CAVITY

Bandpass Filter ZVBP MODEL SERIES

50Ω DC to 57 GHz

THE BIG DEAL

- Very low insertion loss with excellent power handling
- Fast roll-off with wide stopband
- Passbands upto 36 GHz
- Stopband up to 57 GHz

PRODUCT OVERVIEW

Mini-Circuits' cavity filters are designed by implementing resonant structures with very high Q and are ideal for narrow-band, high-selectivity applications. These designs can provide bandwidths as narrow as 0.5% with very high selectivity and excellent low noise floor. Low insertion loss combined with excellent power handling makes them well-suited for transmitter and receiver front end. Advanced filter design and construction enables stopband width greater than 3x the center frequency.

Mini-Circuits' cavity filters feature a special protective assembly to prevent accidental de-tuning that would otherwise require expensive replacement or return to factory for re-tuning. Precise machining allows realization of cavity filters with small form factors for applications where size is critical. Excellent repeatability across units is achieved through precise tuning and process control.

KEY FEATURES

Feature	Advantages
Low insertion loss	Low signal loss results in better SNR in receiver front end and better power delivery to antenna in transmitter.
Fast roll-off	Higher selectivity results in better adjacent channel rejection and dynamic range
Wide stopband	Wide spur free band results in better receiver sensitivity
High power handling	Well suited for transmitter application
Protective assembly	Prevents accidental de-tuning of precisely tuned resonant circuit

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Bandpass Filter

ZVBP-3100-S+

50Ω 3020 to 3180 MHz SMA-Female

FEATURES

- Low Insertion loss, 1.5dB typ.
- Good Return loss, 20dB typ.
- Great Rejection (40 to 100 dB typ.)
- Stopband up to 7000 MHz

Generic photo used for illustration purposes only

Model No.	ZVBP-3100-S+
Case Style	WZ3389
Connectors	SMA-FEMALE

APPLICATIONS

- Test & Measurement Equipment
- Radar, EW, and ECM Defense Systems

+RoHS Compliant

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

ELECTRICAL SPECIFICATIONS AT 25°C

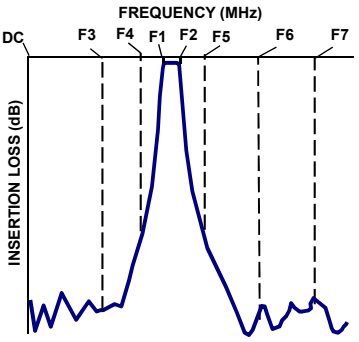
Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Units
Passband	Center Frequency	Fc	-	-	3100	-	MHz
	Insertion Loss	F1-F2	3020 - 3180	-	1.5	2.2	dB
	Return Loss	F1-F2	3020 - 3180	14	20	-	dB
Stop Band, Lower	Rejection	DC-F3	DC - 2975	40	44	-	dB
		F3-F4	2975 - 3000	14	18	-	dB
Stop Band, Upper	Rejection	F5-F6	3200 - 3220	15	20	-	dB
		F6-F7	3220 - 7000	40	44	-	dB

MAXIMUM RATINGS

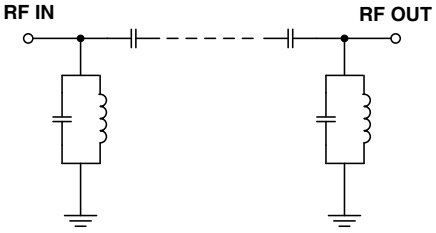
Parameter	Ratings
Operating temperature	-40°C to +85°C
Storage temperature	-55°C to +100°C
RF Power Input	20W max. at 25°C

Permanent damage may occur if any of these limits are exceeded
Input and output ports are DC short to ground.

TYPICAL FREQUENCY RESPONSE



FUNCTIONAL SCHEMATIC



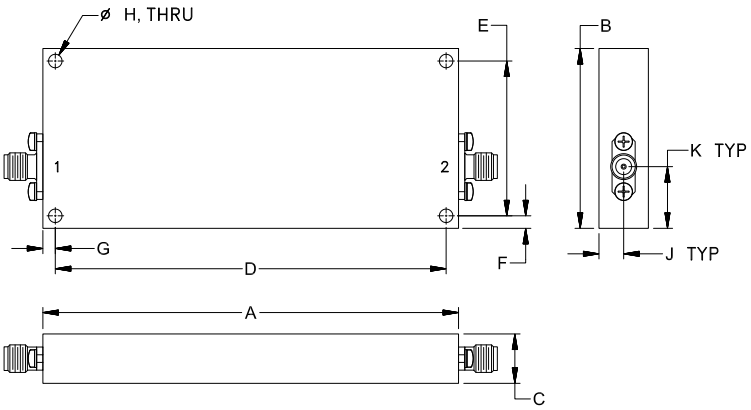
Bandpass Filter

ZVBP-3100-S+

COAXIAL CONNECTIONS

PORT 1	SMA-Female
PORT 2	SMA-Female

OUTLINE DRAWING



OUTLINE DIMENSIONS (Inches / mm)

A	B	C	D	E	F
4.00	**1.73**	**.48**	**3.760**	**1.490**	**.12**
101.6	43.9	12.1	95.50	37.85	3.0
G	H	J	K		Wt.
.12	**.130**	**.24**	**.59**		grams
3.0	3.3	6.0	15.1		210

Note. Please refer to case style drawing for details

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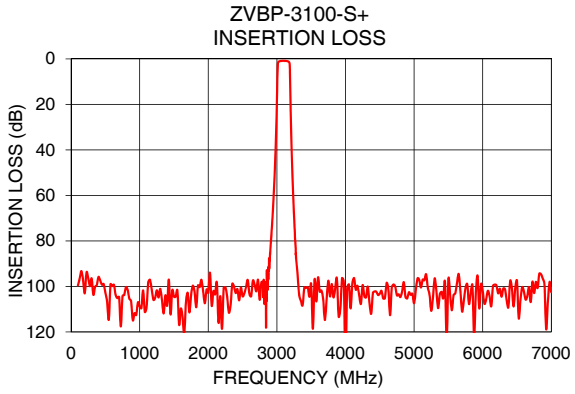
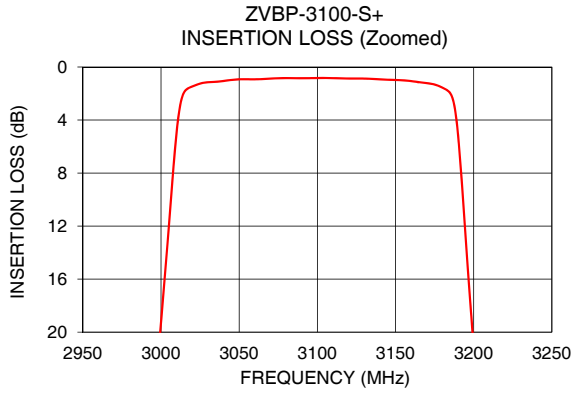
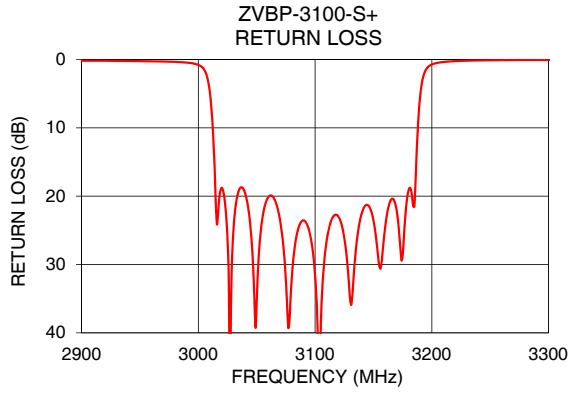
ZVBP-3100-S+

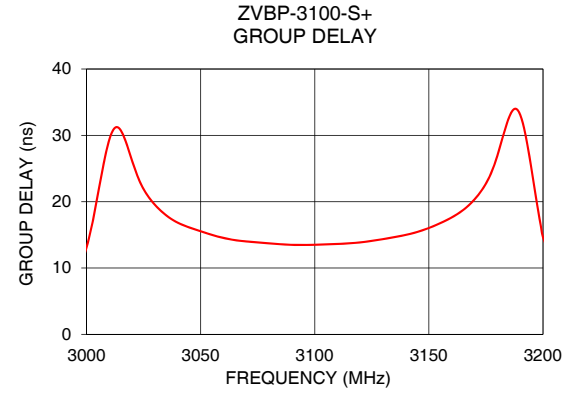
TYPICAL PERFORMANCE DATA AT 25°C

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	Frequency (MHz)	GROUP DELAY (ns)
100	99.54	0.04	3020	26.13
1000	108.84	0.06	3030	19.51
2975	44.93	0.32	3040	16.83
2990	31.20	0.45	3050	15.54
3000	19.26	0.78	3060	14.53
3012	3.04	9.12	3070	14.01
3020	1.47	18.78	3080	13.72
3100	0.83	31.60	3090	13.49
3180	1.56	19.16	3100	13.50
3188	3.16	9.96	3110	13.63
3200	21.13	0.73	3120	13.87
3210	34.30	0.36	3130	14.36
3220	44.88	0.24	3140	15.00
5000	107.37	0.17	3150	16.03
7000	102.53	0.01	3180	26.93









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