# Coaxial **Coaxial-Ceramic Resonator Filters and Multiplexers**

DC to 6 GHz 500

# **The Big Deal**

- Low insertion loss with excellent power handling
- Passbands up to 6 GHz
- Fractional bandwidth from <1 to 25%</li>
- Excellent temperature stability
- Rugged construction to handle demanding environmental conditions



### **Product Overview**

Mini-Circuits' Coaxial-Ceramic Resonator filters offer low insertion loss in very small form factors, using ceramic material with high dielectric constant and superior Q factor. Bandpass and bandstop filters, diplexer and multiplexer designs can be constructed using this technology. Low insertion loss combined with excellent power handling makes these filters well suited for transmitter and receiver signal chains. Advanced filter design and construction can achieve stopband width greater than 3x the center frequency

All our coaxial-ceramic resonator filters are built with rugged construction, qualified to withstand multiple demanding reflow cycles. Custom integrated assembly with LNA in greatly simplifying system integration. They can be realized in small form factors with high-quality, precise machining 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 signal chain		
Fast roll-off	Higher selectivity results in better adjacent channel rejection and dynamic range		
Wide stop band	Wide spur-free stopband results in better receiver sensitivity		
Excellent power handling	Well suited for transmitter applications		
Rugged Construction	These filter assemblies have been qualified over a wide range of thermal, mechanical and environ- mental conditions including withstanding the stress of extensive solder reflow cycles		
Small Size	Very well suited for high performance applications where size is a constraint.		
Temperature stability	Very minimal change in electrical performance across temperature makes these filters suitable for a wide range of operating conditions.		

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# Coaxial **Bandpass Filter**

50Ω 902.5 to 927.5 MHz

# ZX75BP-915-S+



ZX75BP-915-S+

SMA-M\F

#### **Features**

- Narrow bandwidth
- Excellent rejection
- High selectivity
- High power handling
- Connectorized package

#### **Applications**

- Industrial, Scientific and medical (ISM)
- Amateur radio
- · Private and public land mobile
- Field disturbance sensors

#### **Functional Schematic**



#### **Typical Frequency Response**



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

### Electrical Specifications at 25°C

Para	neter	F# Frequency (MHz) Min.		Тур.	Max.	Unit	
	Center Frequency	-	-	-	915	-	MHz
Pass Band	Insertion Loss	F1-F2	902.5-927.5	-	1.2	2	dB
	VSWR	F1-F2	902.5-927.5	-	1.25	-	:1
Stop Bond Lower	Insertion Loss	DC-F3	DC - 830	20	30	-	dB
Stop Band, Lower V	VSWR	DC-F3	DC - 830	-	20	-	:1
Stop Band, Upper Inse VSW	Insertion Loss	F4-F5	1005-1900	20	27	-	dB
	VSWR	F4-F5	1005-1900	-	20	-	:1

Maximum Ratings				
Operating Temperature	-40°C to 85°C			
Storage Temperature	-55°C to 100°C			
RF Power Input*	10 W max.			

\* Passband rating, derate linearly to 3.5W at 85°C ambient. Permanent damage may occur if any of these limits are exceeded.

#### Typical Performance Data at 25°C

Typical Ferformance Data at 25 0					
Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)	
1.0	106.58	3906.67	902.5	11.54	
500.0	65.24	226.96	905.0	11.39	
800.0	48.42	66.73	906.0	11.32	
825.0	34.59	51.26	907.0	11.26	
830.0	31.85	47.16	908.0	11.22	
832.0	30.73	45.57	909.0	11.18	
849.0	20.45	28.98	910.0	11.14	
864.0	9.66	10.28	911.0	11.11	
874.0	3.37	2.79	912.0	11.07	
880.0	1.84	1.50	913.0	11.05	
902.5	1.20	1.08	914.0	11.02	
915.0	1.16	1.06	915.0	11.01	
927.5	1.19	1.10	916.0	11.01	
953.0	3.31	2.98	917.0	11.00	
970.0	12.00	16.77	918.0	11.00	
986.0	20.22	38.85	919.0	11.00	
1005.0	28.09	60.01	920.0	11.02	
1012.0	30.62	65.73	921.0	11.04	
1500.0	44.77	75.57	922.0	11.06	
1900.0	40.96	70.94	927.5	11.30	
			1		





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#### **Coaxial Connections**

INPUT	SMA-MALE
OUTPUT	SMA-FEMALE

#### **Outline Drawing**



#### Outline Dimensions ( inch )

G	F	E	D	С	В	Α	
1.00	.17	.04	1.18	.46	.75	1.20	
25.40	4.32	1.02	29.97	11.68	19.05	30.48	
Wt.	N	M	L	K	J	Н	
grams	.106	2.05	.21	.18	.35	.50	
35.0	2.69	52.07	5.28	4.57	8.89	12.70	

Note: Please refer to case style drawing for details

Notes
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