**Features**
- Frequency: DC-30GHz
- Small Signal Gain: 16dB
- Gain Flatness: ≤ ± 0.2dB@DC-26GHz
- Noise Figure: ≤4dB
- P1dB: 26dBm
- Psat: 27dBm
- Power supply: +8V/180mA
- Input/Output: 50Ω
- Die Size: 2.94 x 1.35 x 0.1 mm

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

**Electrical Specifications**
TA = +25°C, Vd = +8V, *Ids=180mA

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<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>DC-18</td>
<td>18-26</td>
<td>26-30</td>
<td>GHz</td>
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<tr>
<td>Small Signal Gain</td>
<td>15.9</td>
<td>16</td>
<td>16.1</td>
<td>16</td>
<td>16.2</td>
<td>16</td>
<td>15</td>
<td>14.8</td>
<td>dB</td>
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<tr>
<td>Gain Flatness</td>
<td>±0.2</td>
<td>±0.2</td>
<td>±0.9</td>
<td>dB</td>
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<tr>
<td>Noise Figure</td>
<td>2.0</td>
<td>2.5</td>
<td>3.9</td>
<td>3.1</td>
<td>4.0</td>
<td>5.1</td>
<td>6.0</td>
<td>6.1</td>
<td>dB</td>
<td></td>
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<tr>
<td>Output 1dB Compression (P1dB)</td>
<td>25.9</td>
<td>26</td>
<td>27.3</td>
<td>25.2</td>
<td>25</td>
<td>26.2</td>
<td>25.2</td>
<td>24</td>
<td>24.2</td>
<td>dBm</td>
</tr>
<tr>
<td>Saturated Output Power (Psat)</td>
<td>26.9</td>
<td>27</td>
<td>28.3</td>
<td>26</td>
<td>26.5</td>
<td>27</td>
<td>26</td>
<td>25.5</td>
<td>25.2</td>
<td>dBm</td>
</tr>
<tr>
<td>Input Return Loss</td>
<td>15</td>
<td>18</td>
<td></td>
<td>15</td>
<td></td>
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<td></td>
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<td>dB</td>
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<tr>
<td>Output Return Loss</td>
<td>20</td>
<td>16</td>
<td>13</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>dB</td>
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</tbody>
</table>

*Adjust VG (-2V-0V) to obtain device current of 180mA. (Approximately -0.6V)
Gain vs. Frequency

Noise Figure vs. Frequency

Gain & Return Loss vs. Frequency

Reverse Isolation vs. Frequency

P1dB vs. Frequency

Psat vs. Frequency
### Pad Description

<table>
<thead>
<tr>
<th>Pad</th>
<th>Function</th>
<th>Description</th>
<th>Equivalent Circuit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>RF IN</td>
<td>Signal input terminal, connected to 50Ω circuit; blocking capacitor required.</td>
<td><img src="image" alt="RF IN Equivalent Circuit" /></td>
</tr>
<tr>
<td>5</td>
<td>RF OUT</td>
<td>Signal output terminal, connected to 50Ω circuit; blocking capacitor required; external DC biasing network required; drain current provided. Refer to following assembly drawing or contact manufacturer.</td>
<td><img src="image" alt="RF OUT Equivalent Circuit" /></td>
</tr>
<tr>
<td>7</td>
<td>Vg</td>
<td>Amplifier gate bias; connected to 100pF bypass capacitor.</td>
<td><img src="image" alt="Vg Equivalent Circuit" /></td>
</tr>
<tr>
<td>8</td>
<td>Vd</td>
<td>Amplifier drain bias; connected to external 100pF bypass capacitor.</td>
<td><img src="image" alt="Vd Equivalent Circuit" /></td>
</tr>
<tr>
<td>2, 3, 4, 6, die bottom</td>
<td>GND</td>
<td>Die bottom must be connected to RF/DC ground.</td>
<td><img src="image" alt="GND Equivalent Circuit" /></td>
</tr>
</tbody>
</table>
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: +14V
2. Maximum gate bias: -3V
3. Maximum input power: +20dBm
4. Operating temperature: -55°C to +85°C
5. Storage temperature: -65°C to +150°C