PE15A1007 is a wideband low noise RF coaxial amplifier operating in the 9 kHz to 3 GHz frequency range. The amplifier offers 2.5 dB typical noise figure, 16 dBm of P1dB and high 32 dB typical small signal gain with gain flatness of ±1.25 dB typical. This exceptional technical performance is achieved through the use of hybrid MIC design and advanced SiGe Bipolar 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.

**Features**
- 9 kHz to 3 GHz Frequency Range
- P1dB: 16 dBm Typ
- High Small Signal Gain: 32 dB Typ
- Gain Flatness: ±1.25 dB Typ
- Gain Variance: ±1 dB Typ
- Noise Figure: 2.5dB Typ
- Reverse Isolation: 55 dB Typ
- 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

**Electrical Specifications** (TA = +25°C, DC Voltage = +12Vdc, DC Current = 110mA)

<table>
<thead>
<tr>
<th>Description</th>
<th>Minimum</th>
<th>Typical</th>
<th>Maximum</th>
<th>Units</th>
</tr>
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<tbody>
<tr>
<td>Frequency Range</td>
<td>9KHz</td>
<td>3</td>
<td></td>
<td>GHz</td>
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<tr>
<td>Small Signal Gain</td>
<td>30</td>
<td>32</td>
<td>36</td>
<td>dB</td>
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<tr>
<td>Gain Flatness</td>
<td>±1.25</td>
<td>±1.5</td>
<td></td>
<td>dB</td>
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<tr>
<td>Gain Variance at OTR*</td>
<td>1</td>
<td></td>
<td></td>
<td>dB</td>
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<tr>
<td>Output at 1 dB Compression Point</td>
<td>+15</td>
<td>+16</td>
<td></td>
<td>dBm</td>
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<tr>
<td>Output 3rd Intercept Point</td>
<td>+26</td>
<td>+29</td>
<td></td>
<td>dBm</td>
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<tr>
<td>Noise Figure (10 MHz to 3 GHz)</td>
<td>2.5</td>
<td>3</td>
<td></td>
<td>dB</td>
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<tr>
<td>Input VSWR</td>
<td>1.6:1</td>
<td>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>
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<tr>
<td>Reverse Isolation</td>
<td>45</td>
<td>55</td>
<td></td>
<td>dB</td>
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<tr>
<td>Spurious</td>
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<td></td>
<td>-70</td>
<td>dBC</td>
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<tr>
<td>Operating DC Voltage</td>
<td>+11</td>
<td>+12</td>
<td>+15</td>
<td>Volts</td>
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<tr>
<td>Operating DC Current</td>
<td>90</td>
<td>110</td>
<td>130</td>
<td>mA</td>
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<tr>
<td>Operating Temperature Range</td>
<td>-40</td>
<td></td>
<td>+85</td>
<td>°C</td>
</tr>
</tbody>
</table>

Click the following link (or enter part number in “SEARCH” on website) to obtain additional part information including price, inventory and certifications: 29 dBm IP3, 2.5 dB NF, 16 dBm P1dB, 0.009 MHz to 3 GHz, Low Noise Amplifier, 32 dB Gain, SMA PE15A1007
TECHNICAL DATA SHEET

PE15A1007

*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>
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<td>Volts</td>
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<tr>
<td>RF input Power</td>
<td>+5</td>
<td>dBm</td>
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<tr>
<td>Storage Temperature</td>
<td>-55 to +125</td>
<td>°C</td>
</tr>
<tr>
<td>Operating Temperature (base-plate)</td>
<td>-40 to +85</td>
<td>°C</td>
</tr>
</tbody>
</table>

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: 0.85 in [21.59 mm]
- Height: 0.375 in [9.53 mm]
- Weight: 0.054 lbs [24.49 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.

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29 dBm IP3, 2.5 dB NF, 16 dBm P1dB, 0.009 MHz to 3 GHz, Low Noise Amplifier, 32 dB Gain, SMA from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

Click the following link (or enter part number in “SEARCH” on website) to obtain additional part information including price, inventory and certifications: 29 dBm IP3, 2.5 dB NF, 16 dBm P1dB, 0.009 MHz to 3 GHz, Low Noise Amplifier, 32 dB Gain, SMA PE15A1007

URL: https://www.pasternack.com/2.5-db-3-ghz-low-noise-amplifier-32-db-gain-sma-pe15a1007-p.aspx

The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Pasternack reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Pasternack does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Pasternack does not assume any liability arising out of the use of any part or documentation.
PE15A1007 CAD Drawing
29 dBm IP3, 2.5 dB NF, 16 dBm P1dB, 0.009 MHz to 3 GHz, Low Noise Amplifier, 32 dB Gain, SMA