

Coaxial

Low Pass Filter

ZX75LP-2000-S+

50Ω

DC to 2000 MHz

The Big Deal

- Excellent rejection of 90 dB typical
- Fast roll-off transition at stopband
- Low passband insertion loss of 1.3 dB typical
- Good VSWR of 1.5:1 typical
- Connectorized package



Generic photo used for illustration purposes only
CASE STYLE: HY1238

Product Overview

ZX75LP-2000-S+ is a 50Ω low pass filter built in connectorized package which is easy to interface with other devices and well suited for test setups. Covering DC-2000 MHz bandwidth, this filter is designed to have an excellent flatness in the passband to ensure amplitude variation is low. Apart from the high rejection in stopband, these units offer good return loss which makes signal transmission with less reflection and well-matched with the adjacent component used in the setup.

Key Features

Feature	Advantages
Low passband insertion loss of 1.3 dB typical	Can be used in high performance application.
Fast roll-off and high rejection of 90 dB typical.	Provides very good adjacent band rejection. This enables the filter to attenuate spurious signals and reject harmonics for broad band frequency.
Good VSWR of 1.5:1 typical	Provides good interface when used with other devices.
Connectorized package	The connectorized package is easy to interface with other devices and well suited for test setups

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



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Connectors Model

SMA-M/F ZX75LP-2000-S+

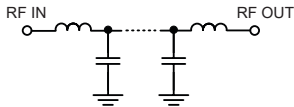
Features

- Excellent rejection of 90 dB typical
- Fast roll-off transition at stopband
- Low passband insertion loss of 1.3 dB typical
- Good VSWR of 1.5:1 typical

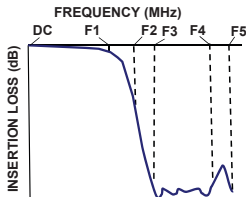
Applications

- Satellite
- Wireless communications
- Receivers / Transmitters
- Harmonic rejection

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	Insertion Loss	DC-F1	—	1.3	2.3	dB
	VSWR	DC-F1	—	1.5	2.0	:1
Stop Band	Rejection	F2-F3	20	35	—	dB
		F3-F4	40	55	—	dB
		F4-F5	—	90	—	dB

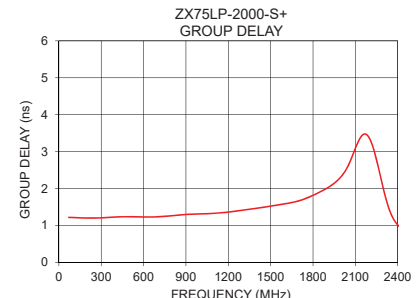
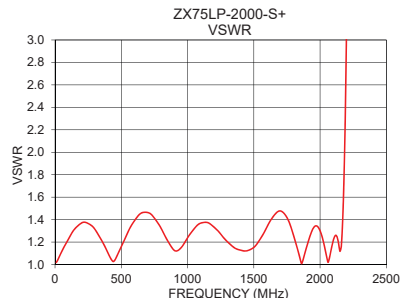
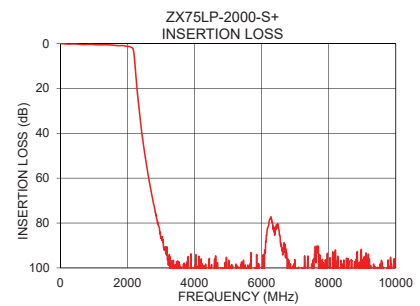
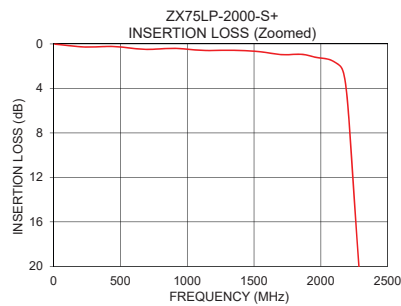
Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	2W max.

Permanent damage may occur if one or combination of these limits are exceeded.

Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
10	0.01	1.02	10	1.22
50	0.06	1.11	50	1.22
100	0.13	1.22	100	1.21
500	0.27	1.16	200	1.20
1000	0.47	1.24	250	1.20
1050	0.52	1.32	300	1.21
1500	0.65	1.15	350	1.22
1800	0.93	1.26	400	1.23
2000	1.27	1.30	450	1.23
2180	3.22	1.74	500	1.24
2240	12.17	8.88	550	1.23
2290	20.95	16.93	1000	1.31
2360	31.28	24.27	1100	1.33
2400	36.39	27.24	1200	1.36
2500	47.50	32.56	1300	1.41
2600	57.01	36.10	1400	1.46
4000	102.86	53.44	1500	1.52
7000	104.67	58.30	1600	1.59
8000	110.13	48.32	1700	1.67
10000	102.40	50.00	2000	2.33



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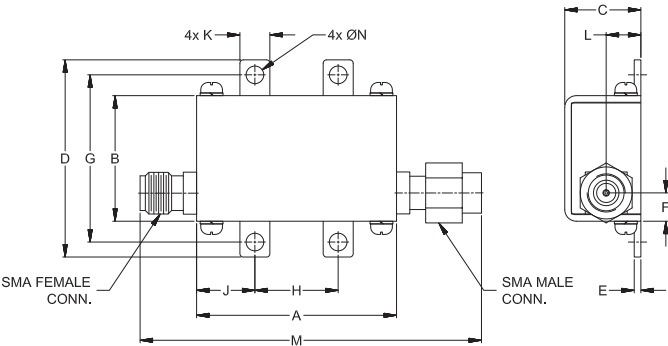
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Coaxial Connections

PORT - 1	SMA-Male
PORT - 2	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

Note: Please refer to case style drawing for details

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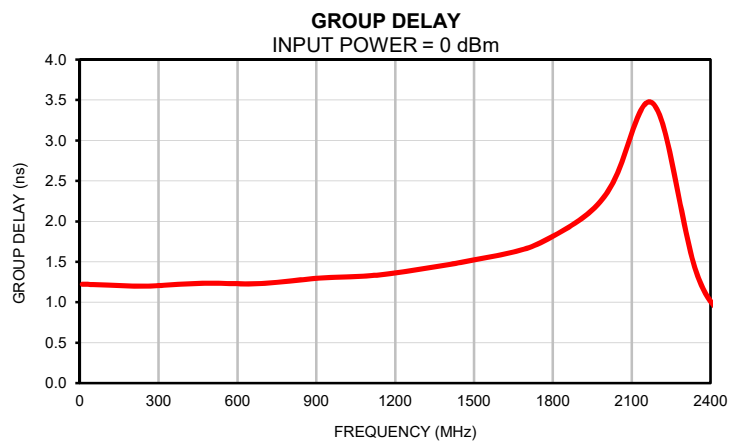
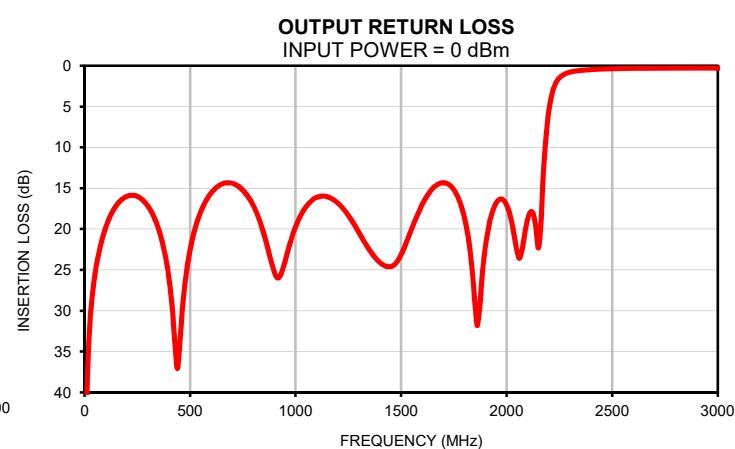
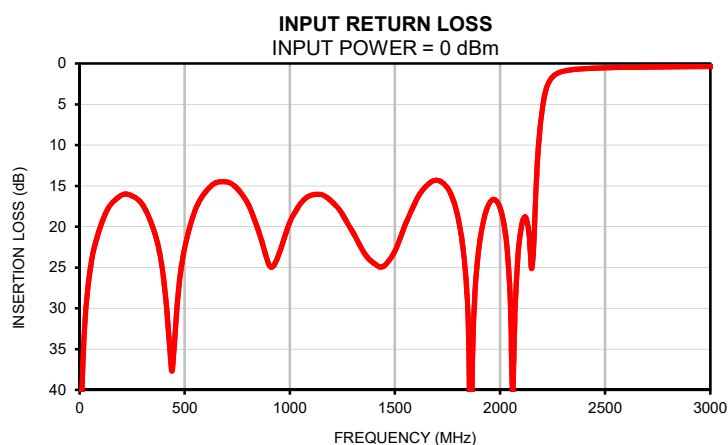
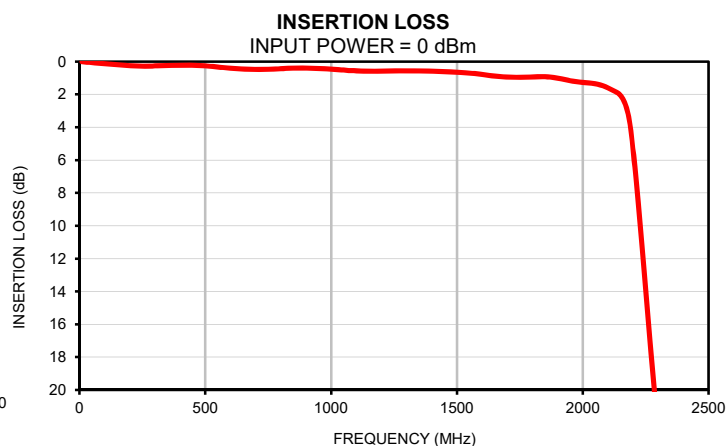
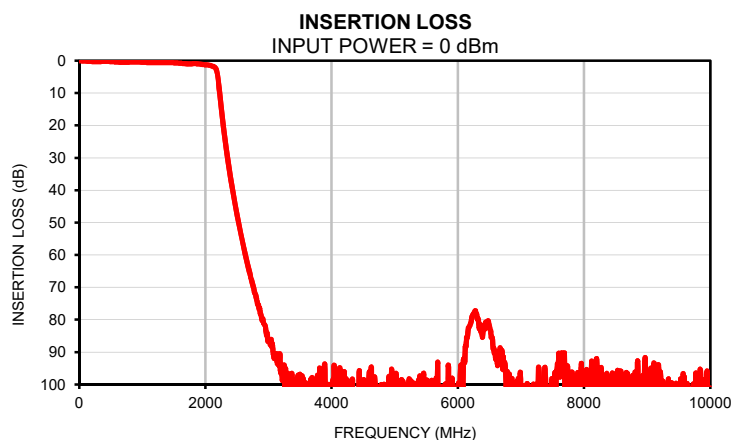
Coaxial Low Pass Filter

ZX75LP-2000-S+

Typical Performance Data

FREQ.	Insertion Loss	Input Return Loss	Output Return Loss	FREQ.	Group Delay
(MHz)	(dB)	(dB)	(dB)	(MHz)	(ns)
10	0.01	40.87	41.44	10	1.22
20	0.03	34.40	33.99	40	1.22
30	0.04	30.22	30.07	70	1.22
40	0.05	27.39	27.48	100	1.21
50	0.06	25.37	25.42	130	1.21
80	0.10	21.59	21.56	160	1.20
100	0.13	19.96	19.83	190	1.20
200	0.25	16.14	16.00	220	1.20
300	0.27	17.32	17.17	250	1.20
400	0.23	26.36	26.01	280	1.20
500	0.27	22.64	22.57	310	1.21
1000	0.47	19.47	19.72	340	1.21
1100	0.57	16.16	16.12	370	1.22
1500	0.65	23.02	23.14	400	1.23
2000	1.27	17.68	17.05	430	1.23
2100	1.61	20.25	18.72	460	1.24
2150	2.06	25.11	22.30	490	1.24
2200	5.32	5.75	5.49	520	1.24
2230	10.32	2.44	2.26	550	1.23
2260	15.81	1.41	1.24	580	1.23
2300	22.56	0.95	0.79	610	1.23
2360	31.28	0.72	0.55	640	1.23
2400	36.39	0.64	0.47	670	1.23
2450	42.21	0.58	0.41	700	1.23
2500	47.50	0.53	0.36	730	1.24
2600	57.01	0.48	0.33	760	1.25
2700	65.40	0.44	0.31	790	1.26
2800	72.77	0.42	0.29	820	1.27
2900	80.25	0.39	0.28	850	1.28
3000	86.03	0.38	0.28	880	1.29
3100	91.90	0.36	0.29	910	1.30
3200	96.52	0.35	0.30	940	1.30
3300	105.23	0.35	0.30	970	1.31
3400	100.95	0.34	0.30	1000	1.31
3500	97.15	0.33	0.30	1030	1.32
3600	100.85	0.33	0.32	1060	1.32
3700	109.58	0.33	0.32	1090	1.32
4000	102.86	0.33	0.31	1120	1.33
4300	104.10	0.32	0.31	1150	1.34
4600	96.35	0.32	0.29	1180	1.35
4900	102.98	0.30	0.28	1210	1.37
5200	104.63	0.30	0.26	1240	1.38
5500	104.24	0.37	0.29	1270	1.40
5800	100.13	0.31	0.27	1300	1.41
6100	93.37	0.29	0.22	1330	1.43
6400	83.56	0.28	0.21	1360	1.44
6700	89.52	0.29	0.20	1390	1.46
7000	104.67	0.30	0.21	1420	1.48
7300	101.61	0.32	0.22	1450	1.49
7600	90.37	0.33	0.23	1480	1.51
7900	96.45	0.35	0.26	1510	1.53
8200	92.12	0.38	0.31	1540	1.55
8500	107.63	0.46	0.48	1570	1.57
8800	109.72	0.99	2.36	1600	1.59
9100	97.16	5.52	1.39	1630	1.61
9400	99.89	0.60	0.42	1660	1.63
9700	103.04	0.40	0.33	1690	1.66
9800	99.41	0.37	0.32	1720	1.69
9900	113.06	0.36	0.32	1800	1.81
10000	102.40	0.35	0.32	2000	2.33

Typical Performance Curves

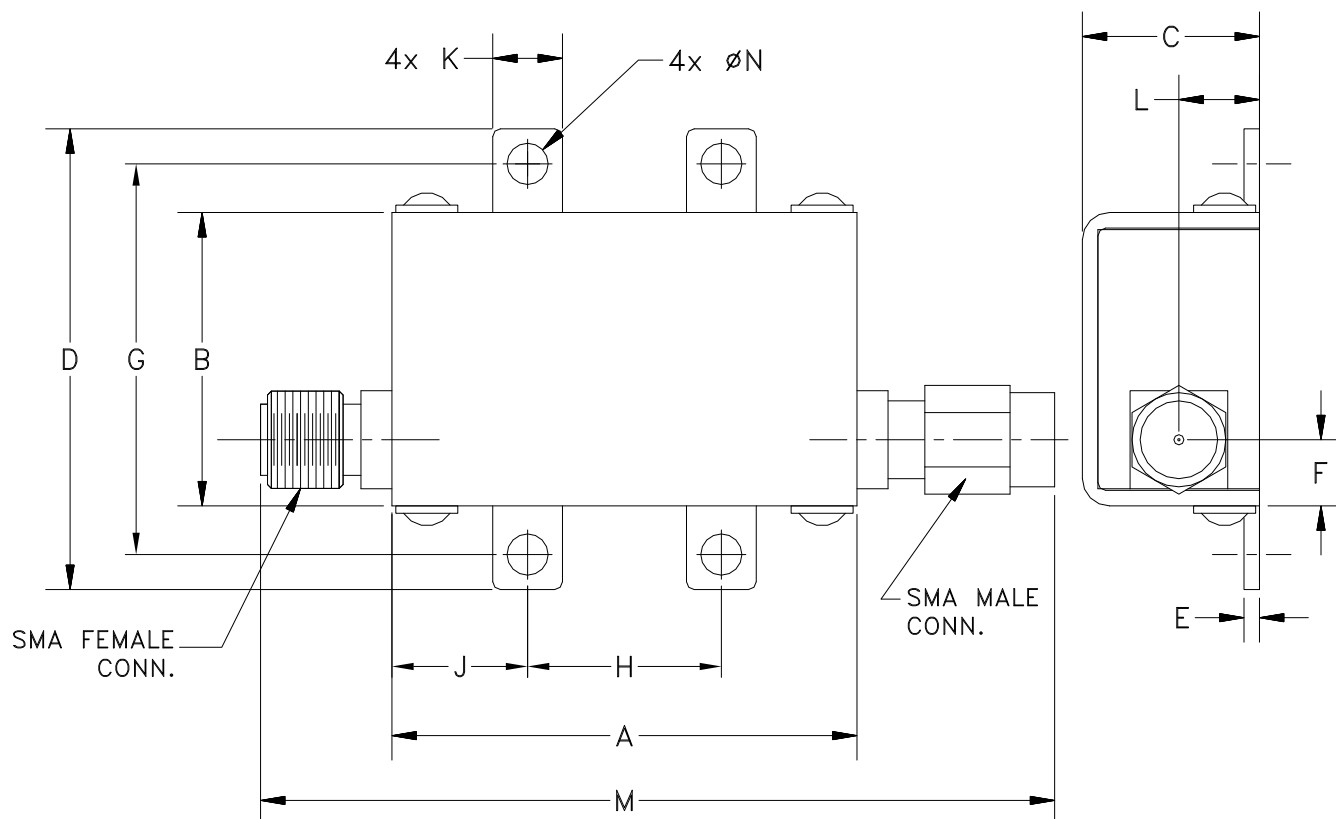


Case Style

HY

Outline Dimensions

HY1238



CASE #.	A	B	C	D	E	F	G	H	J	K	L	M	N	WT GRAMS
HY1238	1.20 (30.48)	.75 (19.05)	.46 (11.68)	1.18 (29.97)	.04 (1.02)	.17 (4.32)	1.00 (25.40)	.50 (12.70)	.35 (8.89)	.18 (4.57)	.21 (5.28)	2.05 (52.07)	.106 (2.69)	35.0

Dimensions are in inches (mm). Tolerances: 2Pl. $\pm .03$; 3Pl. $\pm .015$
Tolerance on hole size and interaxes dimensions to be $\pm .005$.

Note:

1. Case material: Brass
2. Case finish: Nickel plate



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Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-40° to 85° C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Thermal Shock	-55° to 100°C, 100 cycles	MIL-STD-202, Method 107, Condition A-3, except +100°C