Linear Amplifier
1800 to 2200 MHz

- IP3: 45 dBm
- $P_{1d}B$: 28.5 dBm

Model #: MPS-182217-02

Features
- Leadless Chip Carrier
- +45 dBm IP3
- +28.5 dBm $P_{1d}B$
- 14 dB Gain
- Single Positive Bias
- Systems applications for this device are: CDMA, TDMA, GSM, GPRS, EDGE, UMTS (WCDMA, cdma2000, TD-SCDMA)

Description

The MPS-182217-02 is a modular amplifier designed to meet the ultralinear transmitter output requirements of worldwide wireless base station systems. The amplifier exhibits an extremely high IP3 (+45 dBm). 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. It is also useful for a lower power micro-cell amplifier output stage where excellent multitone intermodulation performance is required.

Absolute Maximum Ratings

- Bias Voltage: 8.0V
- Continuous RF Input Power: 950 mW
- Peak Input Power: 1400 mW
- Case Operating Temperature: +85°C
- Storage Temperature: -65°C to +125°C
Specifications

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

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Parameter</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
<th>Unit</th>
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<tbody>
<tr>
<td>Freq</td>
<td>Frequency Range</td>
<td>1800</td>
<td></td>
<td>2200</td>
<td>MHz</td>
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<tr>
<td>SSG</td>
<td>Small Signal Gain</td>
<td>13.0</td>
<td>14.0</td>
<td></td>
<td>dB</td>
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<tr>
<td>P1dB</td>
<td>P out at 1 dB Compression</td>
<td>+28.5</td>
<td></td>
<td></td>
<td>dBm</td>
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<tr>
<td>IP3</td>
<td>Third-order Intercept*</td>
<td>+42.0</td>
<td>+45.0</td>
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<td>dBm</td>
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<td>VSWR</td>
<td>Input / Output</td>
<td>1.5:1</td>
<td>3.0:1</td>
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<td>△GOF</td>
<td>Gain Variation over Freq.</td>
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<td>±0.5</td>
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<td>dB</td>
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<tr>
<td>△GOT</td>
<td>Gain Variation over Temp.</td>
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<td>Idd</td>
<td>DC Current</td>
<td>380</td>
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<td>mA</td>
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</tbody>
</table>

*Two tone tests at P out = +13 dBm/tone, centered at 2000 MHz with 20 MHz separation

Output Power at P1dB @ +25°C

IP3** vs. Frequency @ +25°C

Gain vs. Frequency Over Temperature

Return Loss vs. Frequency @ +25°C

Application Circuit

Outline Drawing