Coaxial

Low Noise Amplifier

ZX60-112LN+

50Ω 400 to 1100 MHz

CASE STYLE: GA955

The Big Deal

- Low Noise, 1.2 dB
- High gain, 27 dB
- High IP3, +30 dBm
- Excellent reverse isolation, 52 dB

Product Overview

Mini-Circuits' ZX60-112LN+ is a wideband, low noise connectorized amplifier providing a unique combination of low noise figure, high gain, high IP3, and high reverse isolation, supporting a wide range of sensitive receiver applications. This design operates on a single 5V supply and comes in a rugged, compact unibody case (1.20 x 0.75 x 0.46") with SMA connectors, making it an excellent candidate for tough operating conditions and crowded system layouts.

Key Features

Feature	Advantages
Low noise, 1.2 dB	Enables lower system noise figure performance.
High gain, 27 dB typ.	Reduces the number of gain stages, lowering component count and overall system cost.
Excellent gain flatness, ±1.0 dB	Provides consistent performance across its full bandwidth without the need for external gain flattening componentry.
Excellent reverse isolation, 52 dB	Ideal for use as a buffer amplifier, minimizing interaction with adjacent circuits.
High IP3, +30 dBm	The combination of low noise and high IP3 makes the ZX60-112LN+ ideal for use in low noise receiver front end (RFE) as it gives the user the advantages of sensitivity and two-tone IM performance at both ends of the dynamic range.
Rugged, unibody construction	Mini-Circuits unibody construction integrates the RF connector into the case body, providing high reliability and excellent survivability in critical applications.

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Features

- wide bandwidth, 400 to 1100 MHz
- low noise figure 1.2 dB typ.
- output power, up to 16.5 dBm typ.
- excellent reverse isolation, 52 dB typ.
- protected by US patent 6,790,049

Applications

- front-end amplifier
- cellular
- lab
- instrumentation
- test equipment

Case Style: GA955

Connectors	Model
SMA	ZX60-112LN+

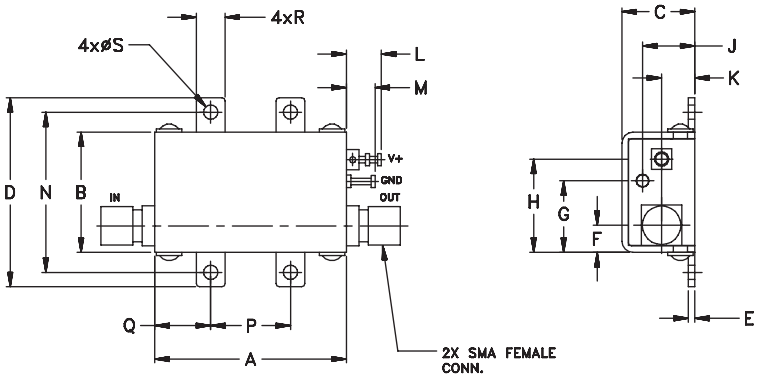
+RoHS Compliant

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	—	400	—	1100	MHz
Noise Figure	400 - 1100	—	1.2	1.5	dB
Gain	400 - 1100	24	27	—	dB
Gain Flatness	400 - 1100	—	±1.0	—	dB
Output Power at 1dB compression	400 - 1100	14.5	16.5	—	dBm
Output third order intercept point	400 - 1100	—	+30	—	dBm
Input VSWR	400 - 1100	—	1.4	—	:1
Output VSWR	400 - 1100	—	1.3	—	:1
Active Directivity	400 - 1100	—	25	—	dB
DC Supply Voltage	—	—	+5	—	V
Supply Current	—	—	150	190	mA

Outline Drawing



Maximum Ratings

Parameter	Ratings
Operating Temperature	-40°C to 85°C Case
Storage Temperature	-55°C to 100°C
DC Voltage	+7V
Input RF Power (no damage)	+20 dBm
Power Dissipation	1.3W

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

Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	wt
1.20	.75	.46	1.18	.04	.17	.45	.59	.33	.21	.22	.18	1.00	.50	.35	.18	.09	grams
30.48	19.05	11.68	29.97	1.02	4.32	11.43	14.99	8.38	5.33	5.59	4.57	25.40	12.70	8.89	4.57	2.29	**35.00**

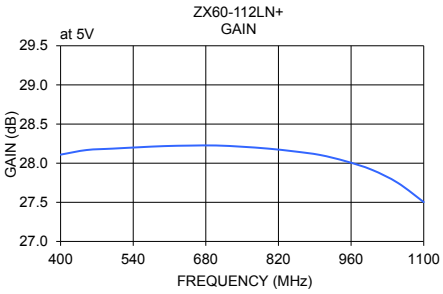
Notes

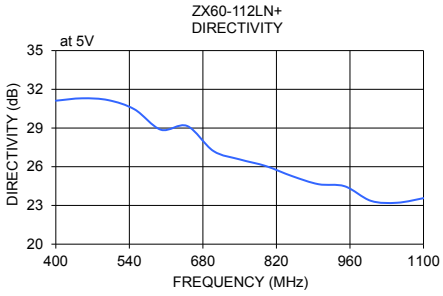
A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.

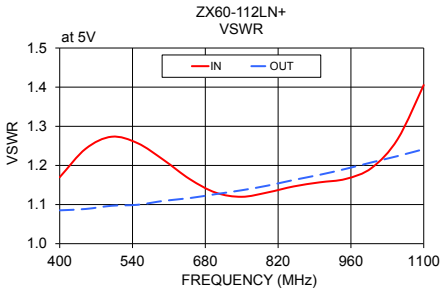
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.

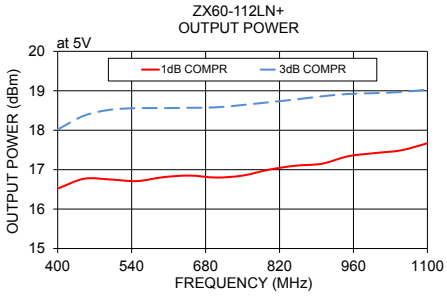
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp

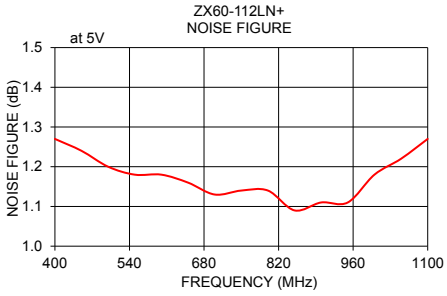
FREQUENCY (MHz)	GAIN (dB)	DIRECTIVITY (dB)	VSWR IN (:1)	VSWR OUT (:1)	NOISE FIGURE (dB)	POUT at 1dB COMPR. (dBm)	IP3 (dBm)
	5V	5V	5V	5V	5V	5V	5V
400	28.11	31.12	1.17	1.09	1.27	16.52	30.84
450	28.17	31.30	1.24	1.09	1.24	16.77	30.64
500	28.19	31.16	1.27	1.10	1.20	16.75	30.34
550	28.20	30.44	1.26	1.10	1.18	16.71	30.22
600	28.22	28.87	1.21	1.11	1.18	16.81	30.31
650	28.22	29.16	1.17	1.12	1.16	16.85	30.15
700	28.23	27.22	1.13	1.13	1.13	16.80	29.98
750	28.21	26.57	1.12	1.14	1.14	16.85	30.18
800	28.19	26.05	1.13	1.15	1.14	17.00	30.48
850	28.15	25.27	1.15	1.16	1.09	17.10	30.61
900	28.11	24.65	1.16	1.18	1.11	17.15	30.69
950	28.02	24.49	1.17	1.19	1.11	17.34	30.96
1000	27.92	23.35	1.19	1.21	1.18	17.42	31.31
1050	27.75	23.21	1.27	1.22	1.22	17.49	31.42
1100	27.50	23.56	1.41	1.24	1.27	17.67	31.33

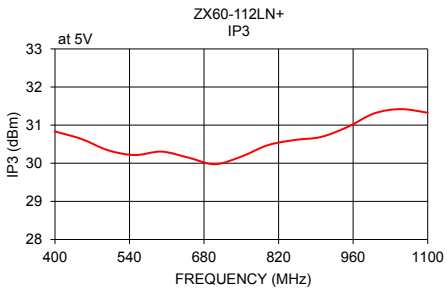












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