## Features

- **8.8 GHz to 10 GHz Frequency Range**
- **Typical Gain 38 dB**
- **Gain Flatness \(< \pm 0.2 \text{ dB} \) Typ 0.5 dB max**
- **Typical Noise Figure 2.5 dB**
- **P1dB +21 dBm Typical, +20 dBm min**
- **Internally Regulated**
- **Operates from a Single +12V Supply**
- **Unconditionally Stable**

## Description

The AMT-A0482 is a Broadband Low Noise amplifier with very flat gain and low noise figure, Medium Power over the full frequency range. The performance is achieved through the use of AMTI’s proprietary technology. The amplifier I/Os are Internally matched to 50 Ohms. The AMT-A0482 is ideal for use as Front End of receiver system, or where amplification is required without adding excessive noise in a Hi-Rel communications system for Commercial or Military applications.

## Applications

- Receiver front end,
- Radar
- Communication systems
- Microwave Radio systems
- Test Equipment

## MAXIMUM RATINGS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Units</th>
<th>MIN</th>
<th>MAX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature – Case</td>
<td>$T_{MO}$</td>
<td>°C</td>
<td>-40</td>
<td>+85</td>
</tr>
<tr>
<td>Storage Temperature - Case</td>
<td>$T_{MS}$</td>
<td>°C</td>
<td>-55</td>
<td>+125</td>
</tr>
<tr>
<td>RF Input power (CW)</td>
<td>$P_{in}$</td>
<td>dBm</td>
<td>+10</td>
<td></td>
</tr>
<tr>
<td>Die $T$ Junction</td>
<td>$T_J$</td>
<td>°C</td>
<td>+150</td>
<td></td>
</tr>
<tr>
<td>Positive Supply Voltage</td>
<td>$V_{+SS}$</td>
<td>V</td>
<td></td>
<td>+16</td>
</tr>
</tbody>
</table>

Do NOT apply DC to RF Input

1.Stresses above those listed under "Absolute Maximum Rating" may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.
### ELECTRICAL SPECIFICATIONS @ 23°C

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Conditions</th>
<th>Units</th>
<th>MIN</th>
<th>Typical</th>
<th>MAX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Range</td>
<td></td>
<td>GHz</td>
<td>8.8</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>Gain</td>
<td>Small Signal</td>
<td>dB</td>
<td>36</td>
<td>38</td>
<td>39</td>
</tr>
<tr>
<td>Gain Flatness</td>
<td></td>
<td>dB</td>
<td>± 0.2</td>
<td>± 0.5</td>
<td></td>
</tr>
<tr>
<td>Output Power (P1dB)</td>
<td>1 dB compression point @ 9 GHz</td>
<td>dBm</td>
<td>+20</td>
<td>+21</td>
<td></td>
</tr>
<tr>
<td>OIP3</td>
<td>OIP3 measured @ 9 GHz Two tone F1-F2= 10MHz</td>
<td>dB</td>
<td></td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Noise Figure</td>
<td></td>
<td>dB</td>
<td>2.8</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>RF Input Impedance</td>
<td>Reference to 50 ohms</td>
<td></td>
<td>1.8:1</td>
<td>2.0:1</td>
<td></td>
</tr>
<tr>
<td>RF Output Impedance</td>
<td>Reference to 50 ohms</td>
<td></td>
<td>1:5:1</td>
<td>2.0:1</td>
<td></td>
</tr>
<tr>
<td>Supply Voltage Positive:</td>
<td></td>
<td>V</td>
<td>+12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply Current Positive:</td>
<td></td>
<td>mA</td>
<td>160</td>
<td>200</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**

1/ Unconditional Stability

Customized configurations of the above specifications are available.
Typical Performance  S-Parameters @ 23C

CH1  LO6  10 dB/ REF 0 dB  S11  5-12.306 dB  8.950 000 000 GHz

CH2  LO6  10 dB/ REF 0 dB  S21  5-38.115 dB  8.950 000 000 GHz

CH1 Markers
1- 12.359 dB
2- 12.060 dB
3- 12.063 dB
4- 12.218 dB
5- 8.5000 GHz

CH2 Markers
1- 38.042 dB
2- 38.143 dB
3- 38.063 dB
4- 38.073 dB
5- 8.5000 GHz

CH3  LO6  10 dB/ REF 0 dB  S12  5-49.481 dB  8.950 000 000 GHz

CH4  LO6  10 dB/ REF 0 dB  S22  5-17.689 dB  8.950 000 000 GHz

CH3 Markers
1- 47.225 dB
2- 52.878 dB
3- 47.942 dB
4- 49.790 dB
5- 8.5000 GHz

CH4 Markers
1- 16.900 dB
2- 17.620 dB
3- 15.570 dB
4- 15.560 dB
5- 8.5000 GHz
Package Outline: M110 SMA Connectorized (inches)

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Description</th>
<th>Hermeticity</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMT-A0482</td>
<td>SMA Female</td>
<td>Non-Hermetic</td>
<td>Outline: M110</td>
</tr>
</tbody>
</table>

Housing: Aluminum Gold over Nickel plated
Removable SMA and Ground Slug
Contact us for custom configurations and special requirements.

Our highly experienced team of engineers can quickly identify and implement innovative solutions using latest technology to improve performance and reduce cost.

- Add additional functionality: Input limiter, Temperature compensation, Amplitude/Phase matching, Amplitude/Phase Tracking, Automatic Gain control, Gain sloping, Bypass path, Specific supply voltage, Regulation, Power detector, Health status, and others

- Integrated: Filters, Switches, Limiter, Digital attenuator, Phase shifter, Microcontroller, Multiple amplifiers, Switch matrix, Comb generators and others

- Mechanical: Custom packages - Surface Mount, Connectorized, Waveguide, Carrier, Drop-in, Hermetic and others

Agile Microwave Technology Inc is the logical choice for all your commercial or military RF/Microwave components/module requirements.

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