

Coaxial

# Wideband Amplifier

ZX60-V81-S+

50Ω 20 to 6000 MHz

## The Big Deal

- Ultra wideband
- High dynamic range:
  - +19 dBm P1dB compression
  - +35 dBm Output IP3



CASE STYLE: GC957

## Product Overview

The ZX60-V81-S+ is a very compact wideband amplifier covering 20 to 6000MHz with 10dB gain (at 2GHz). Housed in a rugged, cost effective unibody chassis, this amplifier supports a wide variety of applications requiring moderate power output, low distortion and 50 ohm matched input/output ports.

## Key Features

Feature	Advantages
Ultra Wide band high dynamic range	The ZX60-V81-S+ covers a wide spectrum of application frequencies from VHF through 'C' band. When combined with the output power and IP3, this amplifier supports a broad array of systems and test applications.
Well Matched input / output ports	With typical input VSWR of 1.2:1 and output VSWR of 1.5:1 at 2GHz, the ZX60-V81-S+ can be used in cascade with many components and maintain minimal interaction or reflections.
Very small size, 0.75" x 0.75"	The unique unibody construction enables the ZX60-V81-S+ to be used in compact designs.
Unconditionally stable	No adverse effects due to loading of the input and output ports.

### 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.  
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# Wideband Amplifier

## ZX60-V81-S+

50Ω      20 to 6000 MHz

### Features

- Wideband, 20 to 6000 MHz
- Output power at 1dB compression, +19 dBm typ.
- Good output IP3, 35 dBm typ.
- Good VSWR
- Unconditionally stable
- Protected by US patents 6,790,049 & 6,943,629

### Applications

- Base station infrastructure
- CATV & DBS
- MMDS & wireless LAN
- LTE
- Buffer amplifier
- PCS
- Test equipment



Case Style: GC957  
Connectors    Model  
SMA            ZX60-V81-S+

### +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		20		6000	MHz
Gain	100	9.5	10.5	11.5	dB
	1000		10.2		
	2000	8.5	9.7	11.0	
	3000		9.0		
	4000	7.3	8.5	10.0	
	6000		7.0		
Output Power at 1dB compression	100	17.0	19		dBm
	1000	17.0	19.5		
	2000	17.0	19.5		
	3000		19.0		
	4000		18.5		
	6000		17.0		
Noise Figure	100		7.5	9.0	dB
	1000		7.5		
	2000		7.5	9.5	
	3000		8.0		
	4000		8.0		
	6000		8.5		
Output third order intercept point	100		39.5		dBm
	1000		37.0		
	2000	32	36.0		
	3000		35.0		
	4000		34.0		
	6000		31.0		
Input VSWR	100		1.10	1.5	:1
	1000		1.10		
	2000		1.20		
	3000		1.25		
	4000		1.30		
	6000		1.70		
Output VSWR	100		1.15	1.7	:1
	1000		1.30		
	2000		1.50		
	3000		1.50		
	4000		1.40		
	6000		1.70		
Active Directivity	20-6000		13		dB
DC Supply Voltage		4.8	5.0	5.2	V
DC Supply Current			103	115	mA

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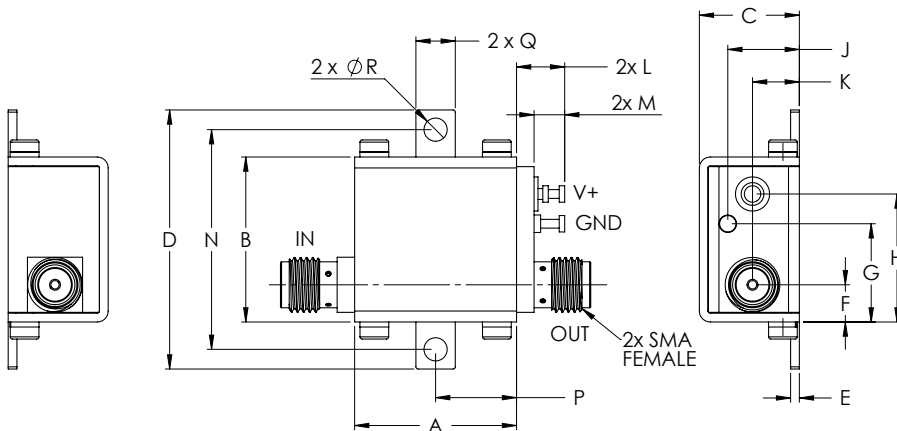


## Maximum Ratings

Parameter	Ratings
Operating Temperature	-40°C to 85°C Case
Storage Temperature	-55°C to 100°C
DC Voltage	5.5 V
Input RF Power (no damage)	20 dBm
Power Consumption	1 W

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

## Outline Drawing



**!** NOTE: When soldering the DC connections, caution must be used to avoid overheating the DC terminals. See Application Note [AN-40-10](#).

## Outline Dimensions (inch / mm)

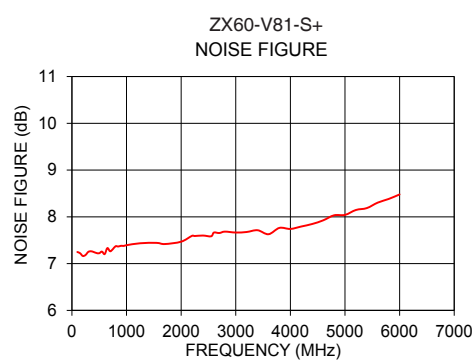
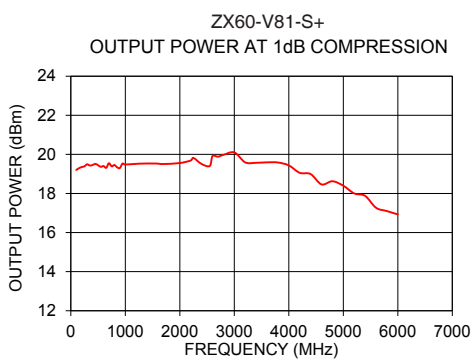
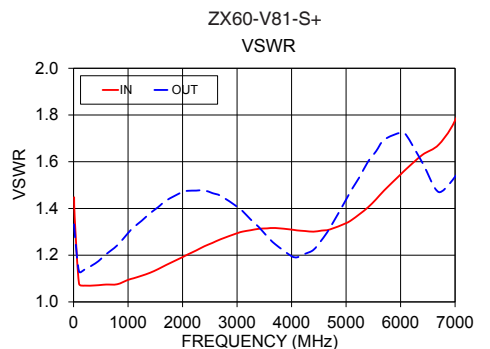
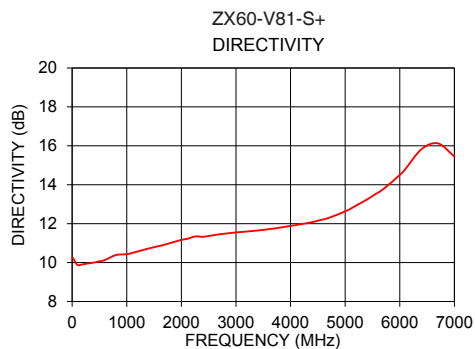
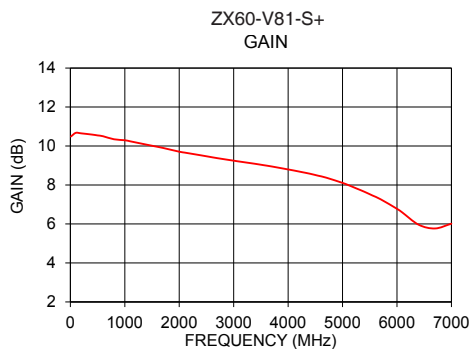
A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	WT.
																GRAM
.74	.75	.46	1.18	.04	.17	.45	.59	.33	.21	.22	.14	1.00	.37	.18	.106	23.0
18.80	19.05	11.68	29.97	1.02	4.32	11.43	14.99	8.38	5.33	5.59	3.56	25.40	9.40	4.57	2.69	

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FREQUENCY (MHz)	GAIN (dB)	DIRECTIVITY (dB)	VSWR IN (:1)	VSWR OUT (:1)	POWER OUT @ 1dB COMPRESSION (dBm)	OUTPUT IP3 (dBm)	NF (dB)
20	10.51	10.21	1.36	1.30	—	—	—
100	10.68	9.88	1.08	1.13	19.20	39.28	7.25
500	10.54	10.07	1.07	1.18	19.44	38.63	7.22
1000	10.30	10.43	1.09	1.29	19.48	36.31	7.39
1250	10.16	10.61	1.11	1.35	19.52	35.62	7.44
1550	9.99	10.82	1.14	1.41	19.53	35.48	7.44
1700	9.90	10.92	1.16	1.43	19.51	35.90	7.42
2000	9.71	11.17	1.19	1.47	19.56	35.07	7.47
2250	9.59	11.34	1.22	1.48	19.82	33.55	7.59
2550	9.45	11.39	1.25	1.47	19.41	32.18	7.58
2700	9.38	11.46	1.27	1.45	19.88	32.87	7.65
3000	9.25	11.55	1.29	1.41	20.10	32.31	7.67
3400	9.08	11.65	1.31	1.32	19.57	30.73	7.71
4000	8.80	11.89	1.31	1.20	19.43	29.72	7.74
4400	8.58	12.08	1.30	1.22	18.99	29.03	7.85
5000	8.11	12.63	1.34	1.44	18.40	28.20	8.04
5400	7.65	13.24	1.40	1.60	17.88	27.59	8.19
6000	6.78	14.51	1.55	1.72	16.93	26.42	8.48
6700	5.77	16.12	1.67	1.47	—	—	—
7000	6.01	15.45	1.78	1.54	—	—	—



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