

Coaxial

Wideband Amplifier

ZX60-V82-S+

50Ω 20 to 6000 MHz

The Big Deal

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



CASE STYLE: GC957

Product Overview

The ZX60-V82-S+ (RoHS compliant) is a very compact wideband amplifier covering 20 to 6000MHz with 13.5dB 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-V82-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 1.3:1 and output VSWR of 1.5:1 at 2GHz, the ZX60-V82-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-V82-S+ 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-V82-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-V82-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 | 13.5 | 15.2 | 16.8 | dB |
| | 1000 | | 14.7 | | |
| | 2000 | 12.0 | 13.5 | 15.2 | |
| | 3000 | | 12.3 | | |
| | 4000 | 9.5 | 11.4 | 13.0 | |
| | 6000 | | 9.1 | | |
| Output Power at 1dB compression | 100 | 17.0 | 19.0 | | dBm |
| | 1000 | 17.5 | 19.5 | | |
| | 2000 | 18.0 | 20.0 | | |
| | 3000 | | 19.7 | | |
| | 4000 | | 19.4 | | |
| | 6000 | | 17.5 | | |
| Noise Figure | 100 | | 6.5 | 8.0 | dB |
| | 1000 | | 6.7 | | |
| | 2000 | | 6.8 | 8.4 | |
| | 3000 | | 6.9 | | |
| | 4000 | | 7.0 | | |
| | 6000 | | 7.7 | | |
| Output third order intercept point | 100 | | 38.5 | | dBm |
| | 1000 | | 36.5 | | |
| | 2000 | 33.0 | 35.0 | | |
| | 3000 | | 34.0 | | |
| | 4000 | | 33.5 | | |
| | 6000 | | 31.0 | | |
| Input VSWR | 100 | | 1.10 | | :1 |
| | 1000 | | 1.15 | | |
| | 2000 | | 1.30 | 1.5 | |
| | 3000 | | 1.30 | | |
| | 4000 | | 1.30 | | |
| | 6000 | | 1.70 | | |
| Output VSWR | 100 | | 1.30 | | :1 |
| | 1000 | | 1.40 | | |
| | 2000 | | 1.50 | 1.9 | |
| | 3000 | | 1.70 | | |
| | 4000 | | 1.70 | | |
| | 6000 | | 2.30 | | |
| Active Directivity | 20-6000 | | 11 | | dB |
| DC Supply Voltage | | 4.8 | 5.0 | 5.2 | V |
| DC Supply Current | | | 100 | 120 | mA |

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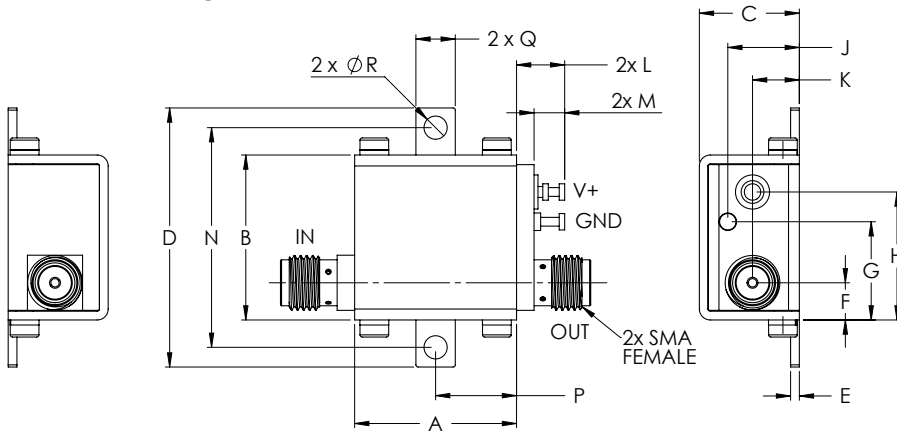


Maximum Ratings

| 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 | 840 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 / mm)

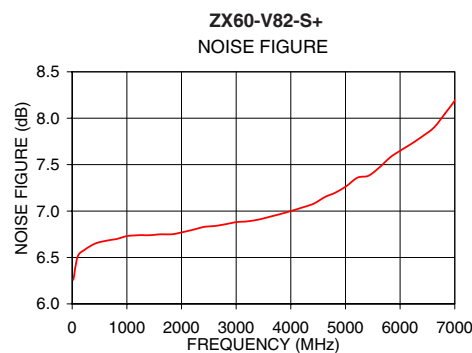
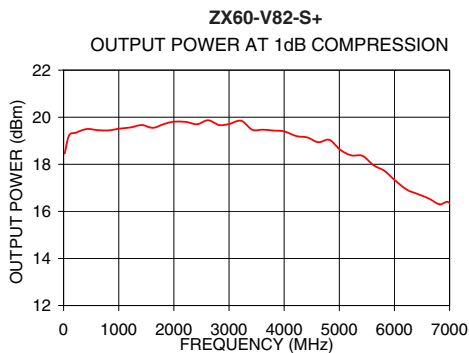
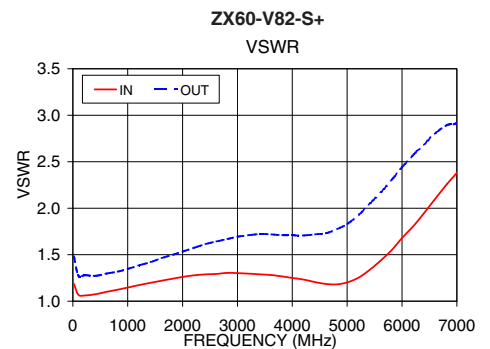
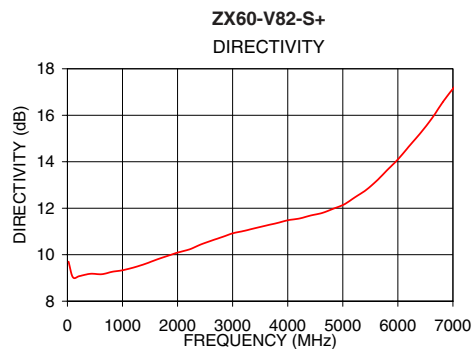
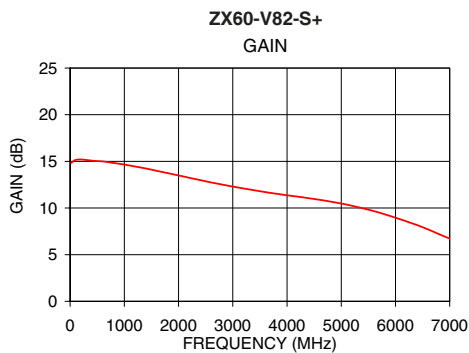
| A | B | C | D | E | F | G | H | J | K | L | M | N | P | Q | R | WT. |
|-------|-------|-------|-------|------|------|-------|-------|------|------|------|------|-------|------|------|------|------|
| .74 | .75 | .46 | 1.18 | .04 | .17 | .45 | .59 | .33 | .21 | .22 | .14 | 1.00 | .37 | .18 | .106 | GRAM |
| 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 | 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 | 14.83 | 9.70 | 1.19 | 1.48 | 18.46 | 38.01 | 6.26 |
| 100 | 15.15 | 9.03 | 1.07 | 1.27 | 19.23 | 38.50 | 6.51 |
| 420 | 15.06 | 9.18 | 1.08 | 1.27 | 19.50 | 37.95 | 6.65 |
| 1000 | 14.66 | 9.33 | 1.15 | 1.35 | 19.51 | 36.39 | 6.73 |
| 1220 | 14.43 | 9.46 | 1.18 | 1.39 | 19.57 | 36.12 | 6.74 |
| 1420 | 14.21 | 9.61 | 1.20 | 1.42 | 19.67 | 35.86 | 6.74 |
| 1620 | 13.96 | 9.79 | 1.22 | 1.46 | 19.55 | 35.71 | 6.75 |
| 2000 | 13.49 | 10.09 | 1.26 | 1.53 | 19.81 | 35.12 | 6.77 |
| 2220 | 13.21 | 10.23 | 1.28 | 1.58 | 19.80 | 34.93 | 6.80 |
| 2420 | 12.97 | 10.44 | 1.29 | 1.61 | 19.70 | 34.67 | 6.83 |
| 2620 | 12.72 | 10.61 | 1.29 | 1.64 | 19.87 | 34.48 | 6.84 |
| 3000 | 12.30 | 10.92 | 1.30 | 1.69 | 19.71 | 34.27 | 6.88 |
| 3420 | 11.88 | 11.15 | 1.29 | 1.72 | 19.47 | 33.61 | 6.91 |
| 4000 | 11.36 | 11.48 | 1.25 | 1.71 | 19.40 | 33.64 | 7.00 |
| 4420 | 11.03 | 11.69 | 1.20 | 1.72 | 19.14 | 33.14 | 7.08 |
| 5000 | 10.48 | 12.18 | 1.20 | 1.83 | 18.72 | 32.41 | 7.27 |
| 5420 | 9.94 | 12.78 | 1.34 | 2.05 | 18.36 | 31.90 | 7.38 |
| 6000 | 8.96 | 14.10 | 1.68 | 2.44 | 17.34 | 31.22 | 7.65 |
| 6620 | 7.66 | 15.87 | 2.11 | 2.81 | 16.55 | 30.43 | 7.90 |
| 7000 | 6.73 | 17.14 | 2.38 | 2.92 | 16.35 | 30.15 | 8.19 |



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