



LUMPED LC COAXIAL

Diplexer

ZX75-2150-S+

50Ω DC to 2150 MHz (DC-125, 950-2150 MHz) SMA Female

KEY FEATURES

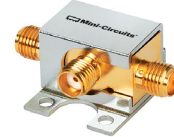
- Low Insertion Loss, 0.3 dB Typ.
- High Rejection, 70 dB Typ.
- Combination of Low Pass and High Pass Filters

APPLICATIONS

- Satellite
- L Band

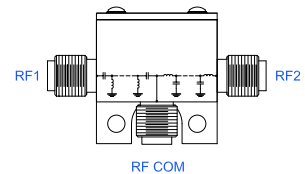
PRODUCT OVERVIEW

Mini-Circuits' ZX75-2150-S+ is a low pass + high pass combination device. Low pass port is designed for DC to 125 MHz and high pass port is designed for 950 to 2150 MHz. This shielded case package provides very low passband insertion loss and excellent co-channel rejection which makes this suitable for high performance applications like Satellite and L Band.



Generic photo used for illustration purposes only

FUNCTIONAL DIAGRAM



ELECTRICAL SPECIFICATIONS AT +25°C

Parameter		Function (Port)	Frequency (MHz)	Min.	Typ.	Max.	Unit
Passband	Insertion Loss	Low Pass (RF COM-RF1)	DC - 125	—	0.7	1.0	dB
		High Pass (RF COM-RF2)	950 - 2150	—	0.3	1.0	
	Return Loss	Low Pass (RF1)	DC - 125	15	20	—	dB
		High Pass (RF2)	950 - 2150	—	20	—	
		Common (RF COM)	DC - 125	15	20	—	
			950 - 2150	—	20	—	
Stopband Rejection		Low Pass (RF COM-RF1)	200 - 1300	20	27	—	dB
			1300 - 2500	50	60	—	
		High Pass (RF COM-RF2)	DC - 125	60	70	—	
			125 - 280	20	30	—	

ABSOLUTE MAXIMUM RATINGS¹

Parameter	Ratings
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +125°C
Input Power (RF COM) ²	1W
Input Power (RF1) ²	1W
Input Power (RF2) ²	1W

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

2. Power rating applies only to signals within the passband.





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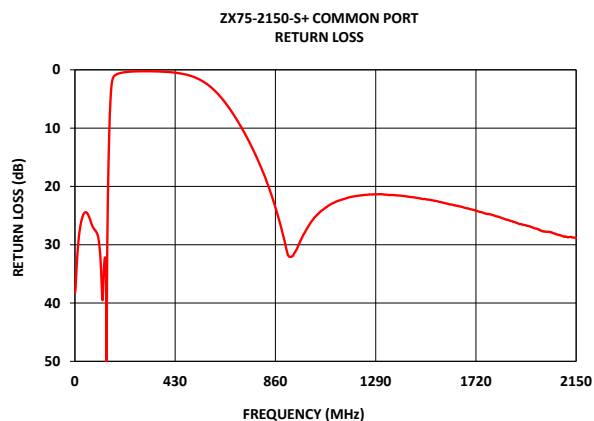
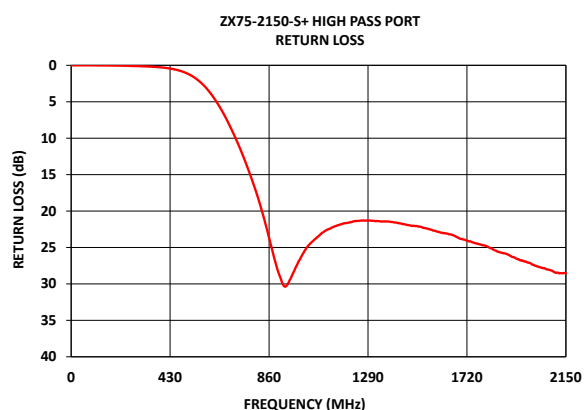
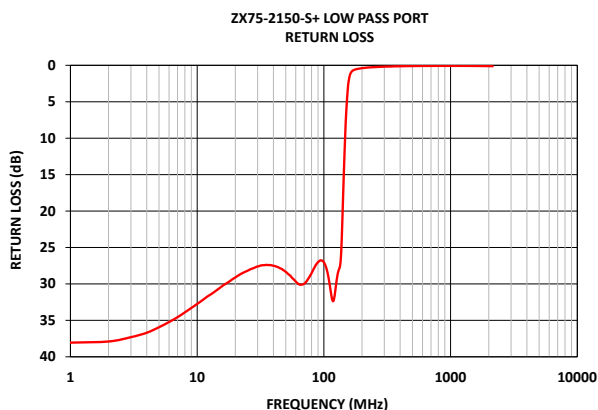
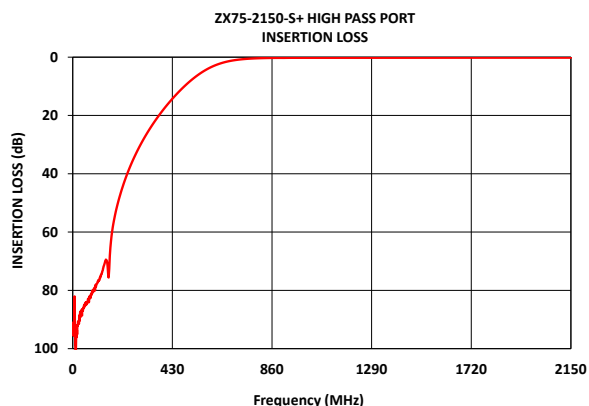
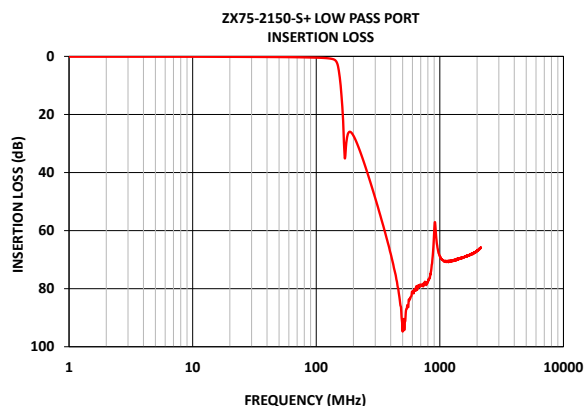
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TYPICAL PERFORMANCE GRAPHS AT +25°C





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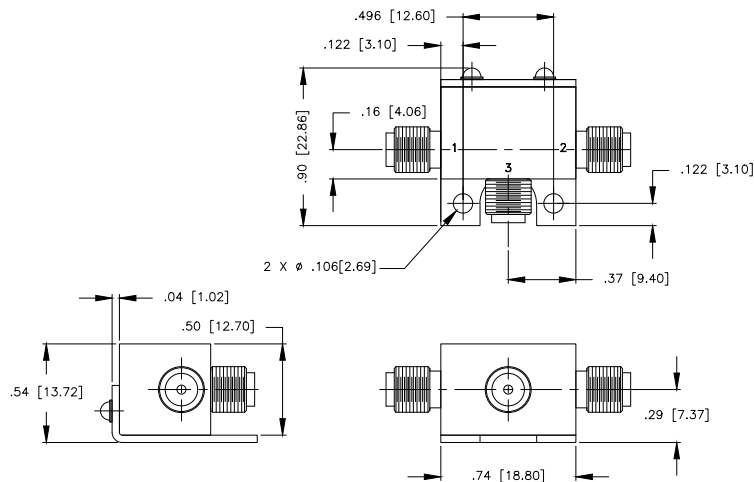
50Ω DC to 2150 MHz (DC-125, 950-2150 MHz) SMA Female

CONNECTOR DESCRIPTION

Function	Marking on Unit	Connector
RF COM ³	3	SMA Female
RF1 ³	2	SMA Female
RF2 ³	1	SMA Female

3. RF1, RF2, RF COM can be used as input / output. See S-Parameters for actual performance.

CASE STYLE DRAWING



Weight: 20.0 gram

Dimensions are in inches (mm). Tolerances: 2Pl. ± .03; 3Pl. ± .015

Tolerance on hole size and interaxes dimensions to be ± .005.

PRODUCT MARKING*: ZX75-2150-S+

*Marking may contain other features or characters for internal lot control.





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ADDITIONAL INFORMATION IS AVAILABLE ON OUR DASHBOARD

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Performance Data & Graphs	Data
	Graphs
	S-Parameter (S3P Files) Data Set (.zip file)
Case Style	FL905
RoHS Status	Compliant
Environmental Ratings	ENV46

NOTES

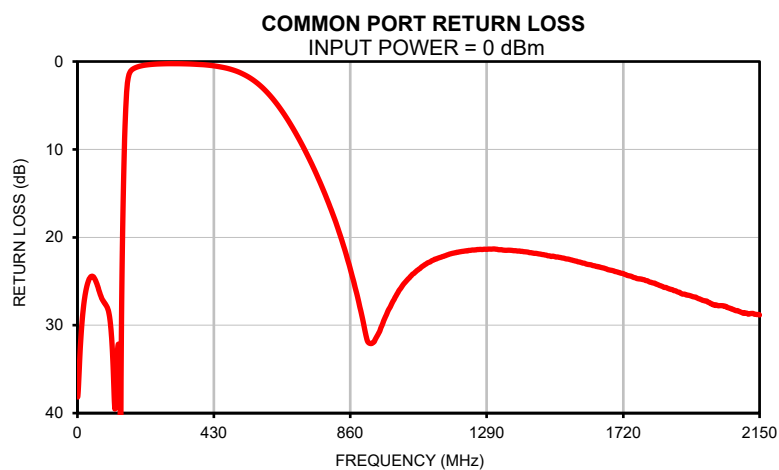
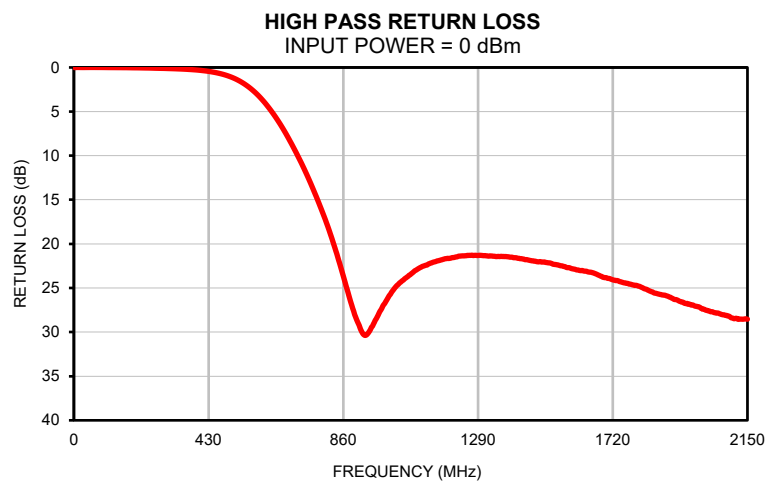
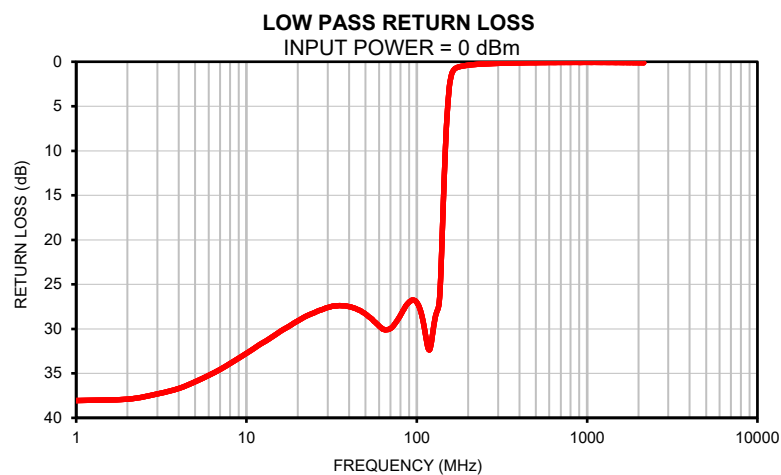
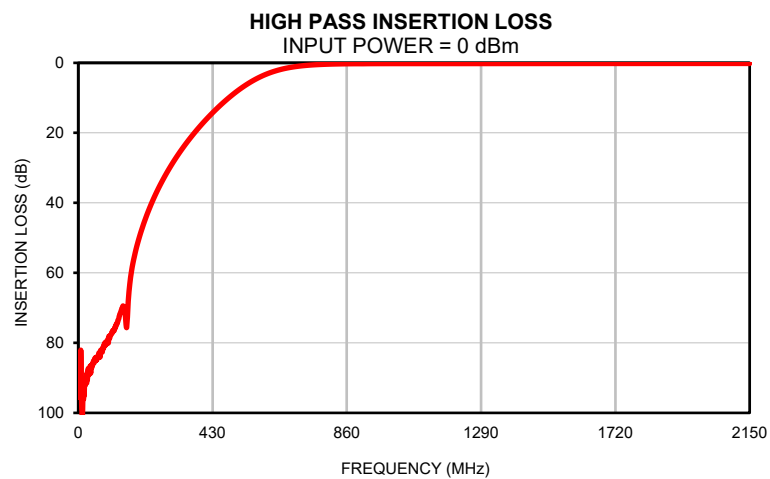
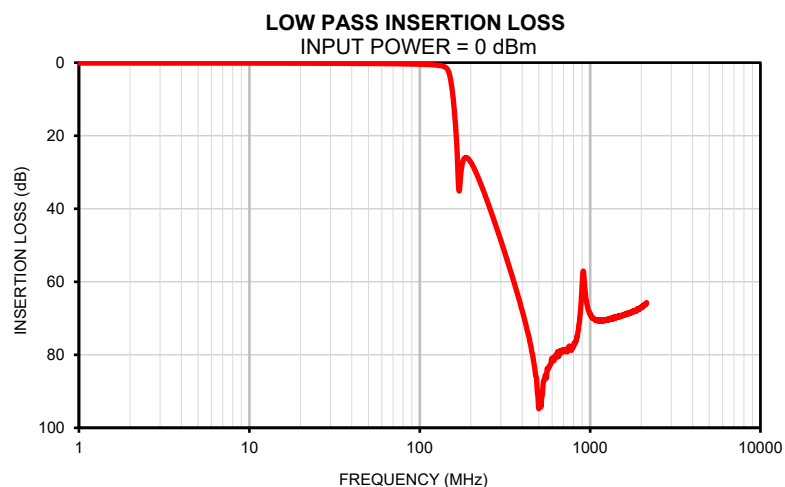
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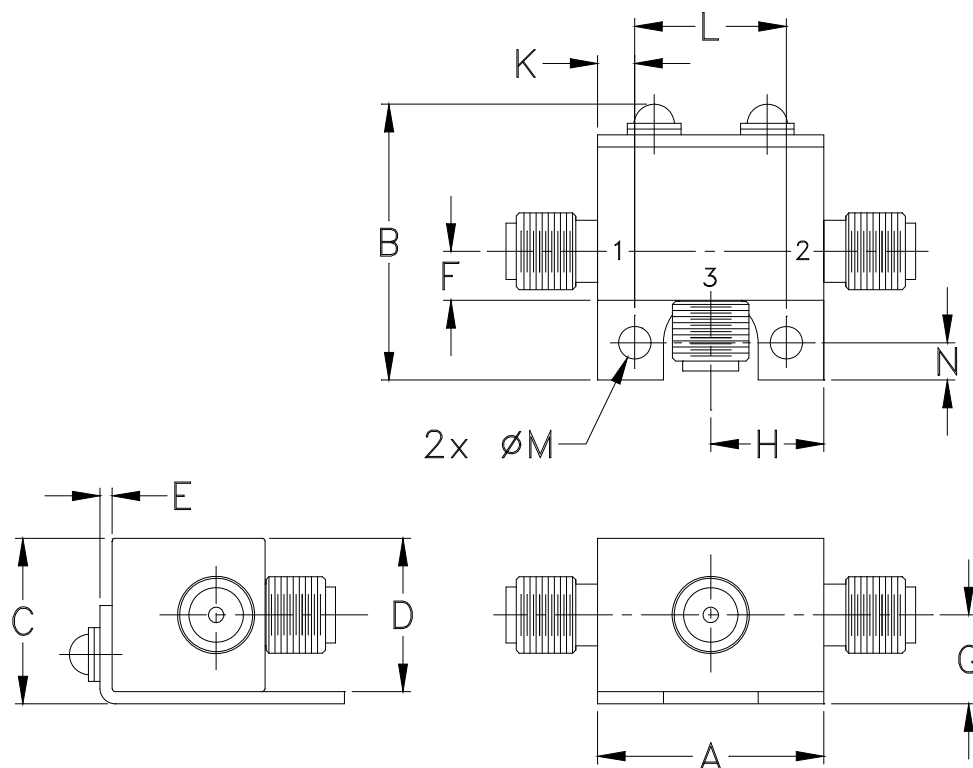
Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)		ISOLATION (dB) (between LPF and HPF)	RETURN LOSS (dB)		
	Lowpass port	Highpass port		Common port	Lowpass port	Highpass port
10	0.13	93.62	101.96	31.96	32.75	0.00
20	0.16	91.87	95.12	27.63	29.11	0.01
50	0.24	85.81	85.48	24.48	28.34	0.00
75	0.32	81.93	81.67	26.78	29.34	0.00
100	0.44	78.51	78.56	28.78	27.03	0.01
125	0.67	74.45	73.74	33.68	30.02	0.02
150	3.42	71.31	69.86	7.36	6.54	0.02
175	29.75	57.26	91.20	0.85	0.60	0.03
200	27.33	48.51	81.08	0.50	0.39	0.04
225	32.44	42.22	80.96	0.36	0.30	0.06
250	38.06	37.10	80.09	0.28	0.25	0.08
275	43.56	32.75	79.77	0.25	0.21	0.10
300	48.82	28.93	79.75	0.25	0.18	0.12
325	53.86	25.54	79.88	0.25	0.17	0.15
350	58.64	22.47	79.11	0.27	0.15	0.19
375	63.35	19.67	79.35	0.32	0.13	0.24
400	67.95	17.10	79.02	0.37	0.13	0.32
425	72.85	14.73	78.50	0.47	0.12	0.42
450	77.69	12.54	78.76	0.61	0.11	0.57
475	84.22	10.52	77.77	0.80	0.11	0.77
500	94.77	8.68	76.73	1.08	0.11	1.06
525	91.12	7.03	76.58	1.48	0.10	1.47
550	85.93	5.58	76.31	2.01	0.09	2.01
575	83.48	4.34	76.37	2.71	0.09	2.72
600	81.30	3.31	75.97	3.59	0.08	3.61
629	80.59	2.38	76.17	4.85	0.09	4.89
650	80.27	1.85	76.19	5.92	0.09	5.96
680	79.05	1.29	76.30	7.65	0.08	7.71
710	78.89	0.91	76.35	9.61	0.08	9.70
725	78.99	0.77	77.33	10.67	0.08	10.76
731	78.84	0.72	76.79	11.10	0.08	11.20
752	78.42	0.58	77.66	12.72	0.08	12.83
800	77.64	0.38	77.94	16.89	0.08	17.01
809	77.15	0.36	78.46	17.76	0.08	17.88
851	73.57	0.28	76.02	22.47	0.07	22.54
854	73.07	0.28	75.22	22.84	0.07	22.92
902	59.44	0.25	61.19	29.86	0.08	28.55
908	57.50	0.26	58.98	30.93	0.08	29.04
935	62.47	0.23	63.53	31.89	0.08	30.29
950	65.00	0.23	66.02	30.87	0.07	29.45
962	66.40	0.22	67.30	29.83	0.07	28.66
983	68.01	0.22	68.73	28.09	0.07	27.29
1001	68.77	0.22	69.88	26.85	0.07	26.21
1022	69.68	0.22	70.38	25.63	0.07	25.10
1025	69.71	0.22	70.46	25.47	0.07	24.96
1055	70.24	0.22	71.11	24.24	0.08	23.98
1100	70.43	0.22	71.33	23.01	0.07	22.80
1115	70.50	0.22	71.36	22.71	0.07	22.52
1202	70.68	0.21	71.28	21.67	0.08	21.62
1211	70.48	0.21	71.51	21.61	0.08	21.55
1300	70.30	0.21	71.17	21.34	0.08	21.31
1352	69.85	0.21	71.03	21.48	0.08	21.43
1400	69.93	0.20	70.66	21.60	0.08	21.52
1445	69.67	0.20	70.35	21.82	0.08	21.78
1502	69.47	0.20	70.10	22.18	0.09	22.05
1601	68.93	0.19	69.54	23.00	0.09	22.90
1700	68.62	0.18	69.07	23.93	0.10	23.84
1901	67.38	0.18	67.70	26.36	0.10	26.03
2000	66.91	0.17	66.93	27.57	0.11	27.24
2150	65.76	0.17	65.90	28.83	0.12	28.53

Typical Performance Curves



Outline Dimensions



CASE #.	A	B	C	D	E	F	G	H	J	K	L	M	N	WT, GRAM
FL905	.74 (18.80)	.90 (22.86)	.54 (13.72)	.50 (12.70)	.04 (1.02)	.16 (4.06)	.29 (7.37)	.37 (9.40)	- -	.122 (3.10)	.496 (12.60)	.106 (2.69)	.122 (3.10)	20.0

Dimensions are in inches (mm). Tolerances: 2Pl. $\pm .03$; 3Pl. $\pm .015$.

Tolerance on hole size and interaxes dimensions to be $\pm .005$.

Notes:

- Case material: Brass.
- Case finish: Nickel plate.



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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	-55° to 100°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Humidity	90 to 95% RH, 40°C, 96 hours; Units may require bake-out after humidity to restore full performance.	MIL-STD-202, Method 103, Condintion B
Thermal Shock	-55° to 100°C, 100 cycles	MIL-STD-202, Method 107, Condition A-3, except +100°C
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	50g, 11ms half-sine, 3 shocks each direction 3 axes (total 18)	MIL-STD-202, Method 213, Condition A