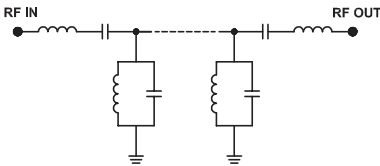
Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band	Center Frequency	—	—	27.5	—	MHz	
	Insertion Loss	F1-F2	24-31	—	1.3	2.5	dB
	VSWR	F1-F2	24-31	—	1.4	1.7	:1
Stop Band, Lower	Insertion Loss	DC-F3	DC-19	20	30	—	dB
	VSWR	DC-F3	DC-19	—	75	—	:1
Stop Band, Upper	Insertion Loss	F4-F5	39-900	20	31	—	dB
	VSWR	F4-F5	39-900	—	15	—	:1

Maximum Ratings

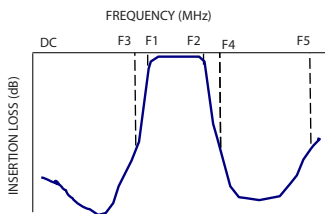
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	0.25W max.

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

Functional Schematic



Typical Frequency Response

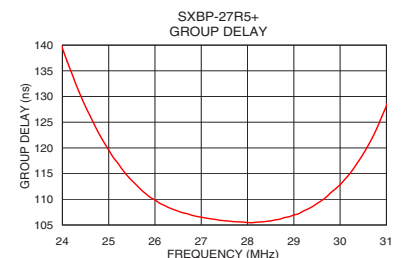
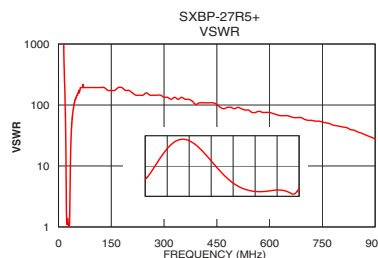
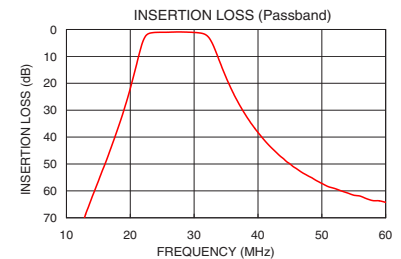
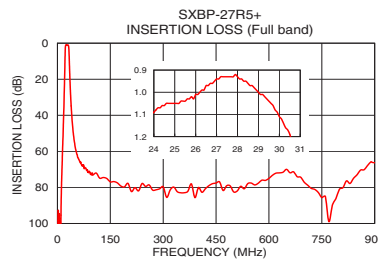


Typical Performance Data at 25°C

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



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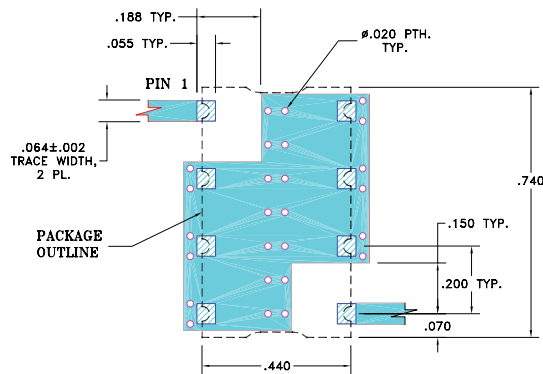
www.minicircuits.com P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

REV. A
M160153
SXBP-27R5+
EDR-10041U
RAV/URJ/NY
161230
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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)

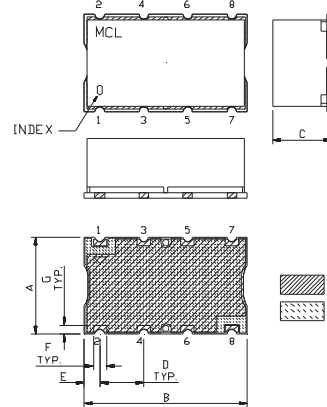


NOTE:

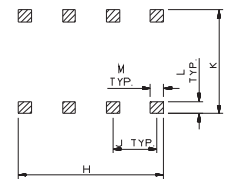
- TRACE WIDTH IS SHOWN FOR FR4 WITH DIELECTRIC THICKNESS: .025" ± .002". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
- BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

- 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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