The MPS-081017-02 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 low input/output return loss for ease of integration.

### Electrical Specifications @ 25°C, Vdd = 7.5 V, Zo = 50 ohms

<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>800</td>
<td></td>
<td>1000</td>
<td>MHz</td>
</tr>
<tr>
<td>SSG</td>
<td>Small Signal Gain</td>
<td>14.0</td>
<td>15.0</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>P1 dB</td>
<td>Pout at 1 dB Comp Point</td>
<td>+28.5</td>
<td></td>
<td></td>
<td>dBm</td>
</tr>
<tr>
<td>IP3 (1)</td>
<td>Third-Order Intercept</td>
<td>42</td>
<td>45</td>
<td></td>
<td>dBm</td>
</tr>
<tr>
<td>VSWR</td>
<td>VSWR (Input/Output)</td>
<td>2.0:1/2.5:1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GOF</td>
<td>Gain Var. over Frequency</td>
<td>± 0.25</td>
<td>± 0.5</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>
</tbody>
</table>

(1) Two tone test @ 13 dBm/tone, centered at 900 MHz with separation of 20 MHz.

### 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 to + 150 °C
**Gain @ 25°C**

- **Freq. (MHz)**: 700 to 1100
- **Gain (dB)**: 12 to 17

**Return Losses @ 25°C**

- **Freq. (MHz)**: 700 to 1100
- **Return Loss (dB)**: -20 to 0

**Outline Diagram (Package 02)**

- **INPUT SIDE DOT**: .430
- **.15 MAX.**: .270
- **.050 TYP. 2 PLCS.**: GAP .003 TYP.
- **.024 TYP. 10 PLCS.**: .050 TYP. 2 PLCS.
- **INPUT PAD**: .040 TYP. 2 PLCS.
- **OUTPUT PAD**: 10 PLCS.
- **GROUND PAD**: 8 PLCS.

**Application Circuit**

- **RF IN**: C1
- **C2**: 100 pF
- **CR1**: 8.0 V Zener Diode
- **L1**: 22 μF
- **160 nH Printed or Wound Coil**
- **50 ohm Microstrip Line**

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