SLNA-180-33-30-SMA is a Broadband High Gain GaAs PHEMT MMIC-based coaxial Low Noise Amplifier, operating in the 2 to 18 GHz frequency range. The amplifier offers 3 dB Noise Figure, +15 dBm of P1dB and 33 dB small signal gain, with the gain flatness of ±1.0 dB, along with +25 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 +85°C, and characterized by a light weight (28 g) and small size (1.5”x1.0”x0.4”).

### Electrical Specifications (TA= 25°C, VDC1 = 12 Vdc)

<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>2</td>
<td>18</td>
<td></td>
<td>GHz</td>
</tr>
<tr>
<td>Gain</td>
<td>30</td>
<td>33</td>
<td>38</td>
<td>dB</td>
</tr>
<tr>
<td>Gain Flatness</td>
<td>±1</td>
<td>±1.5</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Gain Variation over OTR*</td>
<td>±1.5</td>
<td></td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>P1dB at 2 to 14 GHz</td>
<td>+13</td>
<td>+15</td>
<td></td>
<td>dBm</td>
</tr>
<tr>
<td>P1dB at 14 to 18 GHz</td>
<td>+11</td>
<td>+13</td>
<td></td>
<td>dBm</td>
</tr>
<tr>
<td>IP3 at 2 to 14 GHz</td>
<td>+22</td>
<td>+25</td>
<td></td>
<td>dBm</td>
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<tr>
<td>IP3 at 14 to 18 GHz</td>
<td>+20</td>
<td>+22</td>
<td></td>
<td>dBm</td>
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<tr>
<td>Reverse Isolation</td>
<td>35</td>
<td>55</td>
<td></td>
<td>dB</td>
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<tr>
<td>Spurious</td>
<td>-60</td>
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<td></td>
<td>dBc</td>
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<td>Noise Figure</td>
<td>3</td>
<td>4.2</td>
<td></td>
<td>dB</td>
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<tr>
<td>Input VSWR</td>
<td>1.7:1</td>
<td>2.2:1</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 1</td>
<td>10</td>
<td>12</td>
<td>15</td>
<td>Volts</td>
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<tr>
<td>Operating DC Current</td>
<td>160</td>
<td>180</td>
<td>220</td>
<td>mA</td>
</tr>
<tr>
<td>Operating Temperature Range (OTR)</td>
<td>-40</td>
<td></td>
<td>+85</td>
<td>°C</td>
</tr>
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</table>

*OTR= Base Plate Operating Temperature Range

### Absolute Maximum Rating

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Rating</th>
<th>Units</th>
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<tbody>
<tr>
<td>Source Voltage</td>
<td>+15</td>
<td>Volts</td>
</tr>
<tr>
<td>RF input Power</td>
<td>+15</td>
<td>dBm</td>
</tr>
<tr>
<td>Operating Temperature (base-plate)</td>
<td>-40 to +85</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.

**Features:**
- 2 to 18 GHz Frequency Range
- Noise Figure: 3dB typ
- Small Signal Gain: 33 dB
- Gain Flatness: ±1.0 dB
- Gain Variation Over the Temperature Range: ±1.5 dB
- P1dB: +15 dBm
- IP3: +25 dBm
- 50 Ohm Input and Output Matched
- -40 to +85°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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ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in approved ESD Workstation.
Mechanical Specifications

Size
- Length: 1.5 in [38.1 mm]
- Width: 1 in [25.4 mm]
- Height: 0.4 in [10.16 mm]
- Weight: 0.0665 lbs [30.16 g]

Input Connector: SMA Female
Output Connector: SMA Female

Environmental Specifications

Temperature
- Operating Range: -40 to +85 deg C
- Storage Range: -45 to +125 deg C

Compliance Certifications (see product page for current document)

Plotted and Other Data

Notes:

Functional Block Diagram
3 dB NF, 2 GHz to 18 GHz, Low Noise Broadband Amplifier with 15 dBm, 33 dB Gain 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: 3 dB NF, 2 GHz to 18 GHz, Low Noise Broadband Amplifier with 15 dBm, 33 dB Gain and SMA SLNA-180-33-30-SMA

**SLNA-180-33-30-SMA**

**DATA SHEET**

3 dB NF, 2 GHz to 18 GHz, Low Noise Broadband Amplifier with 15 dBm, 33 dB Gain and SMA

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**FAIRVIEW MICROWAVE INC.**

ALLEN, TX 75013 WWW.FAIRVIEWMICROWAVE.COM

**Title:** 3 dB NF, 2 GHz to 18 GHz, Low Noise Broadband Amplifier with 15 dBm, 33 dB Gain and SMA

**Notes:**
1. Unless otherwise specified, all dimensions are nominal.
2. All specifications are subject to change without notice at any time.
3. Dimensions are in inches [mm].

**DWG No:** SLNA-180-33-30-SMA

**CAGE Code:** 3FKR5

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