

Coaxial

# Wideband Amplifier

**ZX60-V83+**

**50Ω 20 to 4700 MHz**

## The Big Deal

- Wideband
- High dynamic range:
  - +17dBm P1dB compression
  - +30dBm Output IP3



CASE STYLE: GC957

## Product Overview

The ZX60-V83+ (RoHS compliant) is a very compact wideband amplifier covering 20 to 4700MHz with 17dB 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-V83+ covers a wide spectrum of application frequencies from VHF through 'S' 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 1GHz, the ZX60-V83+ 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-V83+ to be used in compact designs.
Unconditionally stable	No adverse effects due to loading of the input and output ports.

### Notes

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# Wideband Amplifier

ZX60-V83+

50Ω 20 to 4700 MHz

## Features

- Wideband, 20 to 4700 MHz
- Output power at 1dB compression, +17 dBm typ.
- Good output IP3, 30 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-V83-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		4700	MHz
Gain	100	18.0	20.0	22.0	dB
	1000		19.0		
	2000	15.0	16.8	18.5	
	3000		15.0		
	4000	11.5	13.5	15.0	
	4700		12.3		
Output Power at 1dB compression	100	15.0	17.0		dBm
	1000	15.0	17.0		
	2000	15.0	17.0		
	3000		17.0		
	4000		18.0		
	4700		17.5		
Noise Figure	100		6.0	7.2	dB
	1000		6.0		
	2000		6.0	7.3	
	3000		6.0		
	4000		6.5		
	4700		6.8		
Output third order intercept point	100		29.5		dBm
	1000		30.0		
	2000	28.0	31.0		
	3000		31.0		
	4000		30.0		
	4700		29.5		
Input VSWR	100		1.10		:1
	1000		1.20		
	2000		1.25	1.6	
	3000		1.30		
	4000		1.20		
	4700		1.30		
Output VSWR	100		1.35		:1
	1000		1.50		
	2000		1.70	2.3	
	3000		1.80		
	4000		1.70		
	4700		1.75		
Active Directivity	20-4700		10		dB
DC Supply Voltage		4.8	5.0	5.2	V
DC Supply Current			72	82	mA

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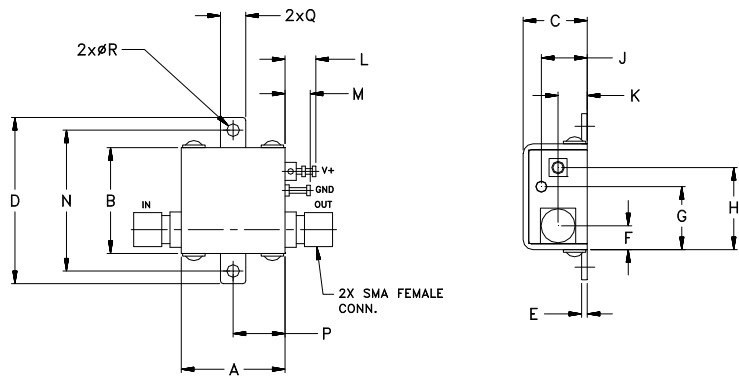


Maximum Ratings

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	740 mW

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

Outline Drawing



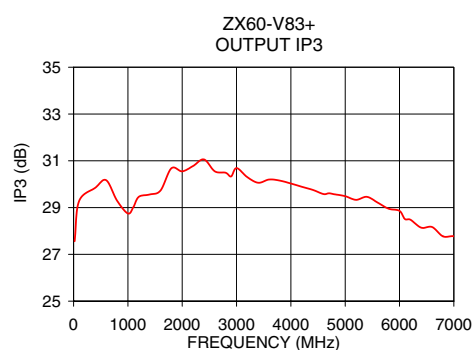
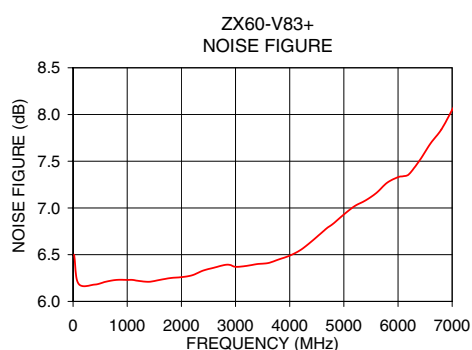
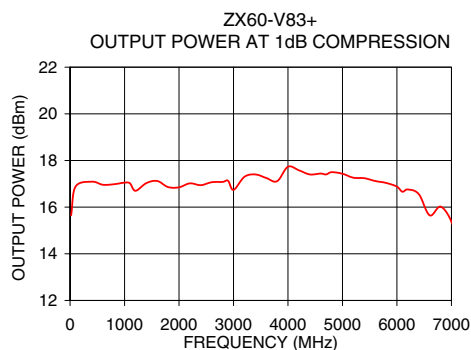
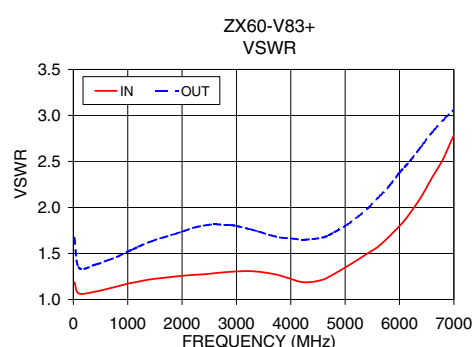
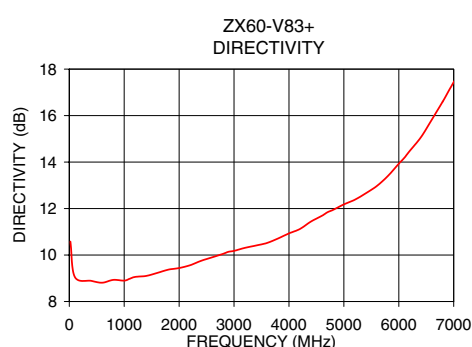
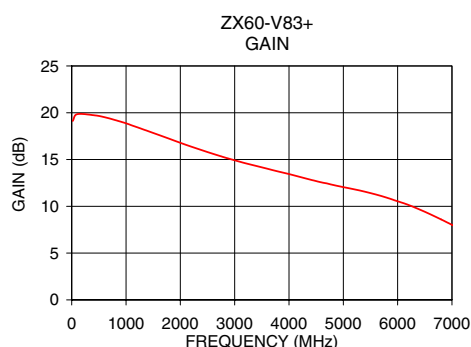
**NOTE:** When soldering the DC connections, caution must be used to avoid overheating the DC terminals. See Application Note [AN-40-10](#).

Outline Dimensions (inch)

A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	wt.
0.74	.75	.46	1.18	.04	.17	.45	.59	.33	.21	.22	.18	1.00	.37	.18	.106	grams
18.80	19.05	11.68	29.97	1.02	4.32	11.43	14.99	8.38	5.33	5.59	4.57	25.40	9.40	4.57	2.69	23.0

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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	19.12	10.58	1.19	1.67	15.65	27.56	6.50
100	19.84	9.06	1.07	1.35	16.88	29.27	6.19
400	19.74	8.89	1.08	1.38	17.09	29.85	6.18
1000	18.87	8.90	1.17	1.52	17.05	28.75	6.23
1200	18.46	9.06	1.19	1.58	16.70	29.46	6.22
1400	18.05	9.10	1.22	1.62	17.03	29.56	6.21
1600	17.63	9.23	1.23	1.66	17.12	29.73	6.23
2000	16.79	9.44	1.26	1.74	16.85	30.55	6.26
2200	16.38	9.56	1.27	1.78	17.02	30.78	6.28
2400	15.99	9.75	1.27	1.80	16.94	31.06	6.33
2600	15.61	9.90	1.29	1.82	17.07	30.55	6.36
3000	14.92	10.18	1.30	1.80	16.74	30.69	6.37
3400	14.31	10.41	1.30	1.74	17.40	30.06	6.40
4000	13.45	10.93	1.22	1.66	17.73	30.03	6.49
4400	12.84	11.44	1.19	1.66	17.40	29.76	6.64
4700	12.44	11.84	1.25	1.70	17.40	29.61	6.79
5000	12.05	12.18	1.35	1.80	17.43	29.49	6.93
6000	10.54	13.93	1.80	2.38	16.88	28.86	7.33
6600	9.15	15.82	2.33	2.82	15.65	28.17	7.69
7000	8.02	17.44	2.78	3.06	15.38	27.77	8.05



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