

Coaxial

# Bandpass Cavity Filter

ZVBP-909+

50Ω

902 to 915 MHz

## The Big Deal

- Low Insertion Loss, 2.0 dB typ.
- Excellent Close-in Rejection  
870 MHz, 950 MHz, 88 dB typical  
888 MHz, 929 MHz, 60 dB typical
- 15W Power handling



CASE STYLE: KT1510

## Product Overview

The Mini-Circuits ZVBP-909+ slabline filter offering outstanding close-in rejections for use in CDMA and GSM base stations.

## Key Features

Feature	Advantages
Ultra-High Rejection Close to the Passband	Using slabline resonators, the ZVBP-909+ provides more than 70 dB rejection at only 32 MHz away from the passband of 902 to 915 MHz
Narrow Percent Bandwidth	The ZVBP-909+ design has been optimized to support 1dB passbandwidths down to 1.4% making this design ideal for high selectivity applications such as radio communications with stringent interfering blocking signals
Low Passband Insertion Loss for Ultra Narrow Filter	The ZVBP-909+ combines excellent insertion loss with narrow percent bandwidth operation. Employing a multi-section design to achieve the extremely close rejection, this filter maintains low passband insertion loss due to its unique resonator design.
Low Passband VSWR	ZVBP-909+ maintains typical VSWR of 1.2:1 making it easier to integrate into receiver and transmitter RF chains with less concerns for in-band ripple.
Wide Operating Temperature Range with Excellent Temperature Stability	Operating over an extended temperature range of -55 to +100°C, the ZVBP-909+ supports ±0.4dB passband insertion loss variation over the full range
Good Power Handling capability	Handling up to 15W CW within the passband, the ZVBP-909+ is ideally used in both TX and RX chains



For detailed performance specs  
& shopping online see web site

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine  Provides ACTUAL Data Instantly at [minicircuits.com](http://minicircuits.com)

IF/RF MICROWAVE COMPONENTS

**Notes:** 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet 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](http://www.minicircuits.com/MCLStore/terms.jsp).

# Bandpass Cavity Filter

50Ω

902 to 915 MHz

ZVBP-909+



## Features

- Low Insertion loss, 2.0 dB typ.
- Good VSWR, 1.2:1 typ. in passband
- Narrow bandwidth with high selectivity

CASE STYLE: KT1510

SMA Connectors	Model	Price	Qty.
IN FEM OUT FEM	ZVBP-909-S+	\$299.00 ea.	(1-9)

## Electrical Specifications at 25°C

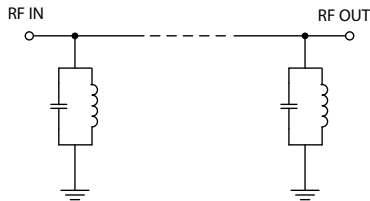
Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Center Frequency	—	—	908.5	—	MHz
	Insertion Loss	F1-F2	—	2.0	2.7	dB
	VSWR	F1-F2	—	1.2	1.4	:1
Stop Band, Lower	Insertion Loss	DC-F3	20	33	—	dB
	VSWR	10 - 895	—	30	—	:1
Stop Band, Upper	Insertion Loss	F4-F5	20	34	—	dB
	VSWR	925 - 2300	—	25	—	:1

## Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power Input*	15W max. at 25°C

\*Derate linearly to 5 W at 100°C  
Permanent damage may occur if any of these limits are exceeded.

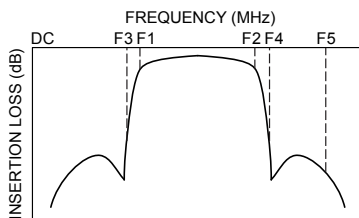
## Functional Schematic



## Typical Performance Data at 25°C

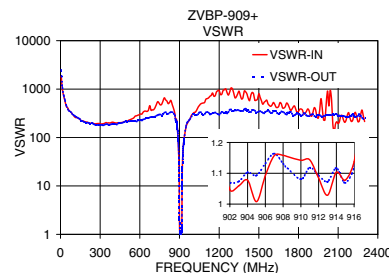
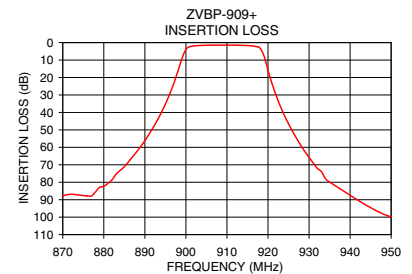
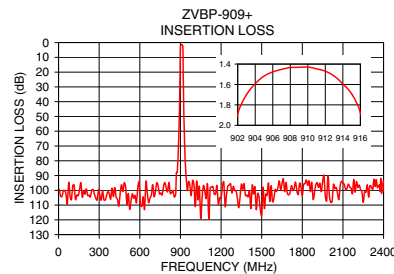
Frequency (MHz)	Insertion Loss (dB)	VSWR-In (:1)	VSWR-Out (:1)
10.00	104.69	1737.18	1737.18
870.00	98.08	289.53	289.53
888.00	61.26	108.58	108.58
895.00	33.04	34.07	37.77
897.50	17.32	14.50	17.05
899.00	6.81	5.25	6.21
900.00	3.15	2.09	2.37
902.00	1.85	1.14	1.09
908.50	1.44	1.10	1.15
915.00	1.77	1.17	1.18
918.00	3.98	1.65	1.24
919.00	9.87	3.58	2.55
920.00	18.20	10.56	7.94
925.00	47.86	43.44	41.37
929.00	63.41	64.35	64.35
950.00	102.83	157.93	157.93
1300.00	103.35	434.30	434.30
2300.00	98.96	193.02	248.17

## Typical Frequency Response



+ RoHS compliant in accordance with EU Directive (2002/95/EC)

The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.



**Mini-Circuits®**  
ISO 9001 ISO 14001 AS 9100 CERTIFIED

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at [minicircuits.com](http://minicircuits.com)

IF/RF MICROWAVE COMPONENTS

For detailed performance specs & shopping online see web site

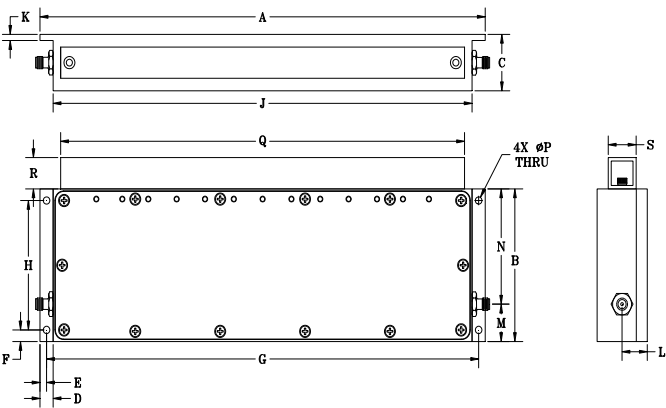
**Notes:** 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet 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](http://www.minicircuits.com/MCLStore/terms.jsp).

REV. OR  
M126295  
ZVBP-909+  
EDU-1316/1  
URJ/NY  
111011  
Page 2 of 3

Coaxial Connections

INPUT	SMA FEMALE
OUTPUT	SMA FEMALE

Outline Drawing



Outline Dimensions ( inch mm )

A	B	C	D	E	F	G	H	J
10.193	3.110	1.150	0.300	0.150	0.236	9.893	2.637	9.593
258.90	78.99	29.21	7.62	3.81	5.99	251.28	66.98	243.66
K	L	M	N	P	Q	R	S	wt
0.127	0.577	0.761	2.349	0.150	9.250	0.638	0.638	grams
3.23	14.66	19.33	59.66	3.81	234.95	16.21	16.21	845.00