

Electronics

## Cascadable Amplifier 10 to 1000 MHz



A19-1 / SMA19-1

#### Features

- HIGH OUTPUT POWER: +22.5 dBm (TYP.)
- HIGH THIRD ORDER I.P.: +35 dBm (TYP.)
- MEDIUM NOISE FIGURE: 6.0 dB (TYP.)

#### Description

The A19-1 RF amplifier is a discrete thin film hybrid design, which incorporates the use of thin film manufacturing processes for accurate performance and high reliability.

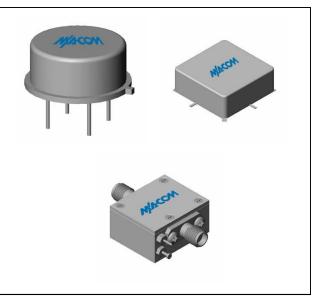
This single stage bipolar transistor feedback amplifier design displays impressive performance over a broadband frequency range. An active DC biasing network is used for temperaturestable performance, in addition to an RF Choke, used for power supply decoupling.

Both TO-8 and Surface Mount packages are hermetically sealed, and MIL-STD-883 environmental screening is available.

## **Ordering Information**

Part Number	Package	
A19-1	TO-8	
SMA19-1	Surface Mount	
CA19-1	SMA Connectorized	

## Product Image



#### Electrical Specifications: $Z_0 = 50\Omega$ , $V_{CC} = +15 V_{DC}$

Parameter	Units	Typical	Guaranteed	
Parameter		25°C	0º to 50ºC	-54º to +85ºC*
Frequency	MHz	10-1100	10-1000	10-1000
Small Signal Gain (min)	dB	11.5	10.5	10.0
Gain Flatness (max)	dB	±0.2	±0.6	±0.8
Reverse Isolation	dB	16		
Noise Figure (max)	dB	5.5	6.5	7.0
Power Output @ 1 dB comp. (min)	dBm	22.5	20.5	20.0
IP3	dBm	+35		
IP2	dBm	+51		
Second Order Harmonic IP	dBm	+58		
VSWR Input / Output (max)		1.5:1 / 1.5:1	1.7:1 / 1.7:1	2.0:1 / 2.3:1
DC Current @ 15 Volts (max)	mA	90	94	99

## **Absolute Maximum Ratings**

Parameter	Absolute Maximum	
Storage Temperature	-62°C to +125°C	
Case Temperature	+125°C	
DC Voltage	+17 V	
Continuous Input Power	+13 dBm	
Short Term Input power (1 minute max.)	100 mW	
Peak Power (3 µsec max.)	0.5 W	
"S" Series Burn-In Temperature (case)	+125°C	

### Thermal Data: V<sub>cc</sub> = +15 V<sub>Dc</sub>

Parameter	Rating
Thermal Resistance $\theta_{jc}$	100°C/W
Transistor Power Dissipation $P_d$	0.907 W
Junction Temperature Rise Above Case T <sub>jc</sub>	+91°C

\* Over temperature performance limits for part number CA19-1, guaranteed from 0°C to +50°C only.

M/A-COM Inc. and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. M/A-COM makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does M/A-COM assume any liability whatsoever arising out of the use or application of any product(s) or information.

1

- North America Tel: 800.366.2266 / Fax: 978.366.2266
- Europe Tel: 44.1908.574.200 / Fax: 44.1908.574.300
- Asia/Pacific Tel: 81.44.844.8296 / Fax: 81.44.844.8298

Visit www.macom.com for additional data sheets and product information.



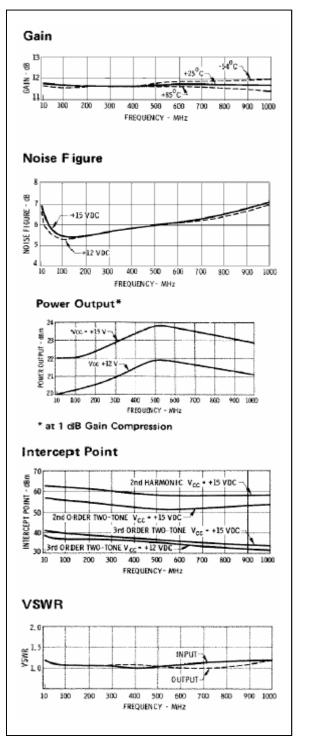
# Cascadable Amplifier 10 to 1000 MHz

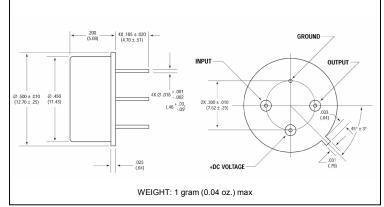


A19-1 / SMA19-1

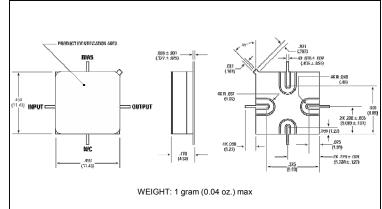
#### Typical Performance Curves at +25°C

Outline Drawing: TO-8 \*

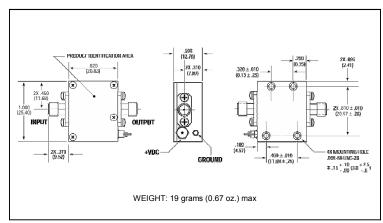




## Outline Drawing: Surface Mount



## Outline Drawing: SMA Connectorized \*



\* Dimensions are inches (millimeters) ±0.015 (0.38) unless otherwise specified.

- North America Tel: 800.366.2266 / Fax: 978.366.2266
- Europe Tel: 44.1908.574.200 / Fax: 44.1908.574.300
- Asia/Pacific Tel: 81.44.844.8296 / Fax: 81.44.844.8298

Visit www.macom.com for additional data sheets and product information.

2

M/A-COM Inc. and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. M/A-COM makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does M/A-COM assume any liability whatsoever arising out of the use or application of any product(s) or information.