

# AM-184 / AMC-184



Cascadable Thin Film Amplifier,  
20 dB Gain, 10 - 2000 MHz

Rev. V4

## Features

- 20 dB High Gain
- 60 mA Maximum Low Power

## Description

M/A-COM's AM-184 is a feedback amplifier with high intercept and compression points. This amplifier is packaged in a TO-8 package. Due to the internal power dissipation the thermal rise should be minimized. The ground plane on the PC board should be configured to remove heat from under the package. AM-184 is ideally suited for use where a high intercept, high reliability amplifier is required.

## Ordering Information

Part Number	Package
AM-184 PIN <sup>4</sup>	TO-8-1
AMC-184 SMA	Connectorized

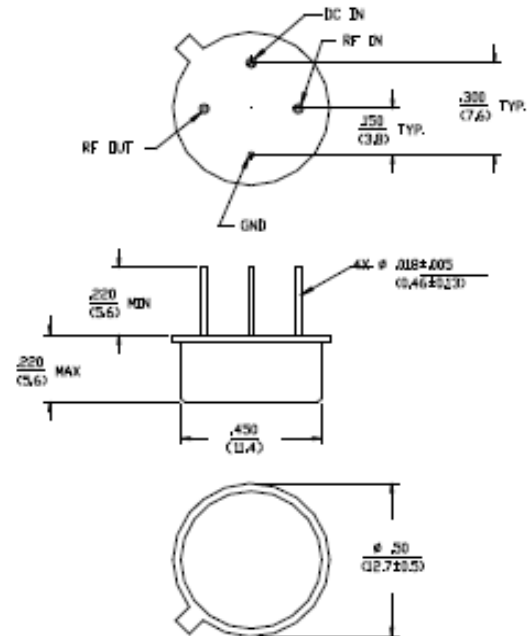
4. Mounting kit part number AU00071 required for PCB applications.

## Absolute Maximum Ratings<sup>1</sup>

Parameter	Absolute Maximum
Max. Input Power	+13 dBm
Vbias	+15.75 V
Operating Temperature	-55°C to +85°C
Storage Temperature	-65°C to +125°C

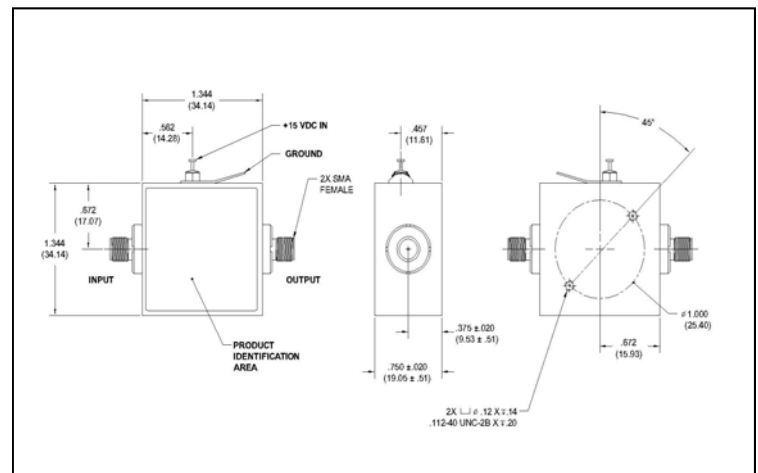
1. Operation of this device above any one of these parameters may cause permanent damage.

## TO-8-1



Dimensions in  $\phi$  are in mm  
Unless Otherwise Noted .XXX =  $\pm 0.010$  .XX =  $\pm 0.25$   
.XX =  $\pm 0.02$  (X =  $\pm 0.5$ )  
WEIGHT (APPROX) (OZ) DIMENCES (G) GRAMS

## Outline Drawing: SMA Connectorized<sup>\*</sup>



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

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## Electrical Specifications: <sup>2,3</sup> T<sub>A</sub> = -55°C to +85°C Case Temperature

Parameter	Test Conditions	Frequency	Units	Min.	Typ.	Max.
Gain	@+25°C	1000 MHz	dB	19.0	20.0	21.0
Frequency Response	—	10 - 2000 MHz	dB	—	—	±1.5
Gain Variation with Temperature	—	10 - 2000 MHz	dB	—	—	±1.5
1 dB Compression	Output Power	10 - 2000 MHz	dBm	+10	—	—
Noise Figure	—	10 - 2000 MHz	dB	—	—	6.0
Reverse Transmission	—	10 - 2000 MHz	dB	—	-30	-27
VSWR	—	10 - 2000 MHz	Ratio	—	—	2.0:1
Output IP <sub>2</sub>	Two-Tone inputs up to 0 dBm	10 - 2000 MHz	dBm	+30	—	—
Output IP <sub>3</sub>	Two-Tone inputs up to 0 dBm	10 - 2000 MHz	dBm	+20	—	—
Vbias	—	—	VDC	+14.5	+15.0	+15.5
Ibias	Vbias = +15.0 VDC	—	mA	—	52	60
Power Dissipation	@ +15 V Bias	—	mW	—	780	—

2. All specifications apply when operated at +15 VDC, with 50 ohms source and load impedance.

3. Heat Sinking: Operation at case temperature above 95°C is not recommended. Heat sinking adequate to dissipate 1.0 W must be provided in use.

## S-Parameter Data

Frequency (MHz)	S11 MAG/ANG	S21 MAG/ANG	S12 MAG/ANG	S22 MAG/ANG
10	0.13/-171.5	10.33/6.2	0.03/4.5	0.10/80.7
20	0.12/-175.9	10.18/0.3	0.03/2.8	0.08/47.2
40	0.12/174.6	10.48/-4.6	0.03/1.4	0.08/7.2
100	0.12/165.0	10.51/-15.7	0.03/-1.8	0.06/-38.9
200	0.12/149.1	10.42/-32.4	0.03/-4.8	0.05/-76.4
500	0.12/105.1	10.13/-79.8	0.03/-12.1	0.10/-131.1
1000	0.12/9.8	9.60/-156.4	0.03/-27.2	0.12/173.5
1500	0.14/-99.8	9.53/126.5	0.02/-51.5	0.14/-89.3
2000	0.28/176.9	9.63/53.4	0.01/-75.0	0.30/-142.7

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**ADVANCED:** Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.

**PRELIMINARY:** Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

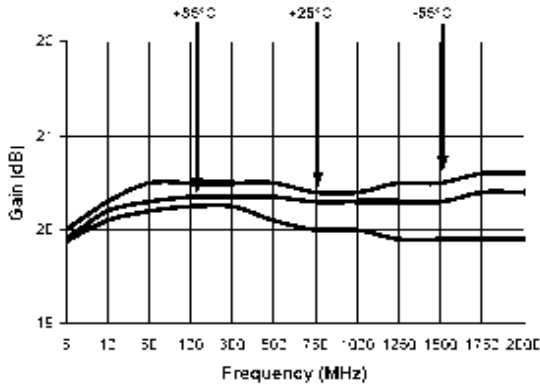
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Visit [www.macomtech.com](http://www.macomtech.com) for additional data sheets and product information.

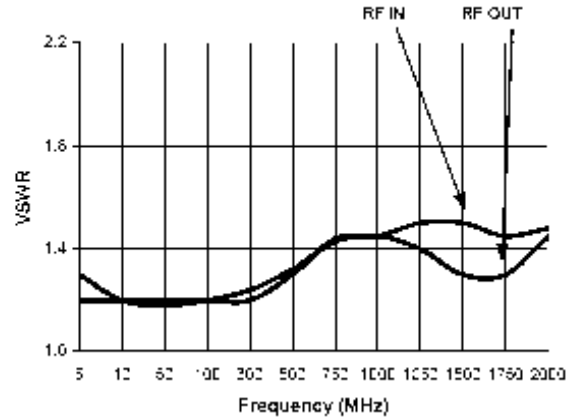
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## Typical Performance Curves

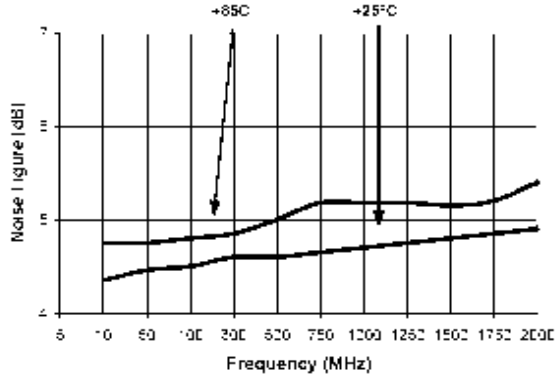
**Gain vs. Frequency**



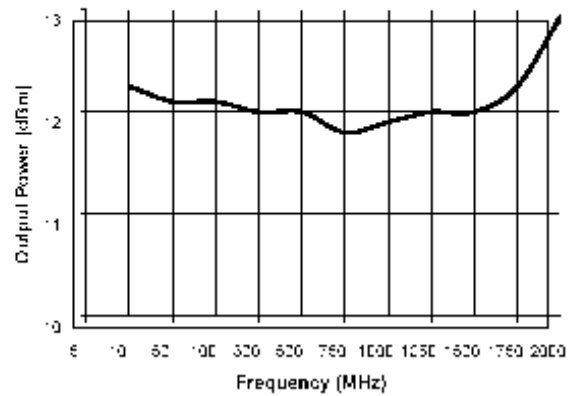
**VSWR vs. Frequency**



**Noise Figure**



**1 dB Compression**



**Intermodulation Intercept**

