CAVITY

Bandpass Filter ZVBP MODEL SERIES

50Ω DC to 57 GHz

THE BIG DEAL

- Very low insertion loss with excellent power handling
- Very 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

CAVITY

Bandpass Filter

ZVBP-3420-S+

50Ω 3340 to 3500 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 6000 MHz

Generic photo used for illustration purposes only

Model No.	ZVBP-3420-S+
Case Style	YA3390
Connectors	SMA-FEMALE

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

APPLICATIONS

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

ELECTRICAL SPECIFICATIONS AT 25°C

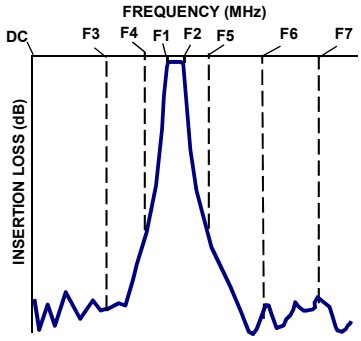
Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Units
Passband	Center Frequency	Fc	-	-	3420	-	MHz
	Insertion Loss	F1-F2	3340 -3500	-	1.5	2.0	dB
	Return Loss	F1-F2	3340 - 3500	14	20	-	dB
Stop Band, Lower	Rejection	DC-F3	DC - 3295	40	43	-	dB
		F3-F4	3295 - 3320	14	19	-	dB
Stop Band, Upper	Rejection	F5-F6	3520 - 3540	15	22	-	dB
		F6-F7	3540 - 6000	40	47	-	dB

MAXIMUM RATINGS

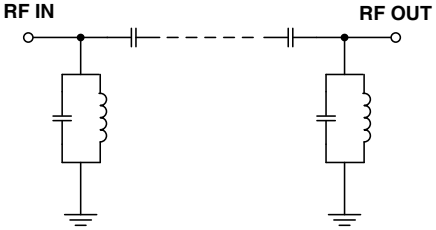
Parameter	Ratings
Operating temperature	-40°C to +85°C
Storage temperature	-55°C to +100°C
RF Power Input	20W max. at 25°C

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



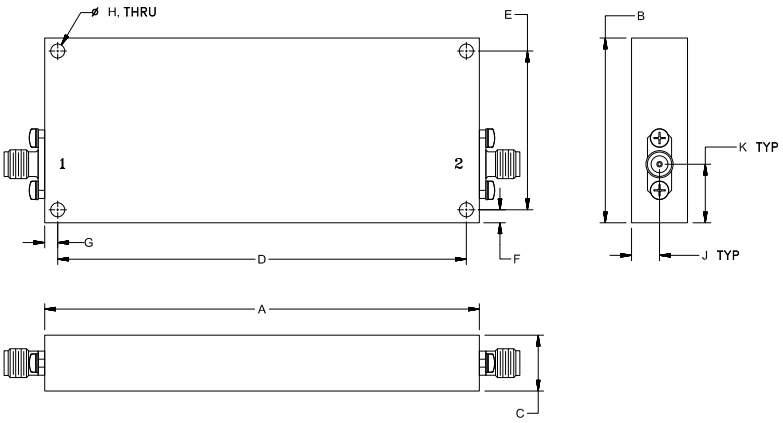
Bandpass Filter

ZVBP-3420-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	**1.70**	**.51**	**3.760**	**1.460**	**.12**
101.6	43.2	13.1	95.50	37.08	3.0
G	H	J	K		Wt.
.12	**.130**	**.26**	**.55**		grams
3.0	3.30	6.5	14.0		220

Note. Please refer to case style drawing for details

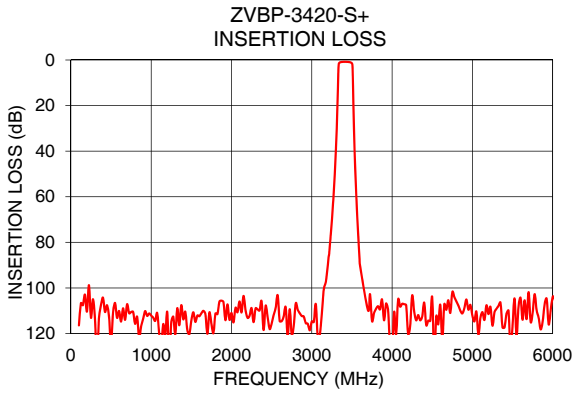
CAVITY

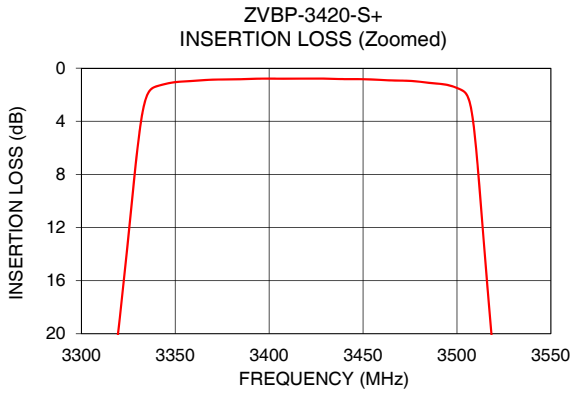
Bandpass Filter

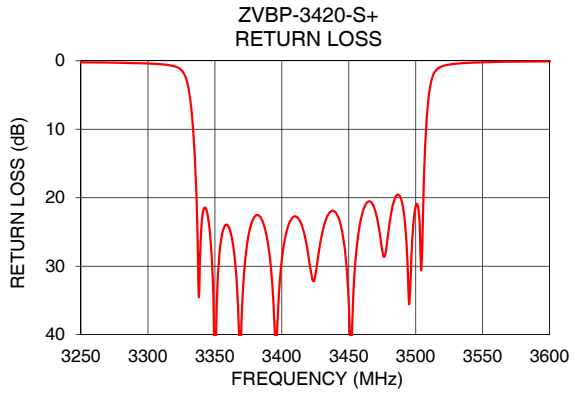
ZVBP-3420-S+

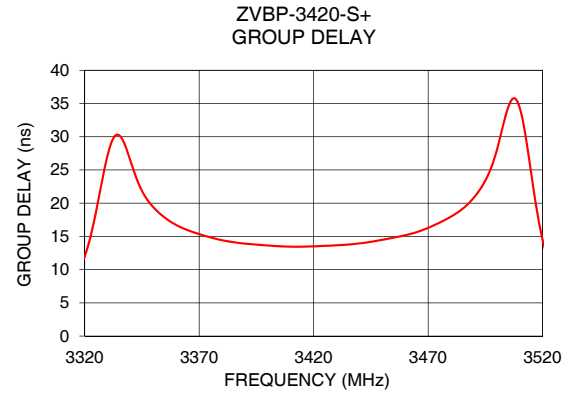
TYPICAL PERFORMANCE DATA AT 25°C

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	Frequency (MHz)	GROUP DELAY (ns)
100	116.41	0.05	3340	26.36
1000	112.14	0.10	3350	19.38
3295	43.65	0.37	3360	16.70
3310	30.59	0.51	3370	15.34
3320	19.41	0.82	3380	14.42
3333	3.03	8.27	3390	13.91
3340	1.37	24.01	3400	13.63
3420	0.78	28.64	3410	13.45
3500	1.49	21.19	3420	13.50
3508	3.42	9.06	3430	13.66
3520	22.57	0.79	3440	13.94
3525	29.71	0.56	3450	14.49
3540	46.81	0.30	3460	15.18
5000	112.17	0.21	3480	17.98
6000	103.87	0.21	3500	27.99









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