Coaxial

Wideband Amplifier

ZHL-2150+

50Ω 950 to 2150 MHz

The Big Deal

- L-band, 950 to 2150 MHz
- Medium output power, +11 dBm typ
- DC power, from +12V to +18V, feeds the amplifier via RF input or RF output ports. Additionally, the amplifier can pass DC up to 390mA through the RF ports in any direction.
- Along with DC, reference signal 10 MHz, can pass through the amplifier in either direction with minimal loss.
- High gain, 30 dB typ.
- Good Flatness, ±1.0 dB max

CASE STYLE: S860-1

Product Overview

The ZHL-2150+ is a Class A, L-band amplifier, ideal for a variety of lab applications as well as applications including communications, radar and more. The amplifier provides unconditional stability. Housed in a rugged aluminum alloy case measuring 3.00 x 2.00 x 0.80”, the unit features SMA connectors.

Key Features

Feature	Advantages
L-band, 950 to 2150 MHz	Suitable for a broad range of wideband applications, including test setups, satellite communications and defense applications.
Medium P1dB, +11 dBm typ.	Usable for medium power applications, good as buffer amplifier.
Single +12V to +18V supply voltage, applied to either RF input or output	Simplifies the power supply configuration and minimizes the cable needs.
Reference signal 10 MHz can pass through the amplifier	Minimizes needs for Bias Tees and low attenuation of reference signal.
Unconditional stability	Provides reliable performance independent of input and load conditions.

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Connectors	Model
SMA	ZHL-2150+

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

Features

- L-band, 950 to 2150 MHz
- usable, 700 to 2500 MHz
- reference signal up to 20 MHz can pass through the amplifier
- DC power provided from RF input or output
- compact rugged case, 3.00 x 2.00 x 0.80”

Applications

- satellite communication systems
- tower top amplifiers
- radar
- instrumentation
- laboratory use
- GPS

Electrical Specifications at 25°C

Parameter	Min.	Typ.	Max.	Units
Frequency Range	950	—	2150	MHz
Gain	25	30	34	dB
Gain Flatness	—	±0.5	±1.0	dB
Output Power at 1dB compression	—	+11	—	dBm
Noise Figure	—	3.5	—	dB
Output third order intercept point	—	25	—	dBm
Input VSWR	—	1.3	—	:1
Output VSWR	—	1.3	—	:1
Reference Signal IL	—	0.29	0.6	dB
Reference Signal In / Out VSWR	—	1.2	1.4	:1
DC Supply Voltage (from the RF input or output)	—	12	—	V
Supply Current	—	—	110	mA

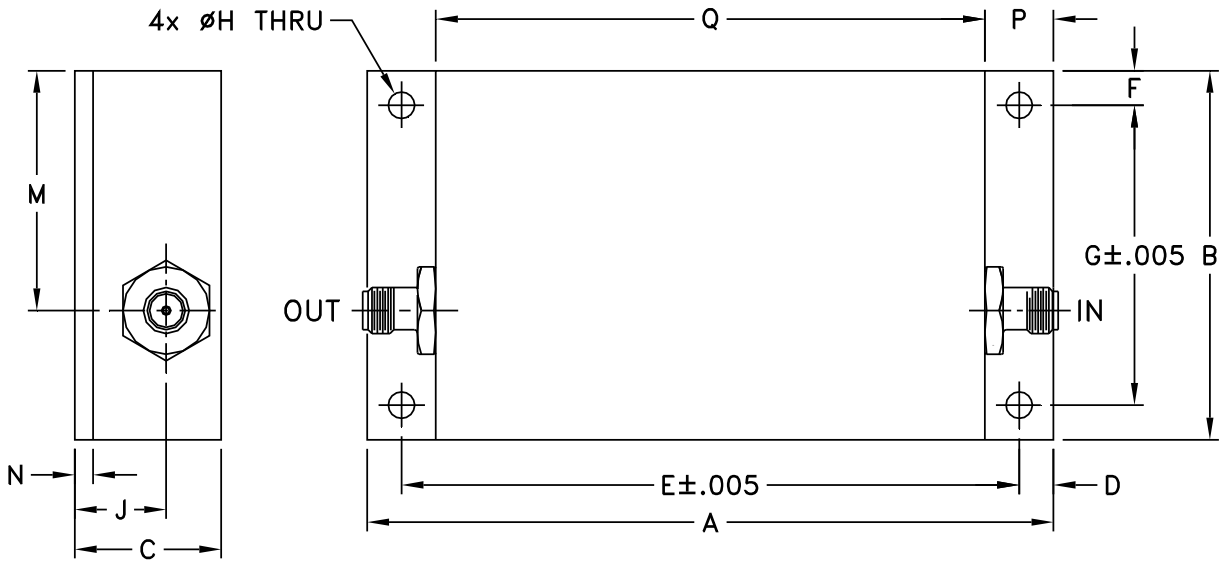
Open/Short load is not recommended, potentially can cause damage.
With no load derate max input power by 20 dB.

Maximum Ratings

Parameter	Ratings
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
DC Voltage	+19V max.
Input RF Power (no damage)	-5 dBm

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

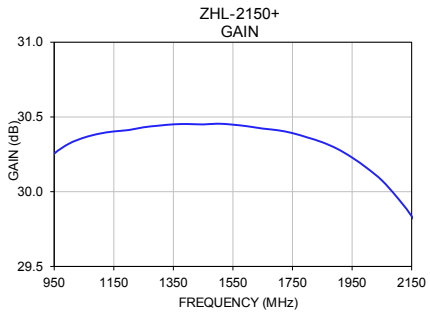
Outline Drawing

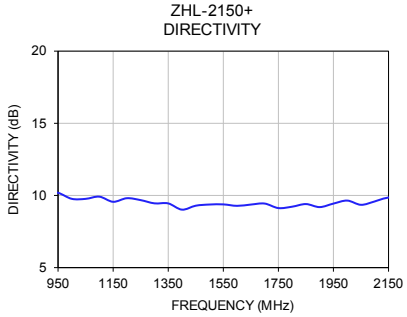


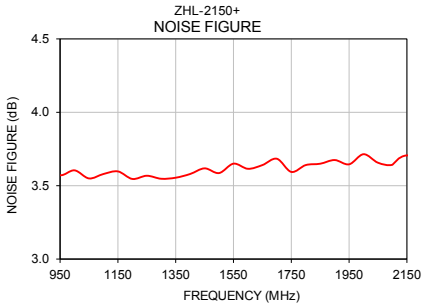
Outline Dimensions (inch / mm)

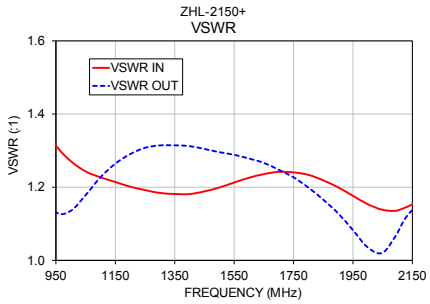
A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	wt
3.75	2.00	.80	.19	3.375	.19	1.625	.144	.50	--	--	1.30	.10	.38	3.00	grams
95.25	50.80	20.32	4.83	85.73	4.83	41.28	3.66	12.70	--	--	33.02	2.54	9.65	76.20	150.0

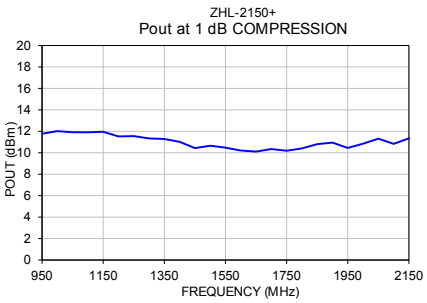
FREQUENCY (MHz)	GAIN (dB)	DIRECTIVITY (dB)	VSWR (:1)		POUT at 1 dB COMPR. (dBm)	NOISE FIGURE (dB)	OIP3 (dBm)
	12V	12V	IN	OUT	12V	12V	12V
10	-0.29	--	1.15	1.15	--	--	--
950	30.25	10.18	1.31	1.13	11.78	3.57	25.12
1100	30.39	9.92	1.23	1.23	11.91	3.58	25.55
1200	30.41	9.81	1.20	1.29	11.52	3.55	24.81
1300	30.44	9.45	1.18	1.31	11.34	3.55	24.66
1400	30.45	9.02	1.18	1.31	11.02	3.58	24.13
1500	30.46	9.37	1.20	1.30	10.66	3.59	23.55
1600	30.44	9.28	1.23	1.28	10.21	3.62	22.99
1800	30.36	9.22	1.23	1.20	10.41	3.64	23.11
2000	30.16	9.64	1.15	1.04	10.85	3.71	24.08
2150	29.84	9.86	1.15	1.14	11.34	3.71	25.10

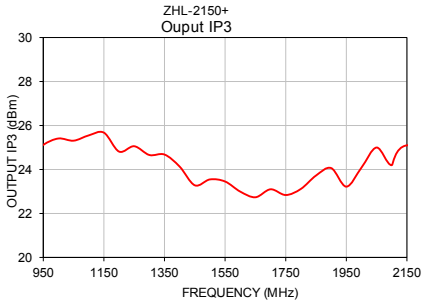












Additional Notes

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