The MPS-213011 is a modular amplifier designed to meet the ultralinear transmitter output requirements of worldwide PDC systems. The amplifier exhibits an extremely high IP3 (+45dBm) relative to the DC power consumed (3 W). The device is self-contained with all matching and bias circuitry included. Typical applications for this device include driver stages for single channel and multicarrier feed forward linear amplifiers used in North American PCS and DCS-1800 (GSM) systems. It is also useful for a lower power micro-cell amplifier output stage where multicarrier configurations require excellent multitone intermodulation performance.

### Features
- +45 dBm Typical IP3
- 14 dB Typical Gain
- +29 dBm Typical Output Power
- Single Positive Bias
- Surface Mount Package or Half Flange Package

### Specifications

#### Electrical at 25°C, Vdd= 7.5 V, Zo= 50 Ω

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Parameter</th>
<th>Min.</th>
<th>Typical</th>
<th>Max</th>
<th>Unit</th>
</tr>
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<tbody>
<tr>
<td>Freq</td>
<td>Frequency Range</td>
<td>1700</td>
<td></td>
<td>2100</td>
<td>MHz</td>
</tr>
<tr>
<td>SSG</td>
<td>Small Signal Gain</td>
<td>13</td>
<td>14</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>P1dB</td>
<td>P out at 1 dB Compression</td>
<td>+29.0</td>
<td></td>
<td>+45.0</td>
<td>dBm</td>
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<tr>
<td>IP3</td>
<td>Third-order Intercept</td>
<td>+42.0</td>
<td></td>
<td></td>
<td>dBm</td>
</tr>
<tr>
<td>VSWR</td>
<td>Input VSWR</td>
<td>1.5:1</td>
<td>2.2:1</td>
<td></td>
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<tr>
<td>ΔGOF</td>
<td>Gain Variation over Freq.</td>
<td>+/-</td>
<td>0.25</td>
<td>+/-</td>
<td>0.50</td>
</tr>
<tr>
<td>ΔGOT</td>
<td>Gain Variation over Temp.</td>
<td>-.01</td>
<td></td>
<td></td>
<td>dB/°C</td>
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<tr>
<td>Idd</td>
<td>DC Current</td>
<td>350</td>
<td></td>
<td>420</td>
<td>mA</td>
</tr>
</tbody>
</table>

#### Absolute Maximum Ratings
- Maximum Bias Voltage: 8.0 V
- Maximum Continuous RF Input Power: 950 mW
- Maximum Peak Input Power: 1400 mW
- Maximum Case Operating Temperature: +85°C
- Maximum Storage Temperature: -65°C to +150°C
1700 to 2100 MHz Linear Amplifier

MPS-213011-85/86
1700 to 2100 MHz Linear Amplifier

Email: info@mwtinc.com
www.mwtinc.com

Application Circuit

Outline Diagrams

Package 85

Package 86 (HERMETIC)

Return Loss vs. Frequency

Return Loss vs. Frequency

Return Loss (dB)

Return Loss (dB)

Frequency (MHz)

Frequency (MHz)

C1 100 pF
C2 22 uF
L1 160 nH
CR1 8.0 V

Chip Capacitor
Capacitor
Printed or Wound Coil
Zener Diode

50 Q Microstrip Line