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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Coaxial

Bandpass Filter

ZX75BP-770-S+

50Ω 760 to 780 MHz



CASE STYLE: HY1238

Connectors	Model
SMA-M\F	ZX75BP-770-S+

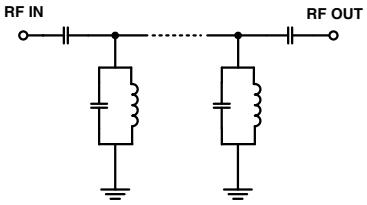
Features

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

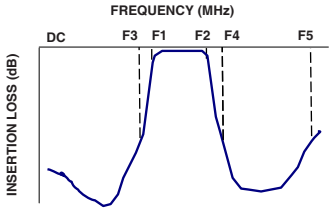
Applications

- Wireless control systems (WCS)
- Amateur radio bands
- Mobile test systems
- Public safety services

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

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Center Frequency	-	-	-	770	-	MHz
	Insertion Loss	F1-F2	760-780	-	1.4	2	dB
	VSWR	F1-F2	760-780	-	1.2	-	:1
Stop Band, Lower	Insertion Loss	DC-F3	DC - 705	20	35	-	dB
	VSWR	DC-F3	DC - 705	-	20	-	:1
Stop Band, Upper	Insertion Loss	F4-F5	840-1700	20	27	-	dB
	VSWR	F4-F5	840-1700	-	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.

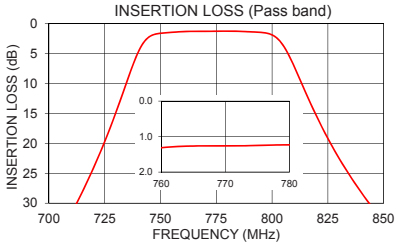
Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
1	98.97	15791.09	760	16.13
500	66.12	238.55	761	15.94
705	35.30	59.87	762	15.76
712	30.34	49.55	763	15.60
724	20.61	29.28	764	15.43
732	12.78	14.22	765	15.29
742	3.37	2.44	766	15.15
750	1.59	1.17	767	15.02
760	1.31	1.06	768	14.90
770	1.26	1.21	769	14.80
780	1.23	1.06	770	14.71
790	1.34	1.21	771	14.64
805	3.64	3.01	772	14.59
815	11.46	14.85	773	14.56
827	20.55	40.22	774	14.54
840	28.23	64.96	775	14.53
845	30.78	72.96	776	14.55
1000	55.78	117.80	777	14.58
1500	45.48	89.88	778	14.62
1700	43.63	84.64	780	14.73

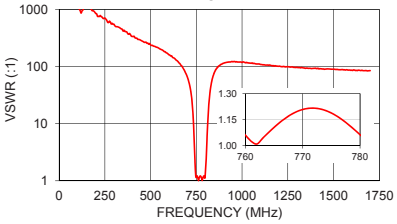
ZX75BP-770-S+
INSERTION LOSS (Full band)



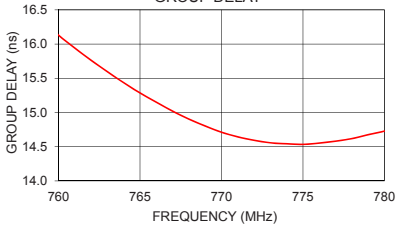
ZX75BP-770-S+
INSERTION LOSS (Pass band)



ZX75BP-770-S+
VSWR



ZX75BP-770-S+
GROUP DELAY



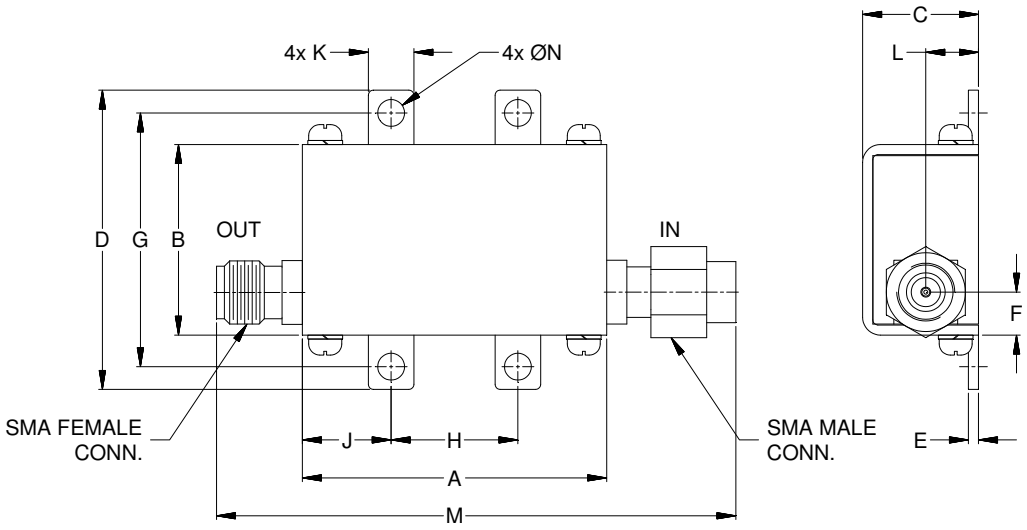
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Coaxial Connections

INPUT	SMA-MALE
OUTPUT	SMA-FEMALE

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

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