**Features**

- Two operating mode: high power consumption and low power consumption
- Frequency: 0.8-18GHz
- Noise Figure: 1.9dB@65mA, 1.7dB@40mA
- Gain: 16.5dB@65mA, 15.5dB@40mA
- P1dB: 18dBm@65mA, 17.5dBm@40mA
- Psat: 19.5dBm@65mA, 19dBm@40mA
- Power Supply: +5V@65mA, VG is floating
- +5V@40mA, VG connected to GND
- Input/Output: 50Ω
- Die Size: 1.5 x 1.0 x 0.1 mm

**Typical Applications**

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

**Electrical Specifications**

TA = +25°C, VDD=+5V

<table>
<thead>
<tr>
<th>Parameters</th>
<th>VG is floating</th>
<th>VG connected to GND</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>0.8-18 GHz</td>
<td>0.8-18 GHz</td>
<td></td>
</tr>
<tr>
<td>Gain</td>
<td>16.5</td>
<td>15.5</td>
<td></td>
</tr>
<tr>
<td>Gain Flatness</td>
<td>±0.5</td>
<td>±0.3</td>
<td></td>
</tr>
<tr>
<td>Input Return Loss</td>
<td>10</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Output Return Loss</td>
<td>12</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Output 1dB Compression (P1dB)</td>
<td>18</td>
<td>17.5</td>
<td></td>
</tr>
<tr>
<td>Psat</td>
<td>19.5</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>Noise Figure</td>
<td>1.9</td>
<td>1.7</td>
<td></td>
</tr>
<tr>
<td>Operating current</td>
<td>45</td>
<td>65</td>
<td>85</td>
</tr>
</tbody>
</table>
MM241PD
GaAs MMIC
0.5-18 GHz

V1.0.0
MM080
GaAs MMIC
Low Noise Amplifier
0.8-18GHz

Gain (VG is floating)

Gain (VG connected to GND)

Return Loss (VG is floating)

Return Loss (VG connected to GND)

Noise Figure (VG is floating)

Noise Figure (VG connected to GND)
**GaAs MMIC**
**Low Noise Amplifier**
**0.8-18GHz**

**Outine Drawing:**
All Dimensions in mm

<table>
<thead>
<tr>
<th>PAD</th>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>IN</strong></td>
<td>This pad is AC coupling, 50 ohm matched.</td>
</tr>
<tr>
<td>2</td>
<td><strong>OUT</strong></td>
<td>This pad is AC coupling, 50 ohm matched.</td>
</tr>
<tr>
<td>3</td>
<td><strong>VDD</strong></td>
<td>This pad provides power supply for the amplifier. It should be connected to extra 100pF bypass capacitor.</td>
</tr>
<tr>
<td>4</td>
<td><strong>VC</strong></td>
<td>This pad determines the die’s operating mode. It could be floating or connected to GND.</td>
</tr>
<tr>
<td><strong>Die Bottom</strong></td>
<td><strong>GND</strong></td>
<td>Die backside must connect to RF/DC GND.</td>
</tr>
</tbody>
</table>
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: +18dBm
3. Operating temperature: -55°C to +85°C
4. Storage temperature: -65°C to +150°C