

Electronics

# Cascadable Amplifier 10 to 1200 MHz





#### Features

- LOW NOISE: <2.8 dB (TYP.)</li>
- LOW VSWR:<1.5:1 (TYP.)
- HIGH SINGLE STAGE GAIN: 15dB (TYP.)

#### Description

The A21-1 RF amplifier is a discrete hybrid design, which uses 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. Both TO-8 and Surface Mount packages are Hermetically sealed, and MIL-STD-883 environmental screening is available.

## Ordering Information

Part Number	Package	
A21-1	TO-8	
SMA21-1	Surface Mount	
CA21-1	SMA Connectorized	

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

Parameter	Units	Typical	Guaranteed	
Falameter	Units	25°C	0º to 50ºC	-54º to +85ºC*
Frequency	MHz	1-1300	10-1200	10-1200
Small Signal Gain (min)	dB	15.5	14.0	13.5
Gain Flatness (max)	dB	±0.3	±0.5	±1.0
Reverse Isolation	dB	20		
Noise Figure (max)	dB	2.4	3.5	3.9
Power Output @ 1 dB comp. (min)	dBm	-1.0	-2.0	-3.0
IP3	dBm	+11		
IP2	dBm	+11		
Second Order Harmonic IP	dBm	+17		
VSWR Input / Output (max)		1.4:1 / 1.4:1	1.9:1 / 1.9:1	2.0:1 / 2.0:1
DC Current @ 15 Volts (max)	mA	10	11	12

#### **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.)	50 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 $\theta_{jc}$	171°C/W
Transistor Power Dissipation $P_d$	0.053 W
Junction Temperature Rise Above Case T <sub>jc</sub>	+9°C

1

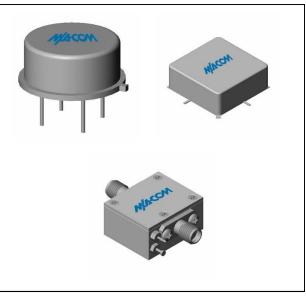
\* Over temperature performance limits for part number CA21-1, guaranteed from 0°C to +50°C only.

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.

- 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.





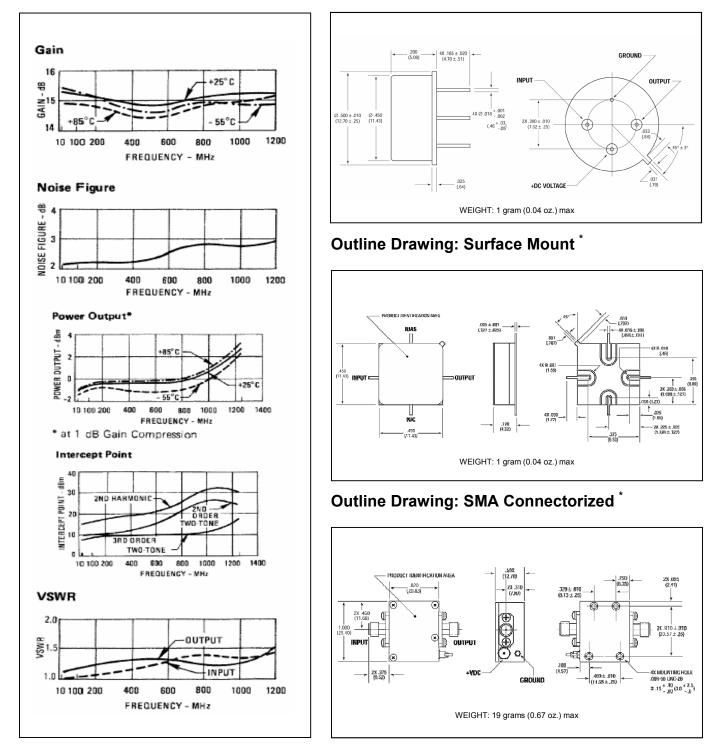


### **Cascadable Amplifier** 10 to 1200 MHz



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





\* 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.