

Coaxial Low Noise Amplifier

ZX60-3011+

50Ω 400 to 3000 MHz

Features

- high dynamic range
- wide bandwidth, 400 to 3000 MHz
- low noise figure 1.5 dB typ.
- 1dB compression, +21 dBm
- medium IP3
- reverse voltage connection protected
- over-voltage transient protected
- low cost
- protected by US patent 6,790,049

Applications

- buffer amplifier
- LO amplifiers for mixers
- cellular
- PCN
- general purpose small signal



Generic photo used for illustration purposes only

CASE STYLE: GC957

Connectors	Model
SMA	ZX60-3011+

+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		3000	MHz
Noise Figure	400-1000		1.4	2.5	dB
	1000-1700		1.5	2.5	
	1700-2400		1.7	2.6	
	2400-3000		1.8	2.8	
Gain	400-1000	12	15.0		dB
	1000-1700	11	13.5		
	1700-2400	9	11.5		
	2400-3000	7.5	10.0		
Gain Flatness	400-1000		±.70		dB
	1000-1700		±1.0		
	1700-2400		±1.0		
	2400-3000		±.70		
Output Power at 1dB compression	400-1000	19.5	21.5		dBm
	1000-1700	19.5	21.5		
	1700-2400	18.5	21.0		
	2400-3000	18.0	20.4		
Output third order intercept point			31		dBm
Input VSWR			1.7		:1
Output VSWR	400-3000		1.6		:1
DC Supply Voltage			12		V
Supply Current			120		mA

Maximum Ratings

Parameter	Ratings
Operating Temperature	-40°C to 85°C Case -40°C to 60°C ambient
Storage Temperature	-55°C to 100°C
DC Voltage	+6.5 V Min. to 15V Max.
Input RF Power (no damage)	+15 dBm
Power Dissipation	1.12W Typ. at 12V

¹ Other voltages available in the 6.5 to 20V range, please contact factory. Permanent damage may occur if any of these limits are exceeded.

Notes

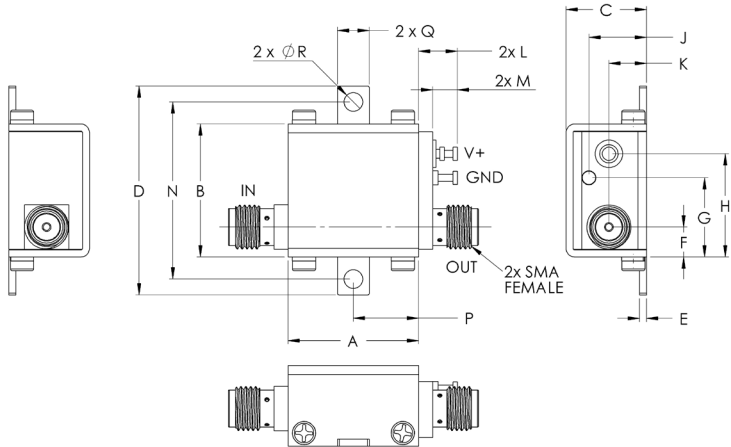
- Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- 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



www.minicircuits.com P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

REV. G
ECC-000670
ZX60-3011+
EDB030109
MCL NY
191118
Page 1 of 3

Outline Drawing



NOTE: When soldering the DC connections, caution must be used to avoid overheating the DC terminal. See Application Note [AN-40-010](#).

Outline Dimensions (inch)

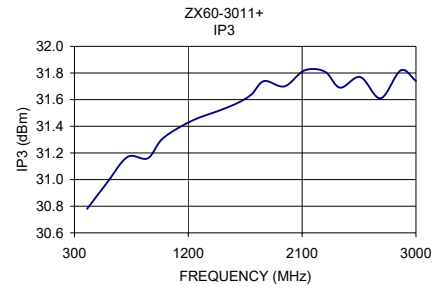
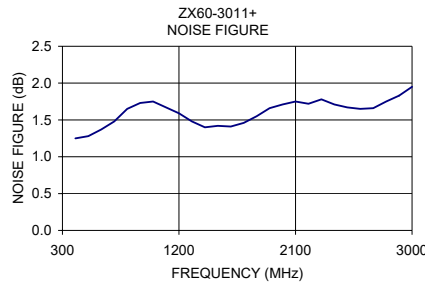
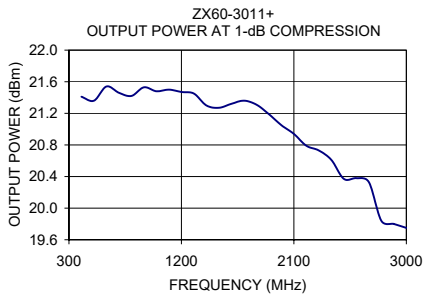
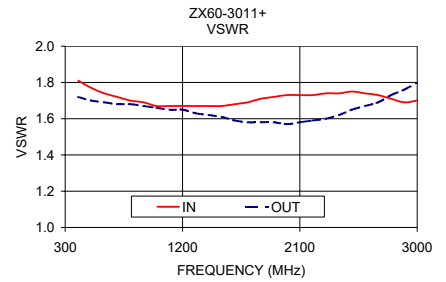
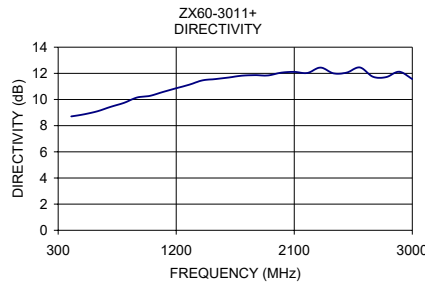
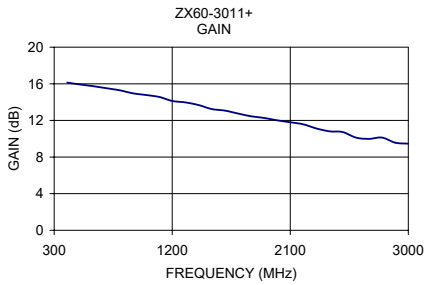
A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	wt
.74	.75	.46	1.18	.04	.17	.45	.59	.33	.21	.22	.14	1.00	.37	.18	.106	grams
18.80	19.1	11.68	30.0	1.02	4.32	11.4	14.99	8.38	5.33	5.59	3.56	25.40	9.40	4.57	2.69	23.0

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)	POUT at 1dB COMPR. (dBm)	IP3 (dBm)	NOISE FIGURE (dB)
	12V	12V			12V		12V
400.00	16.13	8.71	1.81	1.72	21.41	30.78	1.25
500.00	15.92	8.87	1.77	1.70	21.36	30.98	1.28
900.20	14.96	10.15	1.69	1.67	21.53	31.16	1.73
1000.00	14.78	10.28	1.67	1.66	21.48	31.31	1.75
1200.00	14.13	10.86	1.67	1.65	21.47	31.44	1.59
1400.00	13.68	11.46	1.67	1.62	21.30	31.52	1.40
1600.00	13.08	11.68	1.68	1.59	21.32	31.58	1.41
1800.00	12.46	11.86	1.71	1.58	21.31	31.74	1.55
1900.00	12.27	11.84	1.72	1.58	21.19	31.70	1.66
2100.00	11.80	12.11	1.73	1.58	20.94	31.82	1.75
2300.00	11.12	12.14	1.74	1.60	20.73	31.81	1.78
2400.00	10.81	12.00	1.74	1.62	20.61	31.69	1.71
2600.00	10.13	12.45	1.74	1.67	20.38	31.77	1.65
2900.00	9.57	12.12	1.69	1.76	19.80	31.82	1.83
3000.00	9.46	11.56	1.70	1.80	19.75	31.74	1.95



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

