1.6 dB NF Low Noise Amplifier, Operating From 20 MHz to 3 GHz with 25 dB Gain, 13.5 dBm P1dB and SMA

SLNA-030-25-16-SMA is a wideband low noise RF coaxial power amplifier operating in the 20 MHz to 3 GHz frequency range. The amplifier offers 1.6 dB typical noise figure, 1.53 dBm of P1dB and 25 dB small signal gain with the excellent gain flatness of ±0.75 dB max. This exceptional technical performance is achieved through the use of hybrid MIC design and advanced GaAs PHEMT devices. The low noise amplifier requires typically a +12V DC power supply. The connectorized SMA module is unconditionally stable and includes built-in voltage regulation. This low noise amplifier requires only a single positive supply, is unconditionally stable and operates over the temperature range of -40°C and +85°C.

### Electrical Specifications (TA = +25°C, DC Voltage = 12Vdc, DC Current = 75mA)

<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>0.02</td>
<td>23</td>
<td>3</td>
<td>GHz</td>
</tr>
<tr>
<td>Small Signal Gain</td>
<td>22.5</td>
<td>25</td>
<td>3</td>
<td>dB</td>
</tr>
<tr>
<td>Gain Flatness</td>
<td>±0.75</td>
<td>±1</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Gain Variance at OTR*</td>
<td>1.25</td>
<td></td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Output at 1 dB Compression Point</td>
<td>+12</td>
<td>+13.5</td>
<td>dBm</td>
<td></td>
</tr>
<tr>
<td>Output 3rd Intercept Point</td>
<td>+20</td>
<td>+25</td>
<td>dBm</td>
<td></td>
</tr>
<tr>
<td>Noise Figure (40 MHz to 3 GHz)</td>
<td>1.6</td>
<td>1.9</td>
<td>dB</td>
<td></td>
</tr>
<tr>
<td>Input VSWR</td>
<td>1.5:1</td>
<td>1.8:1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output VSWR</td>
<td>1.5:1</td>
<td>1.8:1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reverse Isolation</td>
<td>40</td>
<td>50</td>
<td></td>
<td>DB</td>
</tr>
<tr>
<td>Spurious</td>
<td></td>
<td>-60</td>
<td>dBc</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>65</td>
<td>75</td>
<td>120</td>
<td>mA</td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>-40</td>
<td>+85</td>
<td></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>+12</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</td>
<td>+85</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-55</td>
<td>+125</td>
</tr>
</tbody>
</table>

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

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### Features:
- 20 MHz to 3 GHz Frequency Range
- P1dB: 13.5 dBm
- Flat Small Signal Gain: 25 dB
- Gain Flatness: ±0.75 dB
- Output IP3: 25 dBm
- Noise Figure: 1.6 dB typ
- Reverse Isolation: 50 dB
- 50 Ohm Input and Output Matched
- -40 to 85°C Operating Temperature
- Unconditionally Stable
- Single DC Positive Supply
- Built-in Voltage Regulator

### Applications:
- Laboratory Applications
- R&D Labs
- Military Radio
- Radar Systems
- Telecom Infrastructure
- Test Instrumentation
- Military & Space
- Communication Systems
- Wireless Communication
- Microwave Radio Systems
- Cellular Base Stations
- Low Noise Amplifier
- General Purpose Amplification
- General Purpose Wireless
- Wideband Gain Block
- IF Amplifier/RF Driver Amplifier
- RF Wideband Front Ends
- RF Pre-amplification

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sales@fairviewmicrowave.com
Mechanical Specifications

Size
- Length: 1.5 in [38.1 mm]
- Width: 0.85 in [21.59 mm]
- Height: 0.375 in [9.53 mm]
- Weight: 0.0465 lbs [21.09 g]

Input Connector: SMA Female
Output Connector: SMA Female

Environmental Specifications

Temperature
- Operating Range: -40 to +85 deg C
- Storage Range: -55 to +125 deg C

Compliance Certifications (see product page for current document)

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.
Typical Performance Data

**Gain, Input Return Loss and Output Return Loss**

- **Gain (dB)**: 25 C
- **IN_Return Loss (dB)**
- **OUT_Return Loss (dB)**

**Noise Figure**

- **Noise Figure**

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For additional information on this product, please click the following link: **1.6 dB NF Low Noise Amplifier, Operating From 20 MHz to 3 GHz with 25 dB Gain, 13.5 dBm P1dB and SMA SLNA-030-25-16-SMA**


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