DESCRIPTION
AMCOM’s AM030638PA-P2 is a Power Amplifier module. It is designed for general purpose applications. It operates from 300 MHz to 600 MHz. The module operates using a 24V supply and uses SMA connectors for input and output.

FEATURES
- Frequency Range: 300-600MHz
- Gain: 40dB
- Pout: +38dBm
- IP3: +44dBm
- Noise Figure: 6dB
- DC Power: 24V
- SMA Connector

Performance measured @ 450MHz

APPLICATIONS
- Wireless Infrastructure
- Military & Aerospace
- Test and Measurement

Electrical Specifications @ +25 °C, $Z_S = Z_L = 50 \, \Omega$, $V_{cc} = 24V$

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Unit</th>
<th>Minimum</th>
<th>Typical</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Range</td>
<td>MHz</td>
<td>300</td>
<td>600</td>
<td></td>
</tr>
<tr>
<td>Small Signal Gain</td>
<td>dB</td>
<td></td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Gain Flatness</td>
<td>dB</td>
<td></td>
<td>±0.5</td>
<td></td>
</tr>
<tr>
<td>Output Power $P_{out} @ P_{in} = 0dBm$</td>
<td>dBm</td>
<td></td>
<td>+38</td>
<td></td>
</tr>
<tr>
<td>IP3</td>
<td>dBm</td>
<td></td>
<td>+44</td>
<td></td>
</tr>
<tr>
<td>IMD3 (Two Tone +20dBm Output)</td>
<td>dBc</td>
<td></td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>Reverse Isolation</td>
<td>dB</td>
<td></td>
<td>-50</td>
<td></td>
</tr>
<tr>
<td>Noise Figure</td>
<td>dB</td>
<td></td>
<td>6.0</td>
<td></td>
</tr>
<tr>
<td>Efficiency $P_{out} =+38dBm @450MHz$</td>
<td>%</td>
<td></td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>VSWR Input</td>
<td></td>
<td>1.4:1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VSWR Output</td>
<td></td>
<td>1.4:1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DC Power Supply</td>
<td>V</td>
<td>18</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>Supply Current</td>
<td>mA</td>
<td></td>
<td>880</td>
<td></td>
</tr>
<tr>
<td>Size (Excluding SMA Connector)</td>
<td>inch</td>
<td>3.750&quot; x 2.000&quot; x 1.913&quot;</td>
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<td></td>
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<tr>
<td>Weight</td>
<td>Oz.</td>
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<td>9</td>
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</table>
Typical Performance @ +25°C

**Small Signal Gain S21**

**Input VSWR S11**

**Isolation S12**

**Output VSWR S22**

**Pout@Pin=0dBm**

**Pout, Icc @ 300MHz**
Typical Performance @ +25°C

Pout, Icc @ 400MHz

Pout, Eff @ 300MHz

Pout, Icc @ 500MHz

Pout, Eff @ 400MHz

Pout, Icc @ 600MHz

Pout, Eff @ 500MHz
Typical Performance @ +25°C

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**Pout, Eff @ 600MHz**

- **Pin (dBm)**
- **Pout (dBm)**: 26, 30, 34, 38, 42
- **Efficiency (%)**

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**Pout, Icc @ 500MHz, Pin=0dBm**

- **Supply Voltage (Volt)**
- **Icc (mA)**: 840, 860, 880, 900, 920

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**Pout, Eff @ Pin=0dBm**

- **Frequency (MHz)**: 300, 400, 500, 600
- **Pout (dBm)**: 26, 30, 34, 38, 42
- **Efficiency (%)**

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**Pout, Icc @ 500MHz, Pin=0dBm**

- **Supply Voltage (Volt)**
- **Icc (mA)**: 840, 860, 880, 900, 920

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**Pout, Icc @ 500MHz, Pin=0dBm**

- **Supply Voltage (Volt)**
- **Icc (mA)**: 37, 38, 39, 40, 42

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**Pout, Icc @ 500MHz, Pin=0dBm**

- **Supply Voltage (Volt)**
- **Icc (mA)**: 840, 860, 880, 900, 920
Absolute Maximum Ratings

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Absolute Maximum</th>
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</thead>
<tbody>
<tr>
<td>RF Input Power</td>
<td>+10dBm</td>
</tr>
<tr>
<td>Supply Voltage</td>
<td>+28V</td>
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<tr>
<td>Operating Temperature</td>
<td>-30 °C to +65 °C</td>
</tr>
</tbody>
</table>

Outline

Note: Pout and Gain are not sensitive to DC power supply voltage, reduce Vcc from +24V to +18V will reduce 25% amplifier heat, but only drop about 1dB in Pout and Gain performance.