

High Performance Amplifier, 15 dB Gain, 5 - 200 MHz

V 4.00

AM-/AMC-134

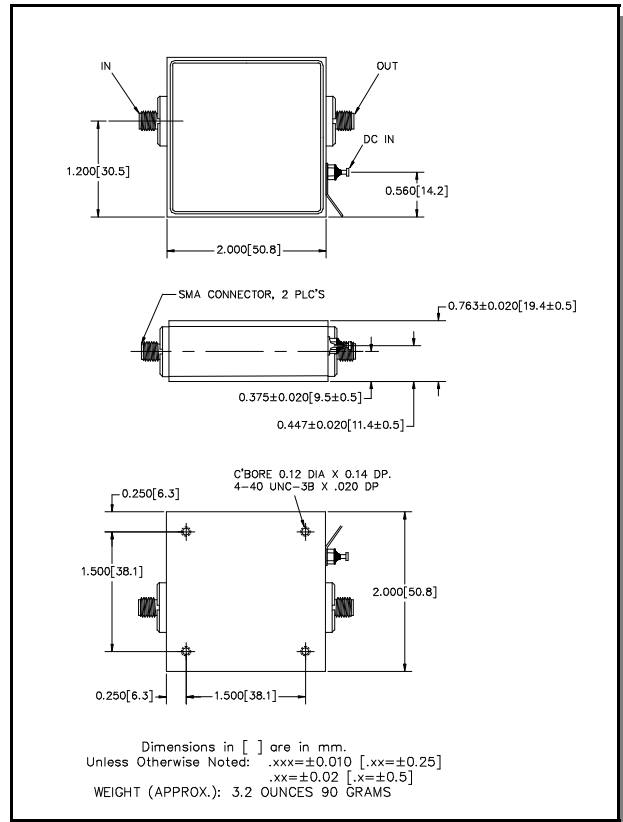
Features

- +49 dBm Typical Midband Third Order Intercept
- +29 dBm Typical Midband 1 dB Compression
- 4.8 dB Typical Midband Noise Figure

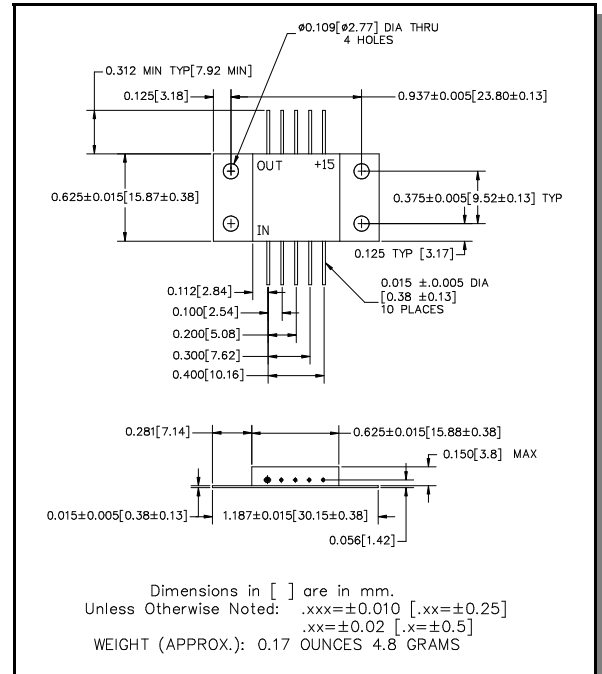
Description

M/A-COM's AM-134 is a coupler feedback amplifier with high intercept and compression points. The use of coupler feedback minimizes noise figure and current in a high intercept amplifier. This amplifier is packaged in a flatpack with flanges. 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-134 is ideally suited for use where a high intercept, high reliability amplifier is required.

C-25



FP-8



Absolute Maximum Ratings ¹

| Parameter | Absolute Maximum |
|-----------------------|------------------|
| Max. Input Power | +15 dBm |
| V _{bias} | +17.0 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.

Pin Configuration

| Pin # | Function | Pin # | Function |
|-------|-------------------|-------|----------|
| 1 | RF OUT | 6 | RF IN |
| 2 | GND | 7 | GND |
| 3 | GND | 8 | GND |
| 4 | GND | 9 | GND |
| 5 | V _{bias} | 10 | GND |

Electrical Specifications² $T_A = -55^{\circ}\text{C}$ to $+85^{\circ}\text{C}$ Case Temperature

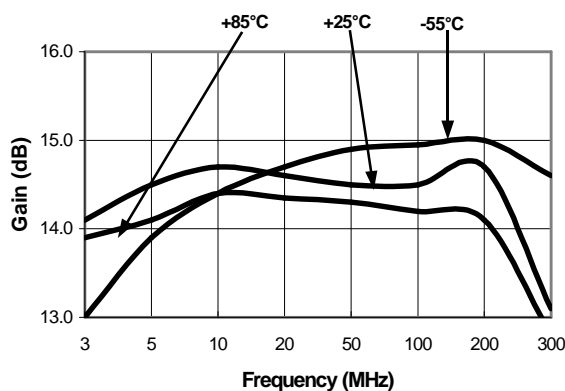
| Parameter | Test Conditions | Frequency | Units | Min. | Typ. | Max. |
|---------------------------------|--------------------------------|---------------------------|------------|------------|------|-----------|
| Gain | 50 MHz @ $+25^{\circ}\text{C}$ | 50 MHz | dB | 14.0 | 14.6 | 15.2 |
| Frequency Response | — | 5 - 200 MHz | dB | — | — | ± 0.5 |
| Gain Variation with Temperature | — | 5 - 200 MHz | dB | -1.0 | — | +0.5 |
| 1 dB Compression | Output Power | 5 - 200 MHz | dBm | +23 | — | — |
| Noise Figure | — | 5 - 200 MHz | dB | — | — | 7.0 |
| Reverse Transmission | — | 5 - 200 MHz | dB | — | -21 | -19 |
| VSWR | — | 5 - 200 MHz | Ratio | — | — | 2.5:1 |
| Output IP_2 | Two-tone inputs up to +10 dBm | 5 - 200 MHz | dBm | +55 | — | — |
| Output IP_3 | Two-tone inputs up to +10 dBm | 5 - 200 MHz 5 - 70 MHz | dBm dBm | +37 +42 | — | — |
| Vbias | — | — | V | 14.25 | 15 | 15.75 |
| Ibias | Vbias = +15.0 VDC | — | mA | — | 90 | 110 |
| Power Dissipation | @ +15V Bias | — | W | — | 1.35 | — |

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

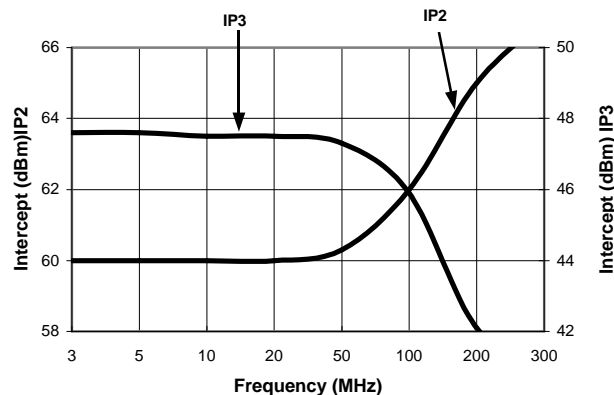
3. Heat Sinking: Operation at case temperature above 95°C is not recommended. Heat sinking adequate to dissipate 1.75W must be provided in use.

Typical Performance Curves

Gain vs. Frequency



Intermodulation Intercept



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

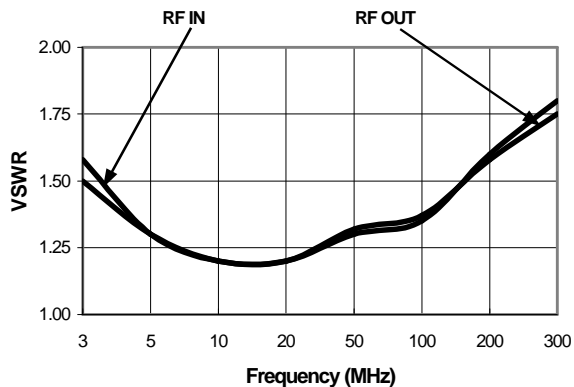
Visit www.macom.com for additional data sheets and product information.

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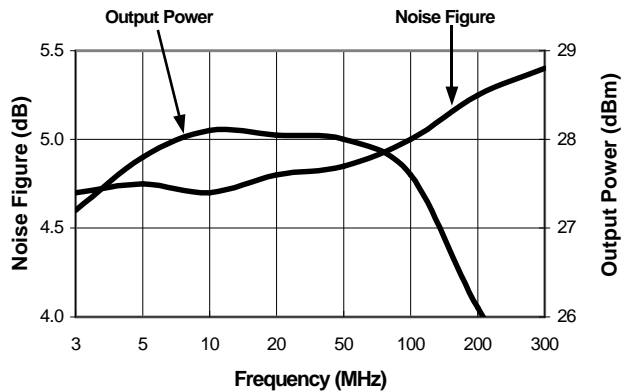
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Typical Performance Curves

VSWR vs. Frequency



Noise Figure and 1 dB Compression



Ordering Information

| Part Number | Package |
|-------------|---------|
| AM-134 PIN | FP-9 |
| AMC-134 SMA | C-25 |

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