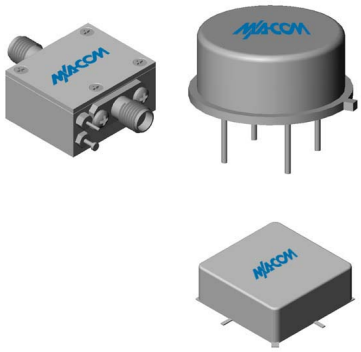
A81-1/SMA81-1



20 TO 250 MHz

CASCADABLE AMPLIFIER

· HIGH REVERSE ISOLATION: >30 dB (TYP.)
· LOW NOISE: 2.4 dB (TYP.)
· HIGH GAIN: 25 dB (TYP.)
· HIGH LEVEL OUTPUT: +13.5 dBm (TYP.)

Specifications (Rev. Date: 12/00)*

Characteristics	Typical	Guaranteed	
		0° to 50°C	-54° to +85°C
Frequency	10-300 MHz	20-250 MHz	20-250 MHz
Small Signal Gain (min.)	25.0 dB	24.0 dB	23.5 dB
Gain Flatness (max.)	±0.1 dB	±0.5 dB	±0.7 dB
Reverse Isolation	31 dB		
Noise Figure (max.)	2.5 dB	3.3 dB	3.8 dB
Power Output @ 1 dB comp. (min.)	13.5 dBm	12.5 dBm	12.0 dBm
IP3	+27 dBm		
IP2	+33 dBm		
Second Order Harmonic IP	+41 dBm		
VSWR Input / Output (max.)	1.5:1 / 1.5:1	1.9:1 / 1.9:1	2.0:1 / 2.0:1
DC Current @ 15 Volts (max.)	25 mA	27 mA	29 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

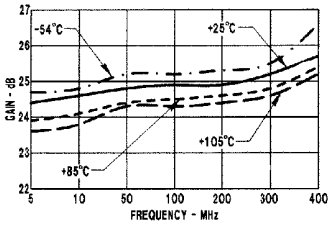
Thermal Resistance θ_{jc}	171°C/W
Transistor Power Dissipation P_d	0.098 W
Junction Temperature Rise Above Case T_{jc}	17°C

Outline Drawings

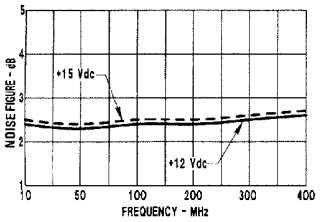
Package	TO-8	Surface Mount	SMA Connectorized
Figure	BG	AA	CE
Model	A81-1	SMA81-1	CA81-1

Typical Performance @ 25°C

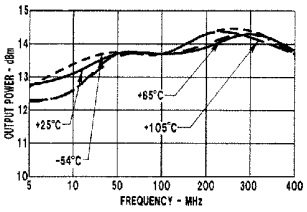
Gain



Noise Figure

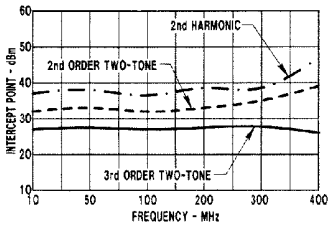


Output Power*



* at 1 dB Gain Compression

Intercept Point



VSWR

