

## Cascadable Amplifier 10 to 500MHz

Rev. V5

### Features

- NOISE FIGURE: 5 dB (TYP.)
- HIGH THIRD ORDER IP: +38 dBm (TYP.)
- P1dB: +21 dBm (TYP.)

### Description

The AM-151 amplifier uses a coupler feedback design with high intercept and compression points. The use of coupler feedback minimized noise figure and DC current in a high intercept amplifier. This amplifier is packaged a TO-8 package. Due to the internal power dissipation, the thermal rise is minimized. The ground plane on the PC board should be configured to remove heat from under the package. AM-151 is ideally suited for use where a high intercept high reliability amplifier is required.

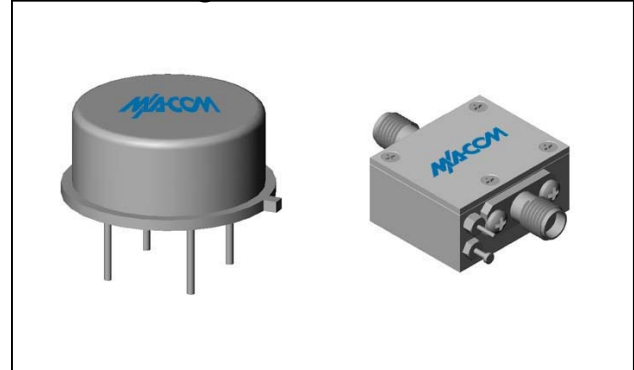
### Ordering Information

| Part Number    | Package           |
|----------------|-------------------|
| AM-151-PIN*    | TO-8-1            |
| AMC-151- SMA** | SMA Connectorized |

\*Mounting kit part number AU00071 required for PCB application

\*\*SMA Connectorized part is not RoHs compliant.

### Product Image



### Absolute Maximum Ratings

| Parameter              | Absolute Maximum |
|------------------------|------------------|
| Maximum Input Power    | +20 dBm          |
| DC Voltage             | +15.75 V         |
| Continuous Input Power | +18 dBm          |
| Operating Temperature  | -55° to +85°C    |
| Storage Temperature    | -65° to +125°C   |

### Electrical Specifications: $Z_0 = 50\Omega$ , $V_{CC} = +15 V_{DC}$ \*\*

| Parameter                       | Test Conditions               | Frequency               | Units      | Min.       | Typ.   | Max.   |
|---------------------------------|-------------------------------|-------------------------|------------|------------|--------|--------|
| Gain                            | @ +25°C                       | 50 MHz                  | MHz        | 11.5       | 12.0   | 12.5   |
| Frequency Response              | —                             | 5-500 MHz               | dB         | —          | —      | ±1.0   |
| Gain Variation with Temperature | —                             | 5-500 MHz               | dB         | —          | —      | ±0.8   |
| 1 dB Compression                | Output Power                  | 5-500 MHz<br>10-500 MHz | dBm<br>dBm | +19<br>+20 | —<br>— | —<br>— |
| Noise Figure (max)              | —                             | 5-500 MHz               | dB         | —          | —      | 7.0    |
| Reverse Transmission            | —                             | 5-500 MHz               | dB         | —          | -16.0  | -13.0  |
| VSWR                            | —                             | 5-500 MHz               | Ratio      | —          | —      | 2.0:1  |
| Output IP <sup>2</sup>          | Two-tone inputs up to +10 dBm | 5-500 MHz               | dBm        | +48        | —      | —      |
| Output IP <sup>3</sup>          | Two-tone inputs up to +10 dBm | 5-500 MHz               | dBm        | +34        | —      | —      |
| V bias                          | —                             | —                       | dBm        | +14.5      | +15.0  | +15.5  |
| I bias                          | V bias = +15 Vdc              | —                       | mA         | —          | 85     | 100    |
| Power Dissipation               | @ +15 V Bias                  | —                       | mW         | —          | 1275   | —      |

\*\*\*Heat Sinking: Operation at case temperature above +95°C is not recommended. Heat sinking adequate to dissipate 1.3 W must be provided in use.

# AM-151/AMC-151

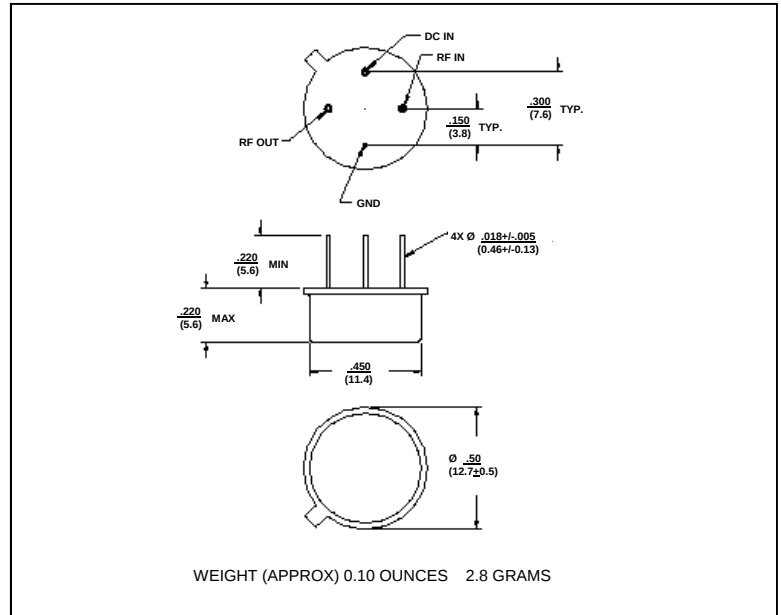
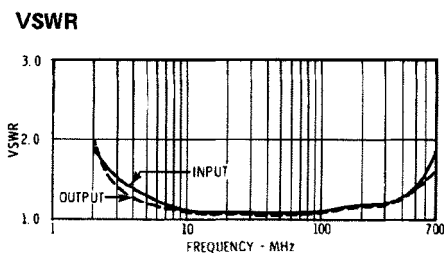
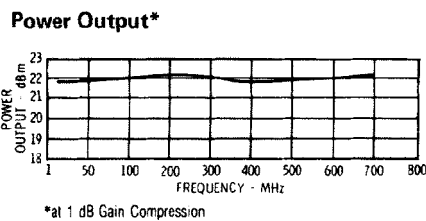
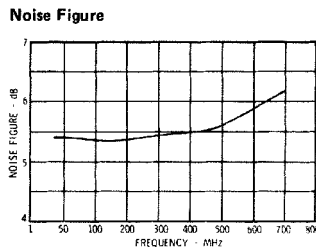
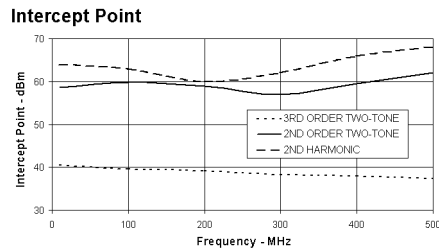
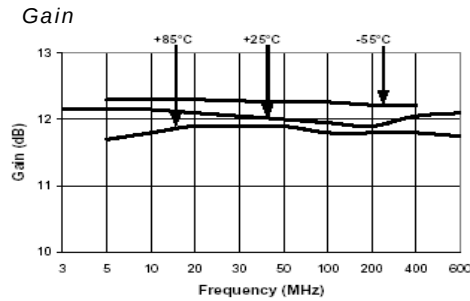


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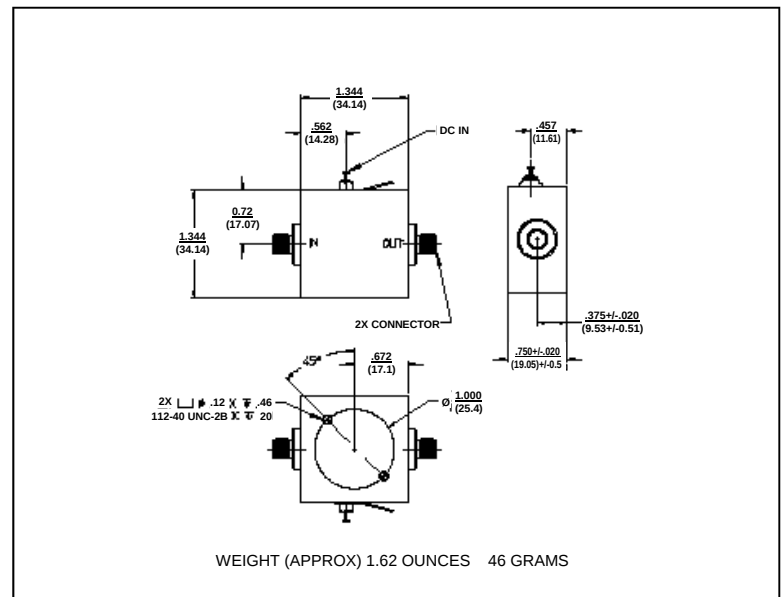
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### Typical Performance Curves at +25°C

### Outline Drawing: TO-8-1 \*



### Outline Drawing: SMA Connectorized \*



\* Dimensions in ( ) are in mm.  
Unless otherwise noted: .XXX = + .010" (.XX = + 0.25)  
.XX = ± 0.02 (.X = ± 0.5)