2.5 dB NF, 6 GHz to 18 GHz, Low Noise Broadband Amplifier with 22 dBm, 38 dB Gain, 30 dBm IP3 and SMA

SLNA-180-38-25-SMA is a Broadband High Gain GaAs PHEMT MMIC-based coaxial Low Noise Amplifier, operating in the 6 to 18 GHz frequency range. The amplifier offers 2.5 dB Noise Figure, +22 dBm of P1dB and 38 dB small signal gain, with the gain flatness of ±2.0 dB, along with +30 dBm of IP3 performance. This low noise amplifier requires only a single positive DC supply, unconditionally stable, operates over the temperature range of -40°C to +75°C, and characterized by a light weight (25 g) and small size (1.2”x1.0”x0.4”).

Electrical Specifications \(\text{TA} = +25°C\), DC Voltage = 12Volts, DC Current = 280mA)

<table>
<thead>
<tr>
<th>Description</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Range</td>
<td>6</td>
<td>38</td>
<td>18</td>
<td>GHz</td>
</tr>
<tr>
<td>Gain</td>
<td>35</td>
<td>38</td>
<td>41</td>
<td>dB</td>
</tr>
<tr>
<td>Gain Flatness</td>
<td>±2</td>
<td>±2.5</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Gain Variance at OTR*</td>
<td>±2</td>
<td></td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>P1dB</td>
<td>+20</td>
<td>+22</td>
<td></td>
<td>dBm</td>
</tr>
<tr>
<td>IP3</td>
<td>+27</td>
<td>+30</td>
<td></td>
<td>dBm</td>
</tr>
<tr>
<td>Reverse Isolation</td>
<td>40</td>
<td>45</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Spurious</td>
<td>-60</td>
<td></td>
<td></td>
<td>dBc</td>
</tr>
<tr>
<td>Noise Figure</td>
<td>2.5</td>
<td>3</td>
<td></td>
<td>dBc</td>
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<tr>
<td>Input VSWR</td>
<td>1.8:1</td>
<td>2.5:1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output VSWR</td>
<td>1.8:1</td>
<td>2.5:1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating DC Voltage</td>
<td>10</td>
<td>12</td>
<td>15</td>
<td>Volts</td>
</tr>
<tr>
<td>Operating DC Current</td>
<td>250</td>
<td>280</td>
<td>320</td>
<td>mA</td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>-40</td>
<td></td>
<td>+75</td>
<td>°C</td>
</tr>
</tbody>
</table>

*OTR= Base Plate Operating Temperature Range

Absolute Maximum Rating

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Rating</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source Voltage</td>
<td>+16.5</td>
<td>Volts</td>
</tr>
<tr>
<td>RF input Power</td>
<td>+10</td>
<td>dBm</td>
</tr>
<tr>
<td>Operating Temperature (base-plate)</td>
<td>-40 to +75</td>
<td>°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-55 to +125</td>
<td>°C</td>
</tr>
</tbody>
</table>

ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in approved ESD Workstation.

Configuration
- Connector 1: SMA Female
- Connector 2: SMA Female

Compliance Certifications (visit www.FairviewMicrowave.com for current document)
- RoHS Compliant: Yes

Features:
- 6 to 18 GHz Frequency Range
- Noise Figure: 2.5dB typ
- Small Signal Gain: 38 dB
- Gain Flatness: ±2.0 dB
- Gain Variation Over the Temperature Range: ±2.0 dB
- P1dB: +22 dBm
- IP3: +30 dBm
- 50 Ohm Input and Output Matched
- -40 to +75°C Operating Temperature
- Unconditionally Stable
- Single DC Positive Supply
- Built-in DC Voltage Regulator
- Small Size & Light Weight

Applications:
- Laboratory Applications
- R&D Labs
- Electronic Warfare
- Telecom Infrastructure
- Test Instrumentation
- Military & Space
- Communication Systems
- Satellite Communications
- Wireless Communications
- Unmanned Systems
- Microwave Radio Systems
- Low Noise Amplifier
- General Purpose Amplification
- RF Front Ends

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Plotted and Other Data

Notes:
• Values at 25 °C, sea level
• ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in approved ESD Workstation.

Power Data

![Gain, Input Return Loss and Output Return Loss](image)

![Noise Figure](image)

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2.5 dB NF, 6 GHz to 18 GHz, Low Noise Broadband Amplifier with 22 dBm, 38 dB Gain, 30 dBm IP3 and SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: 2.5 dB NF, 6 GHz to 18 GHz, Low Noise Broadband Amplifier with 22 dBm, 38 dB Gain, 30 dBm IP3 and SMA SLNA-180-38-25-SMA

2.5 dB NF, 6 GHz to 18 GHz, Low Noise Broadband Amplifier with 22 dBm, 38 dB Gain, 30 dBm IP3 and SMA

**NOTE:**
HEAT SINK REQUIRED FOR PROPER OPERATION, UNIT IS COOLED BY CONDUCTING TO HEAT SINK.