Coaxial

Coaxial-Ceramic Resonator Filters and Multiplexers

50Ω DC to 6 GHz

The Big Deal



- Low insertion loss with excellent power handling
- Passbands up to 6 GHz
- Fractional bandwidth from 3 to 25%
- 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 environmental 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.

Notes
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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

Ceramic Resonator

Bandpass Filter

ZX75BP-942-S+

50Ω 875 to 1010 MHz



CASE STYLE: HY1238

SMA Connectors		Model
IN	OUT	
MALE	FEM	ZX75BP-942-S+

+RoHS Compliant

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

Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power Input*	10W max. at 25°C

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

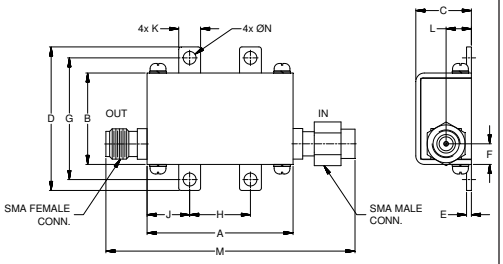
Features

- Low Insertion loss, 1.1 dB typ.
- Minimal Insertion loss variation over temperature, ±0.2 dB
- Sharp stop band rejection
- Protected by US Patent 6,790,049

Applications

- Harmonic & Sub-harmonic filtering
- Image rejection
- Receivers/Transmitters
- Test Lab
- GSM

Outline Drawing



Outline Dimensions (inch / mm)

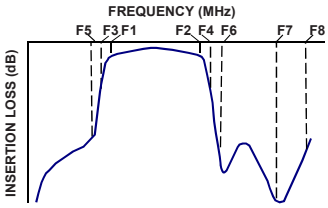
A	B	C	D	E	F	G
1.20	**.75**	**.46**	**1.18**	**.04**	**.17**	**1.00**
30.48	19.05	11.68	29.97	1.02	4.32	25.40

H	J	K	L	M	N	Wt.
.50	**.35**	**.18**	**.21**	**2.05**	**.106**	grams
12.70	8.89	4.57	5.28	52.07	2.69	35.0

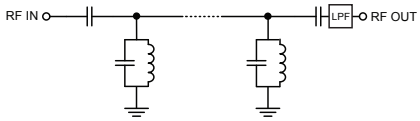
Electrical Specifications at 25°C

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Center Frequency			—	942	—	MHz
	Insertion Loss	F1-F2	875-1010	—	1.1	2.5	dB
	VSWR	F1-F2	875-1010	—	—	1.9	:1
Stop Band, Lower	Insertion Loss	DC-F5	0.3-690	40	—	—	dB
		F5-F3	690-750	20	—	—	dB
	VSWR	DC-F3	0.3-750	—	30	—	:1
Stop Band, Upper	Insertion Loss	F4-F6	1160-1250	20	—	—	dB
		F6-F7	1250-1300	40	—	—	dB
		F7-F8	1300-6800	—	20	—	dB
	VSWR	F4-F8	1160-6800	—	10	—	:1

Typical Frequency Response

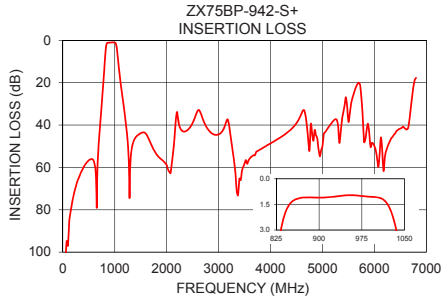


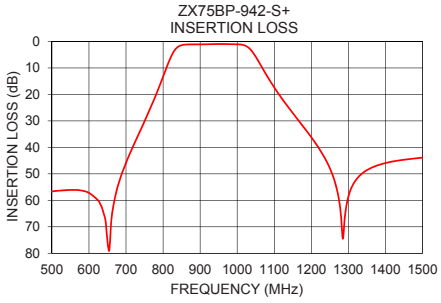
Functional Schematic

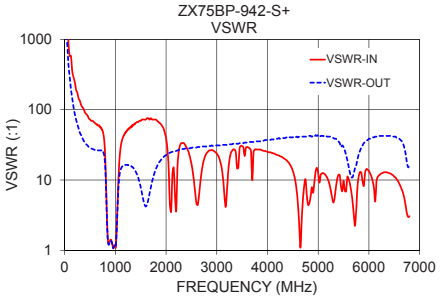


Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR-IN (:1)	VSWR-OUT (:1)
0.3	104.61	1737.18	1737.18
100.0	96.86	579.06	289.53
500.0	56.65	72.39	28.49
690.0	49.47	57.91	26.33
750.0	30.16	49.64	25.56
830.0	3.57	3.64	3.34
875.0	1.09	1.23	1.21
900.0	1.10	1.40	1.34
920.0	1.07	1.39	1.34
945.0	0.97	1.17	1.15
980.0	1.02	1.18	1.18
1010.0	1.16	1.16	1.21
1040.0	3.74	3.90	3.53
1160.0	28.88	42.38	16.11
1210.0	38.15	48.26	16.41
1230.0	42.47	51.10	16.41
1250.0	47.87	52.65	16.41
1900.0	56.26	62.05	19.32
5000.0	49.93	12.44	43.44
6800.0	17.75	3.04	16.72







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