**Features**
- Singles Basing Voltage (Self Biased)
- Frequency: 0.01-3.5GHz
- Small Signal Gain: 30.5dB
- Noise Figure: 0.75 dB typ.
- P1dB: 18dBm
- Power Supply: +5V/70mA
- Input/Output: 50Ω
- Die Size: 1.25 x 1.25 x 0.1 mm

**Typical Applications**
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

**Electrical Specifications**
**TA = +25°C, Vd = +5V**

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
<th>Units</th>
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<tbody>
<tr>
<td>Frequency</td>
<td></td>
<td>0.01-3.5</td>
<td></td>
<td>GHz</td>
</tr>
<tr>
<td>Small Signal Gain</td>
<td>29</td>
<td>30.5</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Gain Flatness</td>
<td>±0.5</td>
<td></td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Noise Figure</td>
<td>-</td>
<td>0.6</td>
<td>-</td>
<td>dB</td>
</tr>
<tr>
<td>Output 1dB Compression (P1dB)</td>
<td>-</td>
<td>18</td>
<td>-</td>
<td>dBm</td>
</tr>
<tr>
<td>Saturated Output Power (Psat)</td>
<td>-</td>
<td>19</td>
<td>-</td>
<td>dBm</td>
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<tr>
<td>Input Return Loss</td>
<td>10</td>
<td>15</td>
<td>-</td>
<td>dB</td>
</tr>
<tr>
<td>Output Return Loss</td>
<td>14</td>
<td>18</td>
<td>-</td>
<td>dB</td>
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<tr>
<td>Static current</td>
<td>70</td>
<td></td>
<td></td>
<td>mA</td>
</tr>
</tbody>
</table>
GaAs MMIC
Low Noise Amplifier
0.01-3.5GHz

- Gain vs. Frequency
- Noise Figure vs. Frequency
- Input Return Loss vs. Frequency
- Output Return Loss vs. Frequency
- Reverse Isolation vs. Frequency
- P1dB vs. Frequency
### Pad Description

<table>
<thead>
<tr>
<th>Pad</th>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>RF IN</td>
<td>RF signal input terminal, DC blocking capacitor required.</td>
</tr>
<tr>
<td>2</td>
<td>RF OUT, VDD</td>
<td>RF signal output terminal, DC blocking capacitor required. <em>Amplifier drain bias, external 100pF bypass capacitor required, external 56nH~200nH choke inductor required.</em></td>
</tr>
<tr>
<td>3</td>
<td>VDD</td>
<td>Amplifier drain bias; external 100pF bypass capacitor required.</td>
</tr>
<tr>
<td></td>
<td>GND</td>
<td>Die bottom must be connected to RF/DC ground.</td>
</tr>
</tbody>
</table>

### Outline Drawing:

All Dimensions in μm

![Outline Drawing](image)

**Low Noise Amplifier - MMIC 0.01-3.5GHz**

**GaAs MMIC**

Low Noise Amplifier 0.01-3.5GHz
Assembly Drawing

Notes:
1. Die thickness: 100um
2. Typical bond pad is 100*100 μm²
3. Bond pad metalization: Gold
4. Backside metalization: Gold
5. Backside of the die (GND)
6. No connection required for unlabeled bond pads

Maximum Ratings:
1. Maximum drain voltage: +7V
2. Maximum input power: +20dBm
3. Operating temperature: -55°C to +85°C
4. Storage temperature: -65°C to +150°C