1.5 dB NF, 10 mW, 1 GHz to 2 GHz, Low Noise Amplifier, 35 dB Gain, SMA

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**TECHNICAL DATA SHEET**

**PE15A1000**

PE151000 is a L-band coaxial low noise amplifier operating in the 1 to 2 GHz frequency range. The amplifier offers 1.5 dB noise figure, 10 dBm minimum of saturated power and high 35 dB minimal small signal gain with the excellent gain flatness of ±1.0 dB max. This 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, bias sequencing, and reverse bias protection for added reliability. The amplifier operates over the temperature range of -40°C and +85°C.

**Features**
- 1 GHz to 2 GHz Frequency Range
- Psat: 10 dBm min
- High Small Signal Gain: 35 dB
- Gain Flatness: ±1.0 dB max
- Noise Figure: 1.5 dB
- 50 Ohms Input and Output Matched
- -40 to 85°C Operating Temperature
- Unconditionally Stable
- Regulated Supply & Bias Sequencing
- Hermetically Sealed Module
- Overvoltage External Protection for Easy Repair

**Applications**
- Laboratory Applications
- R&D Labs
- Radar Systems
- Telecom Infrastructure
- Test Instrumentation
- Military & Space
- Communication Systems
- Satellite Communications
- Wireless Communications
- Microwave Radio Systems
- Low Noise Amplifier
- General Purpose Amplification
- Gain Block

**Electrical Specifications** (TA = +25°C, DC Voltage = 12 Volts, DC Current = 200 mA)

<table>
<thead>
<tr>
<th>Description</th>
<th>Minimum</th>
<th>Typical</th>
<th>Maximum</th>
<th>Units</th>
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<tbody>
<tr>
<td>Frequency Range</td>
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<td>2</td>
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<td>GHz</td>
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<tr>
<td>Small Signal Gain</td>
<td></td>
<td></td>
<td></td>
<td>dB</td>
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<tr>
<td>Minimum Psat</td>
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<td></td>
<td>dBm</td>
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<tr>
<td>Noise Figure</td>
<td>1.5</td>
<td></td>
<td></td>
<td>dB</td>
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<tr>
<td>Input VSWR</td>
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<td>2:1</td>
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</tr>
<tr>
<td>Output VSWR</td>
<td></td>
<td>2:1</td>
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<tr>
<td>Operating DC Voltage</td>
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<tr>
<td>Operating DC Current</td>
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<td>Operating Temperature Range</td>
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<td></td>
<td>+85</td>
<td>°C</td>
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</table>

Click the following link (or enter part number in “SEARCH” on website) to obtain additional part information including price, inventory and certifications: 1.5 dB NF, 10 mW, 1 GHz to 2 GHz, Low Noise Amplifier, 35 dB Gain, SMA PE15A1000

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<table>
<thead>
<tr>
<th>Parameter</th>
<th>Rating</th>
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<td>Source Voltage</td>
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<td>Volts</td>
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<tr>
<td>RF input Power</td>
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<td>dBm</td>
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<td>Operating Temperature (base-plate)</td>
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<td>°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-55 to +85</td>
<td>°C</td>
</tr>
</tbody>
</table>

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

Compliance Certifications (visit www.Pasternack.com for current document)
RoHS Compliant

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.

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Power Data

Gain, Input Return Loss and Output Return Loss

Gain vs Temperature

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**TECHNICAL DATA SHEET PE15A1000**

1.5 dB NF, 10 mW, 1 GHz to 2 GHz, Low Noise Amplifier, 35 dB Gain, SMA from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99% availability and are part of the broadest selection in the industry.

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PE15A1000 CAD Drawing