



A531/SMA531

10 TO 500 MHz

CASCADABLE AMPLIFIER

- HIGH GAIN-TWO STAGES: 32 dB (TYP.)
- HIGH EFFICIENCY: 17 mA at +5 Vdc
- LOW NOISE FIGURE: 2.0 dB (TYP.)
- LOW POWER DRAIN: 85 mW at +5 Vdc
- LOW VSWR: 1.3:1 (TYP.)

Specifications (Rev. Date: 6/01)*

Characteristics	Typical	Guaranteed	
		0° to 50°C	-54° to +85°C
Frequency	1-600 MHz	10-500 MHz	10-500 MHz
Small Signal Gain (min.)	31.7 dB	30.0 dB	29.0 dB
Gain Flatness (max.)	±0.4 dB	±0.8 dB	±1.0 dB
Reverse Isolation	38 dB		
Noise Figure (max.)	2.0 dB	2.5 dB	3.0 dB
Power Output @ 1 dB comp. (min.)	2.5 dBm	1.5 dBm	0.5 dBm
IP3	+14 dBm		
IP2	+30 dBm		
Second Order Harmonic IP	+36 dBm		
VSWR Input / Output (max.)	1.3:1 / 1.3:1	1.8:1 / 1.8:1	2.0:1 / 2.0:1
DC Current @ 5 Volts (max.)	17 mA	19 mA	21 mA

* Measured in a 50-ohm system at +5 Vdc Nominal. Subject to change without notice.

Absolute Maximum Ratings

Storage Temperature	-62° to +125°C
Max. Case Temperature	125°C
Max. DC Voltage	+10 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: $V_{cc} = 5$ Vdc

Thermal Resistance θ_{jc}	185°C/W
Transistor Power Dissipation P_d	0.048 W
Junction Temperature Rise Above Case T_{jc}	9°C

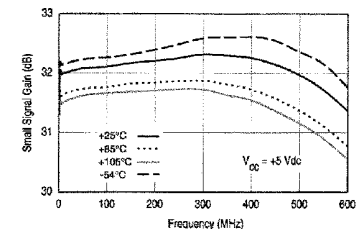
Outline Drawings

Package	TO-8	Surface Mount	SMA Connectorized
Figure	BG	AA	CE
Model	A531	SMA531	CA531

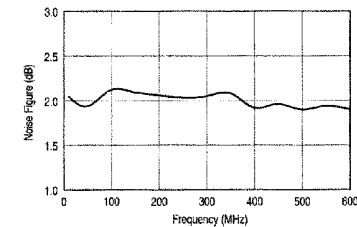


Typical Performance @ 25°C

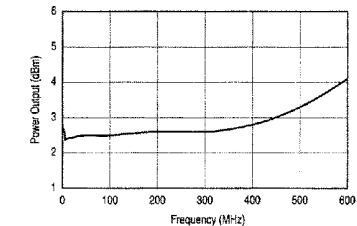
Small Signal Gain



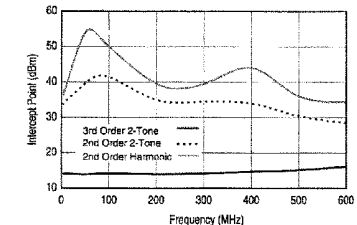
Noise Figure



Power Output (1dB Gain Compression)



Intercept Point



VSWR

