

High IP3

# Low Noise Amplifier

## ZRL-1150LN+

50Ω

650 to 1400 MHz

### Features

- High IP3, +40 dBm typ.
- Low Noise figure, 0.8 dB typ.
- Broadband flat gain response
- Internal voltage regulated
- Over-voltage and transient protected

### Applications

- Very low noise, preamplifier
- Analog/digital cellular
- PCS, GSM, TDMA, CDMA
- GPS and MAS
- Aeronautical and defense communications



Generic photo used for illustration purposes only

Case Style: FJ893

Connectors Model

SMA ZRL-1150LN+

**+RoHS Compliant**

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

### Electrical Specifications at 25°C

Parameter	Condition (MHz)	Min.	Typ.	Max.	Units
Frequency Range		650		1400	MHz
Noise Figure	650 - 1400	—	1.1	1.7	dB
	685 - 1000	—	0.8	1.4	
Gain	650 - 1400	25	32	—	dB
	685 - 1000	27	34	—	
Gain Flatness	650 - 1400	—	±2.0	—	dB
	685 - 1000	—	±0.5	±1.0	
Output Power at 1dB compression	650 - 1400	22	25	—	dBm
	685 - 1000	22	25	—	
Output Power at 3dB compression	650 - 1400	—	26.3	—	dBm
	685 - 1000	—	26.0	—	
Output third order intercept point <sup>1</sup>	650 - 1400	—	+41	—	dBm
	685 - 1000	—	+41	—	
Input VSWR	650 - 1400	—	1.25	—	:1
	685 - 1000	—	1.20	—	
Output VSWR	650 - 1400	—	1.20	—	:1
	685 - 1000	—	1.25	—	
Active Directivity	650 - 1400	—	14	—	dB
	685 - 1000	—	15	—	
DC Supply Voltage <sup>2</sup>		—	12	—	V
Supply Current		—	400	500	mA

1. 1 MHz tone spacing.

2. Unit is internally voltage regulated for 6.5 to 17VDC input voltage range.

### Maximum Ratings

Parameter	Ratings
Operating Temperature	-40°C to 80°C case -40°C to 60° ambient
Storage Temperature	-55°C to 100°C
DC Voltage	+17V
Input RF Power (no damage)	+10 dBm

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

### Notes

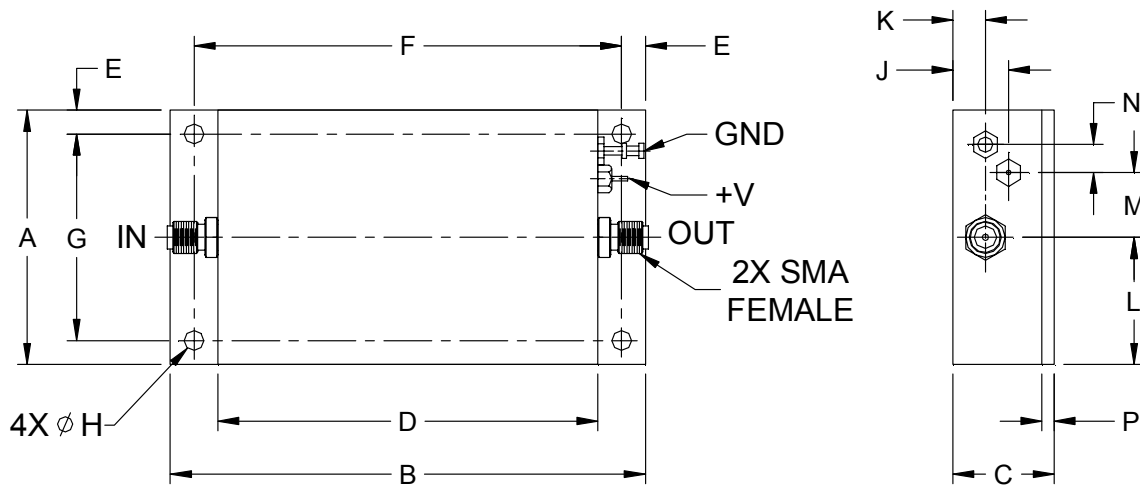
A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.

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](http://www.minicircuits.com/MCLStore/terms.jsp)



## Outline Drawing



## Outline Dimensions (inch/mm)

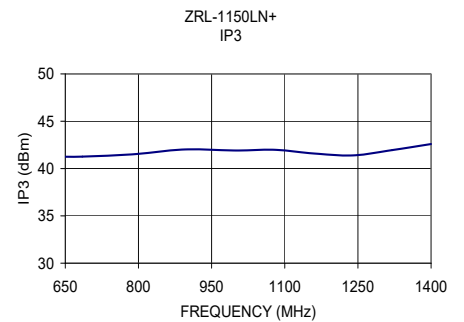
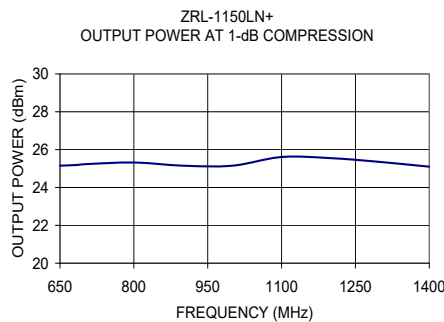
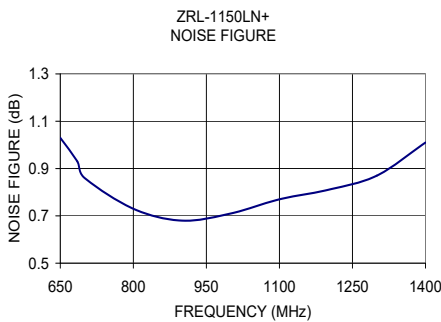
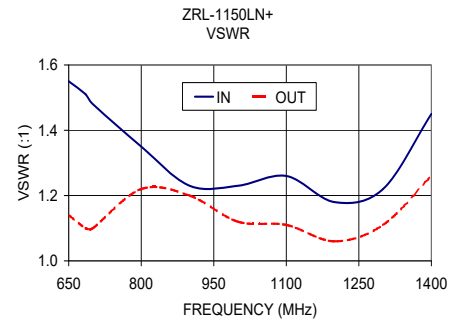
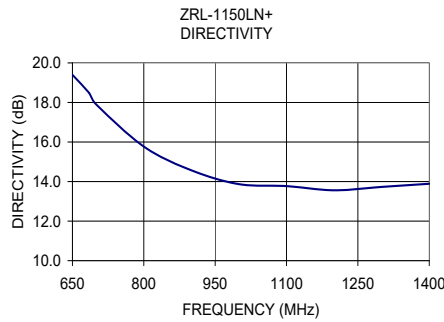
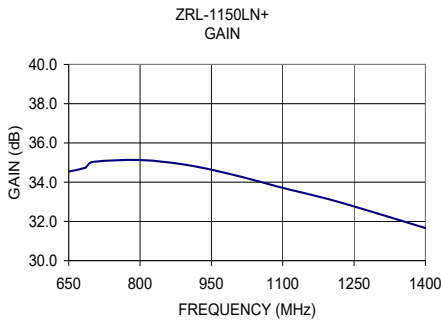
A	B	C	D	E	F	G	H	J	K	L	M	N	P	wt
2.00	3.75	0.80	3.00	0.19	3.374	1.624	0.156	0.44	0.26	1.00	0.51	0.22	0.10	grams
50.80	95.25	20.32	76.20	4.83	85.70	41.25	3.96	11.18	6.60	25.40	12.95	5.59	2.54	135

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FREQUENCY (MHz)	GAIN (dB)	DIRECTIVITY (dB)	VSWR (:1)		NOISE FIGURE (dB)	POUT at 1dB COMPR. (dBm)	OUTPUT IP3 (dBm)
	12V	12V	IN	OUT	12V	12V	12V
650.00	34.54	19.40	1.55	1.14	1.03	25.15	41.25
685.00	34.74	18.48	1.51	1.10	0.93	25.19	41.26
700.00	35.03	17.90	1.48	1.10	0.86	25.23	41.51
800.00	35.13	15.77	1.35	1.22	0.73	25.32	42.02
900.00	34.87	14.57	1.23	1.20	0.68	25.15	41.91
1000.00	34.35	13.87	1.23	1.12	0.71	25.15	41.98
1100.00	33.71	13.77	1.26	1.11	0.77	25.61	41.59
1200.00	33.11	13.56	1.18	1.06	0.81	25.55	41.39
1300.00	32.40	13.73	1.22	1.11	0.87	25.35	41.95
1400.00	31.66	13.89	1.45	1.26	1.01	25.10	42.59



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