

Coaxial Low Pass Filter

ZX75LP-83-S+

50Ω

DC to 83 MHz

The Big Deal

- High rejection
- Low Insertion loss, 1.4 dB typical in passband
- Fast roll-off
- Good VSWR
- Connectorized package



Generic photo used for illustration purposes only
CASE STYLE: KE1467

Product Overview

ZX75LP-83-S+ is a 50Ω low pass filter built in a connectorized package. Covering DC-83 MHz bandwidth, these units offer good matching within the passband and high rejection in stopband. This will find its applications in receivers and transmitters to suppress spurious emission and harmonics. It has repeatable performance across production lots and consistent performance across temperature.

Key Features

Feature	Advantages
Low passband insertion loss	Suitable for high performance application
Fast roll-off	Provides very good adjacent band rejection
Connectorized package	The connectorized package is easy to interface with other devices and well suited for test setups
Good VSWR	Provides good interface when used with other devices.

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



Low Pass Filter

50Ω DC to 83 MHz

ZX75LP-83-S+



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CASE STYLE: KE1467

Connectors	Model
SMA-MF	ZX75LP-83-S+

Features

- High rejection
- Low Insertion loss
- Fast roll-off
- Good VSWR
- Connectorized package

Applications

- Satellite
- Wireless communications
- Receivers / Transmitters

Electrical Specifications at 25°C

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Insertion Loss	DC-F1	—	1.4	2.0	dB
	Freq. Cut-Off	F2	—	3.0	—	dB
	VSWR	DC-F1	—	1.2	1.5	:1
Stop Band	Rejection Loss	F3-F4	20	30	—	dB
	VSWR	F3-F4	—	22	—	:1

Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	0.5W max.

Permanent damage may occur if any of these limits are exceeded.

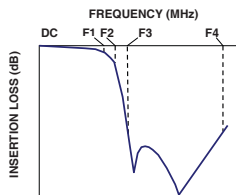
Functional Schematic



Typical Performance Data at 25°C

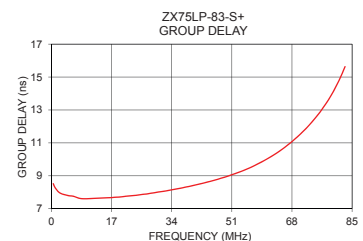
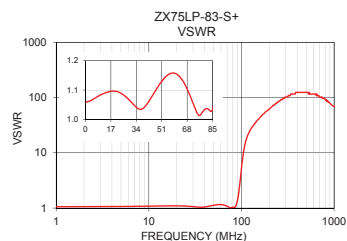
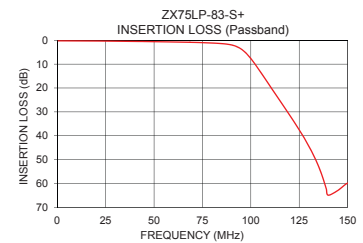
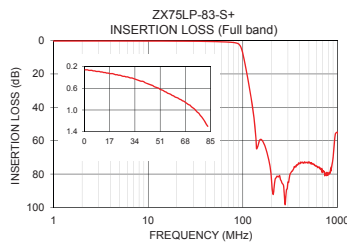
Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
1	0.26	1.06	1	8.29
35	0.44	1.04	6	7.77
70	0.90	1.08	12	7.63
83	1.30	1.03	18	7.70
93	2.76	1.79	24	7.82
98	5.78	3.80	30	8.01
104	12.10	8.99	36	8.23
113	22.88	17.75	42	8.51
119	30.06	22.29	46	8.73
140	64.89	34.07	53	9.22
160	59.76	44.55	59	9.80
210	92.20	66.82	62	10.16
245	80.88	82.73	65	10.58
280	98.35	96.51	68	11.08
320	79.47	108.58	71	11.67
440	73.41	124.09	74	12.36
650	76.54	115.81	75	12.62
750	79.91	96.51	77	13.20
815	80.00	91.43	80	14.24
850	76.88	86.86	83	15.63

Typical Frequency Response



+RoHS Compliant

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



Notes

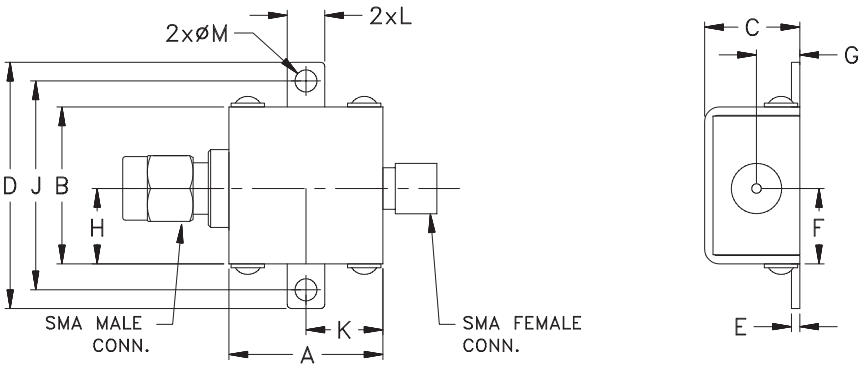
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Coaxial Connections

INPUT	SMA-Male
OUTPUT	SMA-Female

Outline Drawing



Outline Dimensions (^{inch}_{mm})

A	B	C	D	E	F	G
.74	.75	.46	1.18	.04	.362	.21
18.80	19.05	11.68	29.97	1.02	9.19	5.33
H	J	K	L	M		Wt.
.362	1.00	.37	.18	.11		grams
9.19	25.40	9.40	4.57	2.79		24.4

Note: Please refer to case style drawing for details

Notes

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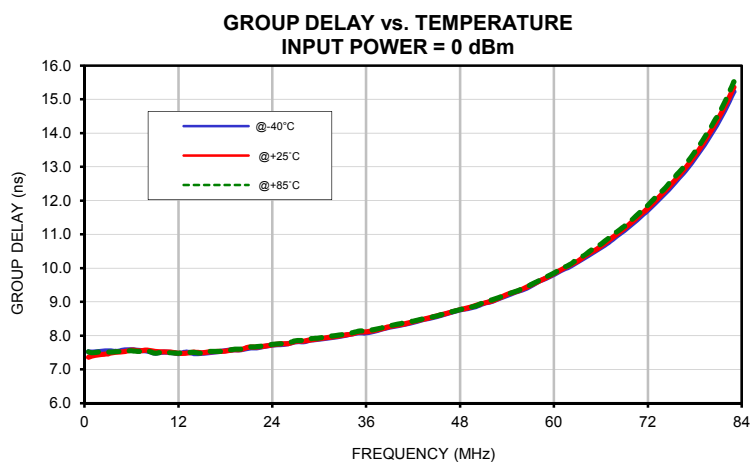
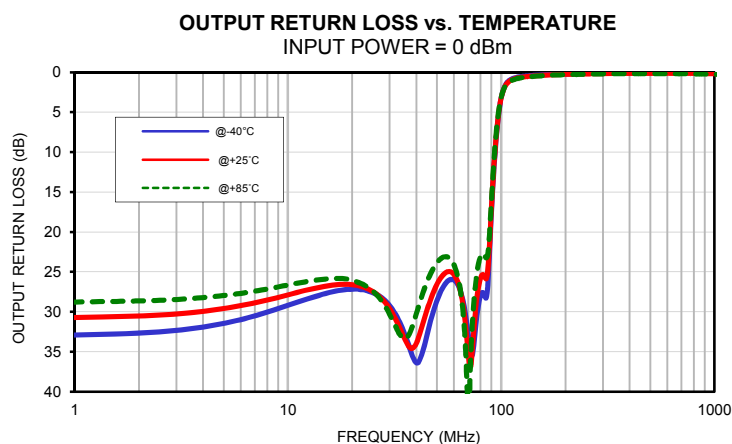
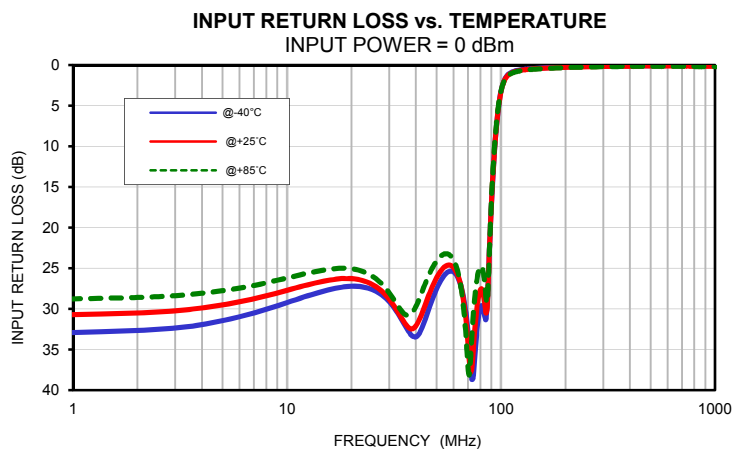
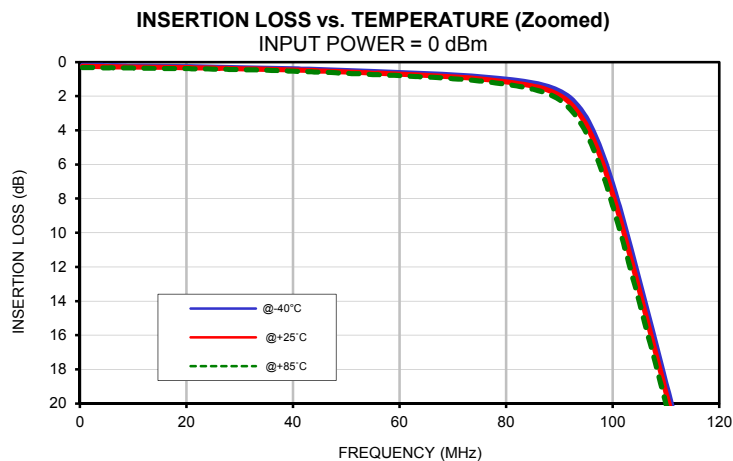
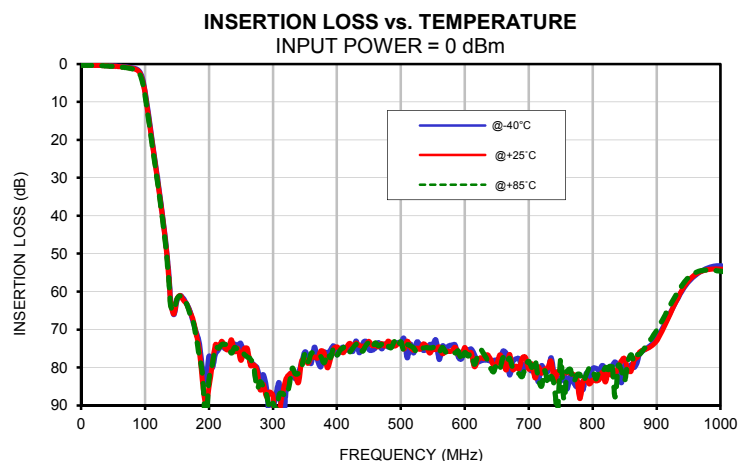
Typical Performance Data

FREQ.	INSERTION LOSS			INPUT RETURN LOSS			OUTPUT RETURN LOSS		
(MHz)	(dB)			(dB)			(dB)		
	@-40°C	@+25°C	@+85°C	@-40°C	@+25°C	@+85°C	@-40°C	@+25°C	@+85°C
0.5	0.19	0.25	0.32	33.01	30.76	28.81	33.02	30.78	28.83
1	0.19	0.25	0.32	32.90	30.69	28.75	32.91	30.71	28.77
5	0.22	0.28	0.34	31.42	29.50	27.75	31.43	29.59	27.96
10	0.23	0.28	0.35	29.21	27.70	26.18	29.19	27.88	26.64
20	0.27	0.33	0.38	27.21	26.26	25.05	27.17	26.60	26.03
30	0.33	0.39	0.44	29.08	28.78	28.00	29.24	29.60	30.31
35	0.36	0.42	0.48	31.68	31.49	30.51	32.54	33.18	33.38
40	0.40	0.46	0.53	33.43	32.09	29.71	36.38	33.94	30.25
50	0.50	0.58	0.66	27.51	26.14	24.10	28.56	26.55	23.84
60	0.61	0.71	0.80	25.43	24.90	23.96	26.00	25.31	24.10
70	0.75	0.87	0.97	32.77	34.06	37.10	32.84	35.27	43.43
75	0.86	0.98	1.11	36.68	33.21	29.14	33.15	31.06	27.69
80	1.00	1.16	1.30	29.84	27.66	24.79	27.95	25.74	23.03
83	1.11	1.29	1.45	30.20	28.42	25.78	27.78	25.45	22.80
85	1.22	1.41	1.59	31.27	30.51	28.49	28.26	25.86	23.25
86	1.28	1.47	1.67	29.84	29.98	29.22	27.49	25.42	23.07
88	1.44	1.66	1.88	23.46	23.59	23.63	22.91	21.90	20.55
90	1.69	1.94	2.21	17.58	17.42	17.12	17.50	16.94	16.10
92	2.10	2.41	2.74	12.93	12.72	12.33	12.96	12.56	11.94
93	2.40	2.74	3.12	11.00	10.79	10.42	11.03	10.70	10.15
94	2.77	3.16	3.58	9.29	9.11	8.77	9.32	9.06	8.58
95	3.24	3.66	4.14	7.80	7.65	7.35	7.84	7.62	7.22
96	3.82	4.28	4.80	6.52	6.40	6.15	6.54	6.39	6.06
98	5.30	5.83	6.45	4.52	4.49	4.34	4.54	4.48	4.29
100	7.15	7.72	8.41	3.16	3.19	3.13	3.17	3.19	3.11
102	9.30	9.89	10.59	2.29	2.36	2.35	2.29	2.35	2.33
104	11.60	12.19	12.90	1.72	1.80	1.83	1.72	1.81	1.83
106	13.98	14.56	15.26	1.37	1.46	1.50	1.36	1.46	1.50
108	16.40	16.97	17.64	1.14	1.23	1.28	1.13	1.23	1.29
110	18.81	19.37	20.03	0.98	1.07	1.12	0.96	1.06	1.13
112	21.20	21.74	22.38	0.87	0.96	1.01	0.84	0.95	1.02
113	22.42	22.94	23.55	0.82	0.91	0.97	0.80	0.91	0.97
116	25.99	26.48	27.09	0.72	0.80	0.85	0.70	0.79	0.87
118	28.37	28.87	29.46	0.67	0.75	0.80	0.65	0.74	0.81
119	29.58	30.07	30.65	0.65	0.73	0.78	0.62	0.71	0.78
120	30.78	31.25	31.84	0.63	0.71	0.76	0.61	0.70	0.77
140	62.16	63.05	63.75	0.41	0.47	0.51	0.40	0.48	0.53
160	61.79	62.25	62.52	0.32	0.38	0.42	0.30	0.37	0.41
180	70.59	71.22	72.10	0.26	0.31	0.35	0.24	0.30	0.34
200	77.03	85.21	83.13	0.21	0.27	0.30	0.20	0.27	0.30
210	76.63	74.02	74.71	0.19	0.25	0.28	0.19	0.25	0.29
250	73.70	78.12	75.34	0.15	0.20	0.23	0.14	0.20	0.24
280	82.77	85.88	83.73	0.13	0.18	0.21	0.12	0.19	0.22
300	91.50	87.45	89.45	0.12	0.17	0.19	0.10	0.17	0.20
320	86.86	83.20	87.48	0.10	0.15	0.18	0.09	0.16	0.19
400	76.69	74.60	76.73	0.07	0.13	0.16	0.06	0.14	0.17
440	73.84	74.42	75.73	0.07	0.13	0.16	0.04	0.13	0.16
500	73.59	73.54	73.21	0.05	0.12	0.14	0.03	0.12	0.16
525	73.31	74.90	75.95	0.05	0.12	0.15	0.03	0.13	0.17
550	74.01	75.17	74.74	0.05	0.11	0.15	0.03	0.12	0.17
575	74.29	75.81	75.91	0.04	0.12	0.14	0.02	0.12	0.17
600	75.16	74.74	76.07	0.04	0.12	0.15	0.02	0.13	0.17
625	78.27	77.45	75.39	0.04	0.11	0.14	0.02	0.13	0.17
650	78.00	79.06	79.04	0.04	0.12	0.15	0.02	0.13	0.19
675	78.59	80.53	80.17	0.04	0.11	0.15	0.01	0.12	0.18
700	80.16	80.45	78.39	0.04	0.12	0.15	0.02	0.13	0.19
750	83.61	81.60	77.73	0.03	0.12	0.16	0.01	0.13	0.20
800	80.29	83.31	80.59	0.04	0.12	0.16	0.01	0.14	0.20
815	79.46	81.28	81.50	0.03	0.13	0.17	0.00	0.14	0.20
850	79.38	77.68	83.54	0.03	0.13	0.17	0.01	0.14	0.21

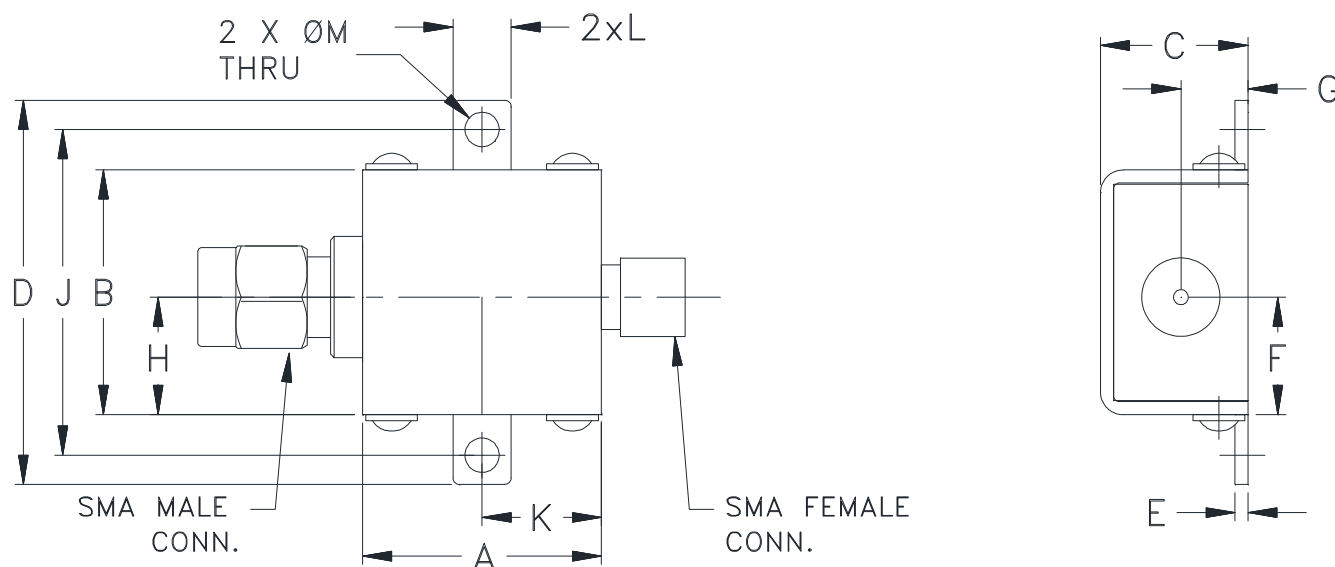
Typical Performance Data

FREQ.	GROUP DELAY		
(MHz)	(ns)		
	@-40°C	@+25°C	@+85°C
0.5	7.52	7.36	7.52
1	7.51	7.40	7.49
2	7.53	7.44	7.52
3	7.55	7.46	7.51
4	7.53	7.51	7.52
5	7.57	7.52	7.54
6	7.58	7.57	7.55
7	7.56	7.55	7.53
8	7.54	7.57	7.55
9	7.48	7.53	7.48
10	7.51	7.52	7.51
11	7.50	7.51	7.49
12	7.47	7.48	7.48
13	7.51	7.48	7.50
14	7.47	7.51	7.50
15	7.47	7.49	7.48
16	7.50	7.52	7.53
17	7.52	7.53	7.53
18	7.55	7.54	7.54
19	7.58	7.58	7.59
20	7.58	7.59	7.60
21	7.63	7.66	7.66
22	7.64	7.66	7.67
23	7.68	7.69	7.70
24	7.72	7.72	7.74
25	7.73	7.76	7.76
26	7.76	7.76	7.78
27	7.82	7.83	7.85
28	7.82	7.84	7.86
29	7.87	7.88	7.91
30	7.89	7.90	7.93
35	8.08	8.10	8.13
40	8.29	8.31	8.34
45	8.56	8.58	8.58
50	8.86	8.89	8.88
55	9.28	9.29	9.30
60	9.81	9.84	9.85
65	10.46	10.50	10.57
70	11.30	11.37	11.44
75	12.41	12.48	12.59
77	12.94	13.02	13.12
78	13.25	13.33	13.44
79	13.57	13.66	13.78
80	13.94	14.04	14.15
81	14.32	14.43	14.55
83	15.23	15.36	15.52

Typical Performance Curves



Outline Dimensions



CASE #.	A	B	C	D	E	F	G	H	J	K	L	M
KE1467	.74 (18.80)	.75 (19.05)	.46 (11.68)	1.18 (29.97)	.04 (1.02)	.362 (9.19)	.21 (5.33)	.362 (9.19)	1.00 (25.40)	.37 (9.40)	.18 (4.57)	.11 (2.79)

CASE #.	WT. GRAM
KE1467	24.4

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: Gold
3. Cover: Nickel plated.



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Mini-Circuits ISO 9001 & ISO 14001 Certified



All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-40° to 85°C	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Barometric Pressure	100,000 Feet	MIL-STD-202, Method 105, Condition D
Humidity	90% RH, 65°C Units may require bake-out after humidity to restore full performance.	MIL-STD-202, Method 103
Thermal Shock	-65° to 125°C, 5 cycles	MIL-STD-202, Method 107, Condition B
Vibration (High Frequency)	20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36)	MIL-STD-202, Method 204, Condition D
Mechanical Shock	100g, 6ms sawtooth, 3 shocks each direction 3 axes (total 18)	MIL-STD-202, Method 213, Condition I