

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

AM-184

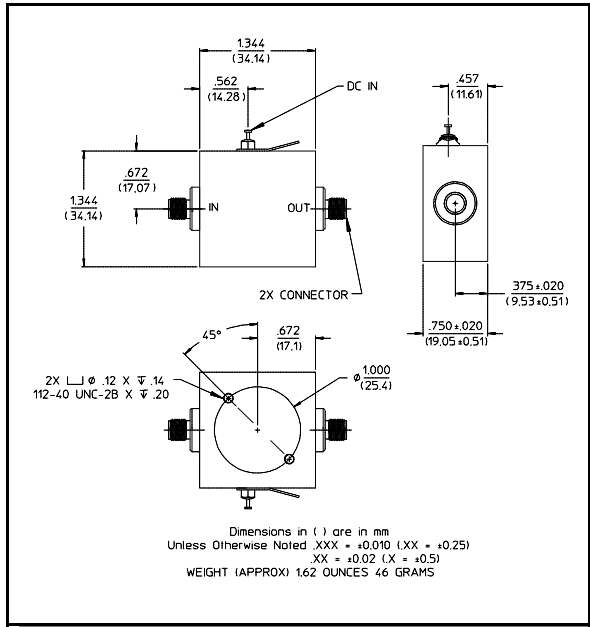
## Features

- 20 dB High Gain
- 60 mA Maximum Low Power

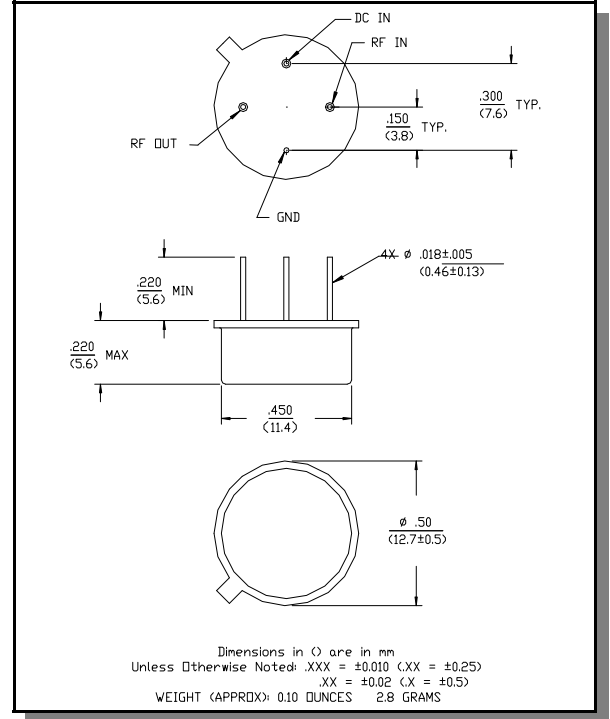
## Description

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.

## C-32



## TO-8-1



## 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.

## Electrical Specifications <sup>2,3</sup> $T_A = -55^\circ\text{C}$ to $+85^\circ\text{C}$ 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	—	—	V	+14.5	+15.0	+15.5
Ibias	Vbias = +15.0 VDC	—	mA	—	52	60
Power Dissipation	@ +15V 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 1.0W must be provided in use.

## S-Parameter Data

Frequency (MHz)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	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

Specifications subject to change without notice.

- North America: Tel. (800) 366-2266
- Asia/Pacific: Tel.+81-44-844-8296, Fax +81-44-844-8298
- Europe: Tel. +44 (1344) 869 595, Fax+44 (1344) 300 020

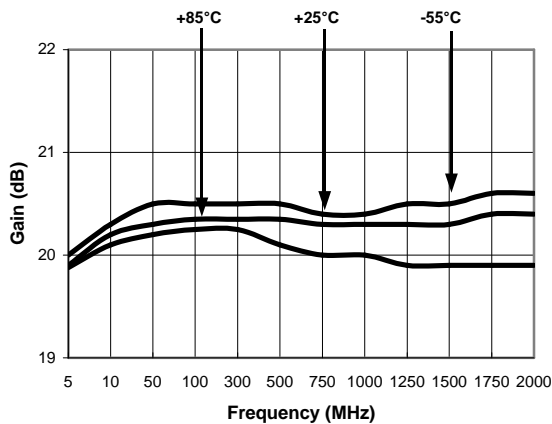
Visit [www.macom.com](http://www.macom.com) for additional data sheets and product information.

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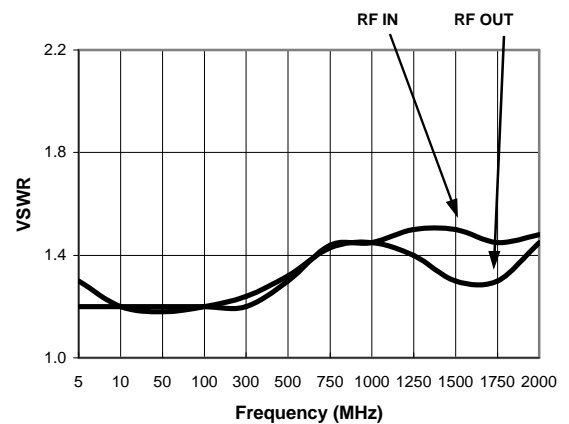
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### Typical Performance Curves

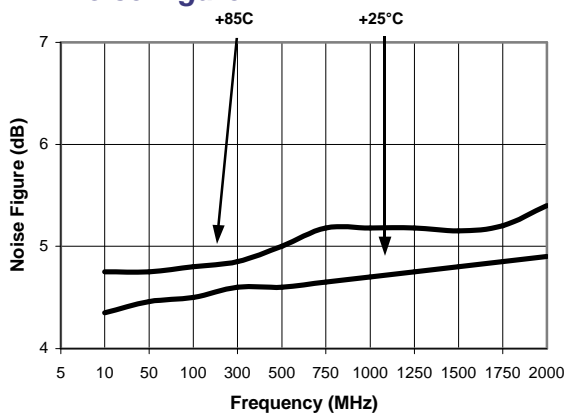
**Gain vs. Frequency**



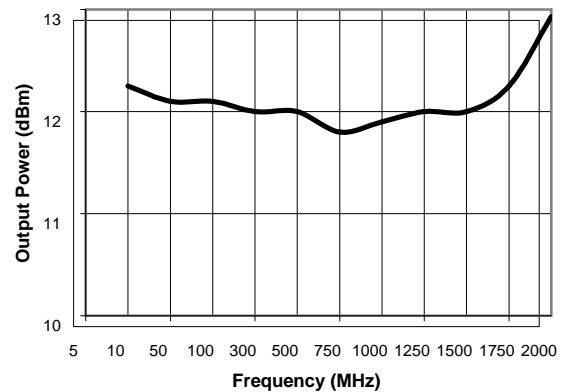
**VSWR vs. Frequency**



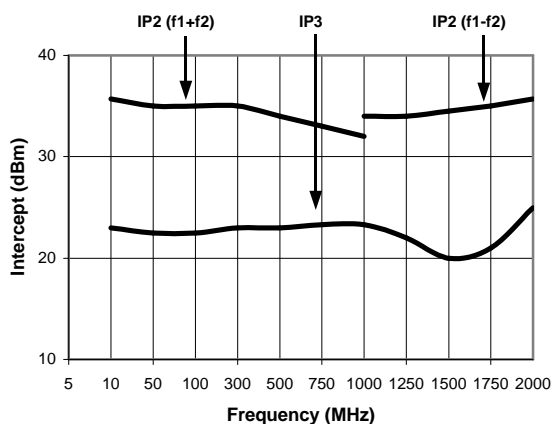
**Noise Figure**



**1 dB Compression**



**Intermodulation Intercept**



### Ordering Information

Part Number	Package
AM-184 PIN <sup>4</sup>	TO-8-1
AMC-184 SMA	C-32

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

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