

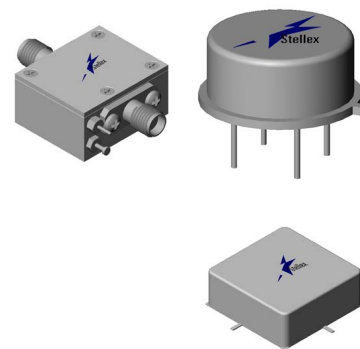


# A82-1/SMA82-1

20 TO 250 MHz

## CASCADABLE AMPLIFIER

- HIGH REVERSE ISOLATION: >34 dB (TYP.)
- HIGH OUTPUT POWER: +15 dBm (TYP.)
- HIGH GAIN: 19.0 dB (TYP.)
- LOW OUTPUT VSWR: 1.1:1 (TYP.)



## Specifications (Rev. Date: 1/01)\*

| Characteristics                  | Typical       | Guaranteed    |               |
|----------------------------------|---------------|---------------|---------------|
|                                  |               | 0° to 50°C    | -54° to +85°C |
| Frequency                        | 0.0-300.0 MH  | 0.0-250.0 MH  | 0.0-250.0 MH  |
| Small Signal Gain (min.)         | 19.0 dB       | 17.5 dB       | 17.0 dB       |
| Gain Flatness (max.)             | ±0.3 dB       | ±0.7 dB       | ±1.0 dB       |
| Reverse Isolation                | 34 dB         |               |               |
| Noise Figure (max.)              | 2.8 dB        | 3.5 dB        | 4.0 dB        |
| Power Output @ 1 dB comp. (min.) | 15.0 dBm      | 14.0 dBm      | 13.0 dBm      |
| IP3                              | +26 dBm       |               |               |
| IP2                              | +31 dBm       |               |               |
| Second Order Harmonic IP         | +36 dBm       |               |               |
| VSWR Input / Output (max.)       | 1.4:1 / 1.1:1 | 1.9:1 / 1.4:1 | 2.0:1 / 1.5:1 |
| DC Current @ 15 Volts (max.)     | 50 mA         | 52 mA         | 54 mA         |

\* Measured in a 50-ohm system at +15 Vdc Nominal. Subject to change without notice.

## Absolute Maximum Ratings

|                                                |                |
|------------------------------------------------|----------------|
| Storage Temperature                            | -62° to +125°C |
| Max. Case Temperature                          | 125°C          |
| Max. DC Voltage                                | +17 Volts      |
| Max. Continuous RF Input Power                 | +10 dBm        |
| Max. Short Term RF Input Power (1 minute max.) | 50 mW          |
| Max. Peak Power (3 μsec max.)                  | 0.5 W          |
| "S" Series Burn-in Temperature (Case)          | 125°C          |

## Thermal Data: $V_{cc} = 15$ Vdc

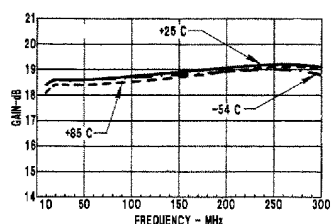
|                                               |         |
|-----------------------------------------------|---------|
| Thermal Resistance $\theta_{jc}$              | 144°C/W |
| Transistor Power Dissipation $P_d$            | 0.273 W |
| Junction Temperature Rise Above Case $T_{jc}$ | 39°C    |

## Outline Drawings

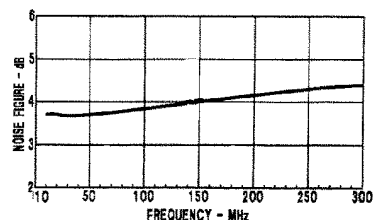
|         |      |               |                   |
|---------|------|---------------|-------------------|
| Package | TO-8 | Surface Mount | SMA Connectorized |
| Figure  | BG   | AA            | CE                |

## Typical Performance @ 25°C

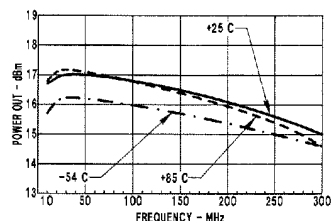
Gain vs. Temperature



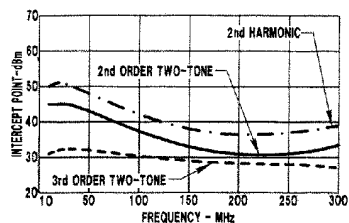
Noise Figure



Output Power vs. Temperature \*



Intercept Points



Input/Output VSWR

