

Cascadable Thin Film Amplifier, 28 dB Gain, 5 - 1000 MHz

V 3.00

AM-182

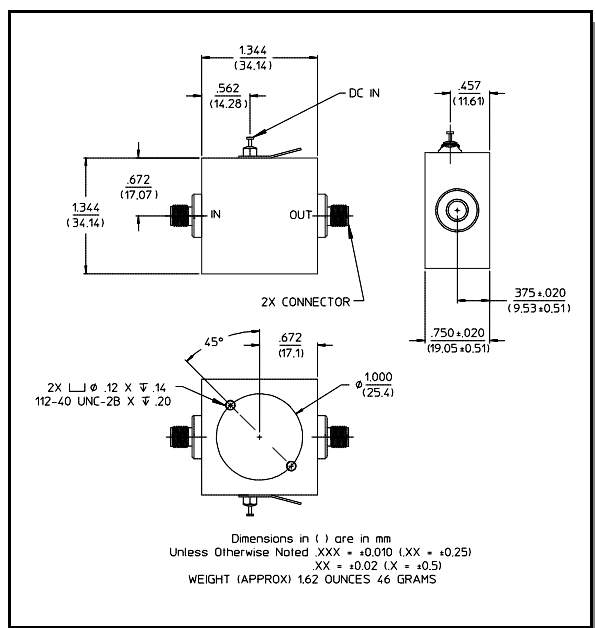
Features

- 28.5 dB Typical Gain
- 2.7 dB Typical Low Noise

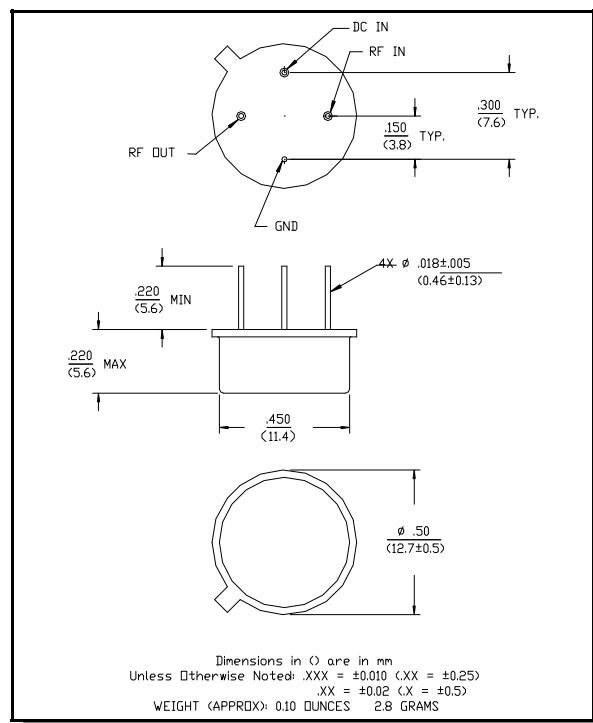
Description

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.

C-32



TO-8-1



Absolute Maximum Ratings¹

| 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 ^{2,3} $T_A = -55^{\circ}\text{C}$ to $+85^{\circ}\text{C}$ Case Temperature

| Parameter | Test Conditions | Frequency | Units | Min. | Typ. | Max. |
|---------------------------------|-----------------------------|--------------|-------|-------|-------|-------|
| Gain | @ +25°C | 300 MHz | dB | 27.2 | 28.2 | 29.2 |
| Frequency Response | — | 5 - 1000 MHz | dB | — | — | ±1.2 |
| Gain Variation with Temperature | — | 5 - 1000 MHz | dB | — | — | ±1.2 |
| 1 dB Compression | Output Power | 5 - 1000 MHz | dBm | +9 | — | — |
| Noise Figure | — | 5 - 1000 MHz | dB | — | — | 4.5 |
| Reverse Transmission | — | 5 - 1000 MHz | dB | — | -36 | -32 |
| VSWR | — | 5 - 1000 MHz | Ratio | — | — | 2.0:1 |
| Output IP_2 | Two-tone inputs up to 0 dBm | 5 - 1000 MHz | dBm | +28 | — | — |
| Output IP_3 | Two-tone inputs up to 0 dBm | 5 - 1000 MHz | dBm | +18 | — | — |
| Vbias | — | — | V | +14.5 | +15.0 | +15.5 |
| Ibias | Vbias = +15.0 VDC | — | mA | — | 44 | 50 |
| Power Dissipation | @ +15V 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°C is not recommended. Heat sinking adequate to dissipate 800 mW must be provided in use.

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

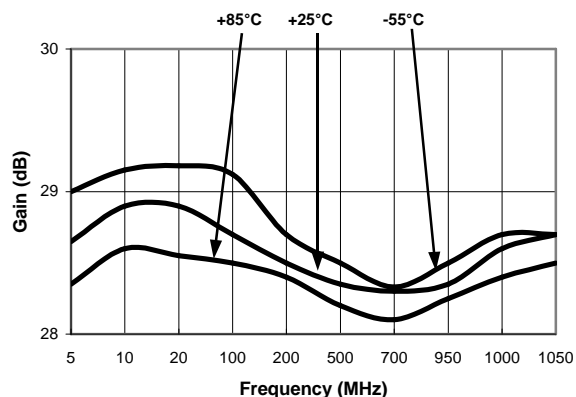
Visit www.macom.com for additional data sheets and product information.

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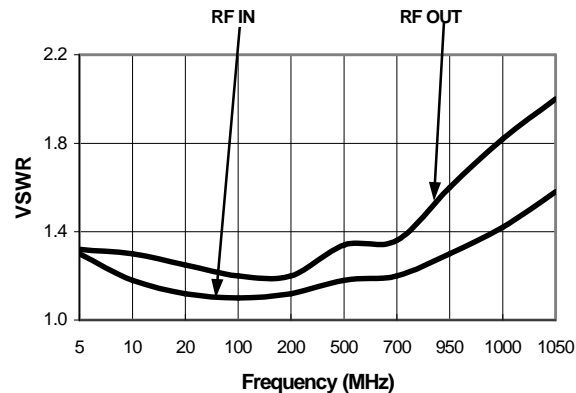
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Typical Performance Curves

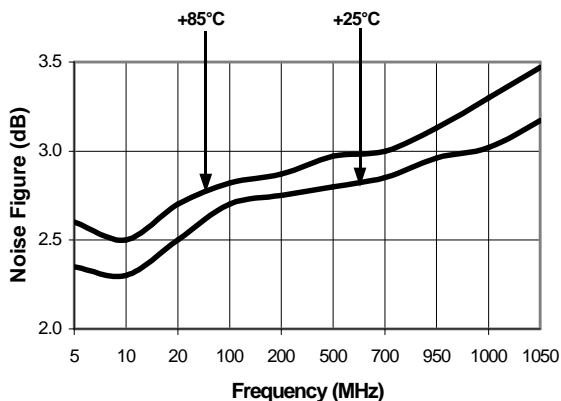
Gain vs. Frequency



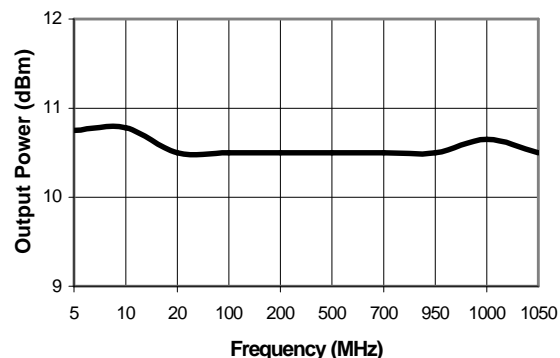
VSWR vs. Frequency



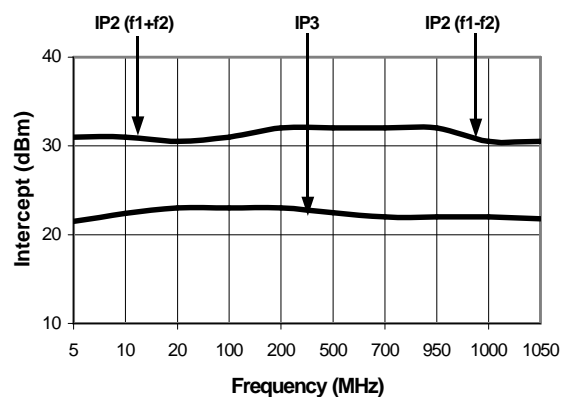
Noise Figure



1 dB Compression



Intermodulation Intercept



Ordering Information

| Part Number | Package |
|-------------|---------|
| AM-182 PIN | TO-8-1 |
| AMC-182 SMA | C-32 |

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