Features:

- 45 dBm IP3
- 12.5 dB Gain
- +28.5 dBm P1dB
- Single Positive Bias
- Leadless Surface Mount Package

Description:

The MPS-343717-02 is a low cost high linearity modular amplifier designed to meet the ultra-linear transmitter driver requirements for commercial 2G, 2.5G, 3G, GSM, TDMA, EDGE, UMTS, WCDMA, CDMA2000, and TD-SCDMA applications. Key advantages are low intermodulation performance for multi-carrier and CDMA systems and exceptionally low input/output return loss for ease of integration.

Electrical Specifications:

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>PARAMETERS</th>
<th>Min</th>
<th>Typical</th>
<th>Max</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freq.</td>
<td>Frequency Range</td>
<td>3400</td>
<td></td>
<td>3700</td>
<td>MHz</td>
</tr>
<tr>
<td>SSG</td>
<td>Small Signal Gain</td>
<td>11.7</td>
<td>12.5</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>P1 dB</td>
<td>Pout at 1 dB Comp Point</td>
<td></td>
<td>+28.5</td>
<td></td>
<td>dBm</td>
</tr>
<tr>
<td>IP3 (1)</td>
<td>Third-Order Intercept</td>
<td>42.0</td>
<td>45.0</td>
<td></td>
<td>dBm</td>
</tr>
<tr>
<td>VSWR</td>
<td>VSWR (Input/Output)</td>
<td>1.5:1</td>
<td>2.5:1</td>
<td></td>
<td></td>
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<tr>
<td>GOF</td>
<td>Gain Var. over Frequency</td>
<td>± 0.3</td>
<td>± 0.6</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>GOT</td>
<td>Gain Var. over Temp</td>
<td>-0.015</td>
<td></td>
<td></td>
<td>dB/°C</td>
</tr>
<tr>
<td>Idd</td>
<td>DC Current</td>
<td>380</td>
<td>450</td>
<td></td>
<td>mA</td>
</tr>
<tr>
<td>Rth</td>
<td>Thermal Resistance</td>
<td>28</td>
<td></td>
<td></td>
<td>°C/W</td>
</tr>
</tbody>
</table>

(1) Two tone test @ 13 dBm/tone, centered at 3,500 MHz with 20 MHz separation.
(2) Use Vds = 6V for calculation of DC dissipation.
* Bias range for best operation.

Absolute Maximum Ratings:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Bias Voltage</td>
<td>8.0 V</td>
</tr>
<tr>
<td>Maximum continuous RF Input Power</td>
<td>950 mW</td>
</tr>
<tr>
<td>Maximum Peak Input Power</td>
<td>1400 mW</td>
</tr>
<tr>
<td>Maximum Case Operating Temperature</td>
<td>+ 85 °C</td>
</tr>
<tr>
<td>Maximum Storage Temperature</td>
<td>- 65 °C to + 150 °C</td>
</tr>
</tbody>
</table>
Typical IP3 (Vdd=7V, T=25°C)

IP vs. Vdd (Freq.=3.70 GHz, T=25°C)

Gain over Temp

Return Losses @ 25C

Outline Diagram

Application Circuit