## Cascadable Thin Film Amplifier, <br> 28 dB Gain, 5-1000 MHz

## Features

- 28.5 dB Typical Gain
- 2.7 dB Typical Low Noise


## Description

M/A-COM's AM-182 is a high gain 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-182 is ideally suited for use where a high intercept, high reliability amplifier is required.

## Ordering Information

| Part Number | Package |
| :---: | :---: |
| AM-182 PIN | TO-8-1 |
| AMC-182 SMA | Connectorized |

## Absolute Maximum Ratings ${ }^{1}$

| Parameter | Absolute Maximum |
| :---: | :---: |
| Max. Input Power | +13 dBm |
| Vbias | +15.75 V |
| Operating Temperature | $-55^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$ |
| Storage Temperature | $-65^{\circ} \mathrm{C}$ to $+125^{\circ} \mathrm{C}$ |

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

## TO-8-1




## Outline Drawing: SMA Connectorized *



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

[^0]Visit www.macomtech.com for additional data sheets and product information

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Electrical Specifications: ${ }^{2,3} \mathrm{~T}_{\mathrm{A}}=-55^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$ Case Temperature

| Parameter | Test Conditions | Frequency | Units | Min. | Тур. | Max. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Gain | $@+25^{\circ} \mathrm{C}$ | 300 MHz | dB | 27.2 | 28.2 | 29.2 |
| Frequency Response | - | $5-1000 \mathrm{MHz}$ | dB | - | - | $\pm 1.2$ |
| Gain Variation with Temperature | - | $5-1000 \mathrm{MHz}$ | dB | - | - | $\pm 1.2$ |
| 1 dB Compression | Output Power | $5-1000 \mathrm{MHz}$ | dBm | +9 | - | - |
| Noise Figure | - | $5-1000 \mathrm{MHz}$ | dB | - | - | 4.5 |
| Reverse Transmission | - | 5-1000 MHz | dB | - | -36 | -32 |
| VSWR | - | 5-1000 MHz | Ratio | - | - | 2.0:1 |
| Output $\mathrm{IP}_{2}$ | Two-Tone inputs up to 0 dBm | $5-1000 \mathrm{MHz}$ | dBm | +28 | - | - |
| Output $\mathrm{IP}_{3}$ | Two-Tone inputs up to 0 dBm | $5-1000 \mathrm{MHz}$ | dBm | +18 | - | - |
| Vbias | - | - | VDC | +14.5 | +15.0 | +15.5 |
| Ibias | Vbias $=+15.0 \mathrm{VDC}$ | - | mA | - | 44 | 50 |
| Power Dissipation | @ +15 V Bias | - | mW | - | 660 | - |

2. All specifications apply when operated at +15 VDC, with 50 ohms source and load impedance.
3. Heat Sinking: Operation at case temperature above $95^{\circ} \mathrm{C}$ is not recommended. Heat sinking adequate to dissipate 800 mW must be provided in use.

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## Typical Performance Curves

Gain vs. Frequency


## Noise Figure



## Intermodulation Intercept



VSWR vs. Frequency


1 dB Compression


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, is considering for development. Performance is based on target specifications,
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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