AMT-A0368  6 GHz to 18 GHz
Medium Power P1dB 30dBm,Low EMI Leakage Amplifier

Features

• 6 GHz to 18 GHz Frequency Range
• Gain 34 dB typ
• Gain Flatness < ± 1.5 dB typ ± 2.5 db max
• Typical Noise Figure < 6 dB
• +30 dBm P1dB Typical
• Internally Regulated
• High EMI performance
  DC to RF leakage —90 dBc typ —70 dBc max
• Operates from a Single +15V Supply
• Unconditionally Stable
• State-of-the-Art GaAs Technology

Description

The AMT-A0368 is a Broadband Medium Power amplifier with low EMI leakage 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-A0368 is ideal for use in communication system, or where amplification is required without adding excessive noise in a Hi-Rel communications system for Com-

Applications

• Communication systems
• Microwave Radio systems
• Test Equipment
• Point to Point Radios
• Radar

MAXIMUM RATINGS\(^1\)  Must be attached to proper Heat sink

<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\textsubscript{MO}</td>
<td>° C</td>
<td>-40</td>
<td>+85</td>
</tr>
<tr>
<td>Storage Temperature - Case</td>
<td>T\textsubscript{MS}</td>
<td>° C</td>
<td>-54</td>
<td>+95</td>
</tr>
<tr>
<td>RF Input power (CW)</td>
<td>Pin</td>
<td>dBm</td>
<td>+12</td>
<td></td>
</tr>
<tr>
<td>Die T\textsubscript{Junction}</td>
<td>T\textsubscript{J}</td>
<td>° C</td>
<td></td>
<td>+150</td>
</tr>
<tr>
<td>Positive Supply Voltage</td>
<td>V\textsubscript{SS}</td>
<td>V</td>
<td></td>
<td>+16</td>
</tr>
</tbody>
</table>

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>
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<tbody>
<tr>
<td>Frequency Range</td>
<td></td>
<td>GHz</td>
<td>6</td>
<td></td>
<td>18</td>
</tr>
<tr>
<td>Gain</td>
<td>Small Signal</td>
<td>dB</td>
<td>30</td>
<td>34</td>
<td>37</td>
</tr>
<tr>
<td>Gain Flatness</td>
<td></td>
<td>dB</td>
<td>±1.5</td>
<td>±2.5</td>
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</tr>
<tr>
<td>Input Power</td>
<td>CW, without damage</td>
<td>dBm</td>
<td>+12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output Power (P1dB)</td>
<td>1 dB compression point @ 10 GHz</td>
<td>dBm</td>
<td>28</td>
<td>30</td>
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<tr>
<td>Noise Figure</td>
<td></td>
<td>dB</td>
<td>6</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>RF Input Impedance</td>
<td>Reference to 50 ohms</td>
<td></td>
<td>1.8:1</td>
<td>2.3:1</td>
<td></td>
</tr>
<tr>
<td>RF Output Impedance</td>
<td>Reference to 50 ohms</td>
<td></td>
<td>1:8:1</td>
<td>2.3:1</td>
<td></td>
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<tr>
<td>EMI Leakage</td>
<td>DC supply pin to RFout</td>
<td>dBC</td>
<td>-70</td>
<td></td>
<td></td>
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<tr>
<td>Supply Voltage Positive:</td>
<td></td>
<td>V</td>
<td>+15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply Current Positive:</td>
<td></td>
<td>mA</td>
<td>660</td>
<td>900</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1/ Unconditional Stability
Gain maybe little higher at 6 GHz
High EMI shielding
Measured NF has standard (Agilent/HP equipment) uncertainty of 0.15 dB

Customized configurations of the above specifications are available
Typical S-Parameters @ 25C
Output Power P1dB @ 25°C
AMT-A0368

Noise Figure @ 23C
AMT-A0368
Package Outline: SMA-F Connectorized (Inches)

Model Number | Description              | Hermeticity   | Package
--------------|--------------------------|---------------|---------
AMT-A0368     | SMA Female Non-removable | Non-Hermetic  | Outline: M131
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.

Contact Information:

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