**MM241PD**

GaAs MMIC
0.5 - 18 GHz

**Features**
- Frequency: 7-15GHz
- Small Signal Gain: 17dB
- Noise Figure: 3.2dB typ./3.6dB max.
- P1dB: 14dBm
- Psat: 16dBm
- Power supply: +5V/60mA
- Input/Output: 50Ω
- Die Size: 4.0 x 4.0 mm Lead-free surface mount

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

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**MML036**

GaAs MMIC
Low Noise Amplifier
7-15GHz

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- Small Signal Gain: 17dB
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**Electrical Specifications**

\( TA = +25°C, \ V_d = +5V \)

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td></td>
<td>7-15</td>
<td></td>
<td>GHz</td>
</tr>
<tr>
<td>Small Signal Gain</td>
<td>16.5</td>
<td>17</td>
<td>17.5</td>
<td>dB</td>
</tr>
<tr>
<td>Gain Flatness</td>
<td></td>
<td>±0.5</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Noise Figure</td>
<td>2.0</td>
<td>2.5</td>
<td>3.0</td>
<td>dB</td>
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<tr>
<td>Output 1dB Compression (P1dB)</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>dBm</td>
</tr>
<tr>
<td>Saturated Output Power (Psat)</td>
<td>15.5</td>
<td>16</td>
<td>16.5</td>
<td>dBm</td>
</tr>
<tr>
<td>Input Return Loss</td>
<td></td>
<td>10</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Output Return Loss</td>
<td></td>
<td>10</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Static Current</td>
<td></td>
<td>60</td>
<td></td>
<td>mA</td>
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</table>
## Pad Description

<table>
<thead>
<tr>
<th>Pad</th>
<th>Function</th>
<th>Description</th>
<th>Equivalent Circuit</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>RF IN</td>
<td>RF signal input terminal, no blocking capacitor required.</td>
<td>![ Equivalent Circuit for RF IN ]</td>
</tr>
<tr>
<td>11</td>
<td>RF OUT</td>
<td>RF signal output terminal, no blocking capacitor required.</td>
<td>![ Equivalent Circuit for RF OUT ]</td>
</tr>
<tr>
<td>4, 5, 6, 7, 8, 9, 13, 15</td>
<td>NC</td>
<td>No welding required.</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Vd1</td>
<td>Amplifier drain bias.</td>
<td>![ Equivalent Circuit for Vd1 ]</td>
</tr>
<tr>
<td>16</td>
<td>Vd2</td>
<td>Amplifier drain bias.</td>
<td>![ Equivalent Circuit for Vd2 ]</td>
</tr>
<tr>
<td>1, 3, 10, 12</td>
<td>GND</td>
<td>Die bottom must be connected to RF/DC ground.</td>
<td>![ Equivalent Circuit for GND ]</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: +7V
2. Maximum input power: +20dBm
3. Operating temperature: -55℃ to +85℃
4. Storage temperature: -65℃ to +150℃