



23 dBm P1dB, 50 MHz to 4 GHz, Gain Block Amplifier,  
26 dB Gain, 35 dBm IP3, 5 dB NF, SMA

## TECHNICAL DATA SHEET

PE15A8000

The PE15A8000 is wideband general purpose RF coaxial gain block amplifier operating in the 0.05 GHz to 4 GHz frequency range. The amplifier offers 23 dBm of P1dB, 26 dB of Gain, IP3 of 35 dBm. This exceptional technical performance is achieved through the use of hybrid MIC design and advanced GaAs PHEMT devices. This gain block amplifier requires only a single positive supply, typically a +12V DC power supply and includes built-in voltage regulation, is unconditionally stable and operates over the temperature range of -40°C and +75°C.

### Features

- 50 MHz to 4 GHz Frequency Range
- P1dB: 23 dBm
- High Small Signal Gain: 26 dB
- IP3: 35 dBm
- 50 Ohm Input and Output Matched
- -40 to +75°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 = 12Volts, DC Current = 120mA)

| Description                      | Minimum | Typical | Maximum | Units |
|----------------------------------|---------|---------|---------|-------|
| Frequency Range                  | 0.05    |         | 4       | GHz   |
| Small Signal Gain                | 24      | 26      | 28      | dB    |
| Gain Flatness                    |         | ±1      | ±1.25   | dB    |
| Gain Variance at OTR*            |         |         | ±1      | dB    |
| Output at 1 dB Compression Point |         | +23     |         | dBm   |
| Output 3rd Intercept Point       | +32     | +35     |         | dBm   |
| Noise Figure                     |         | 5       | 6       | dB    |
| Input VSWR                       |         | 1.6:1   | 1.8:1   |       |
| Output VSWR                      |         | 1.6:1   | 1.8:1   |       |
| Reverse Isolation                | 45      | 55      |         | dB    |
| Operating DC Voltage             | 11.5    | 12      | 13      | Volts |
| Operating DC Current             |         | 120     | 220     | mA    |
| Operating Temperature Range      | -40     |         | +75     | °C    |

\*OTR= Base Plate Operating Temperature Range

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [23 dBm P1dB, 50 MHz to 4 GHz, Gain Block Amplifier, 26 dB Gain, 35 dBm IP3, 5 dB NF, SMA PE15A8000](#)



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**Absolute Maximum Rating**

| Parameter                          | Rating      | Units |
|------------------------------------|-------------|-------|
| Source Voltage                     | +13         | Volts |
| RF input Power                     | +10         | dBm   |
| Operating Temperature (base-plate) | -40 to +75  | °C    |
| Storage Temperature                | -55 to +125 | °C    |



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

**Compliance Certifications** (visit [www.Pasternack.com](http://www.Pasternack.com) for current document)

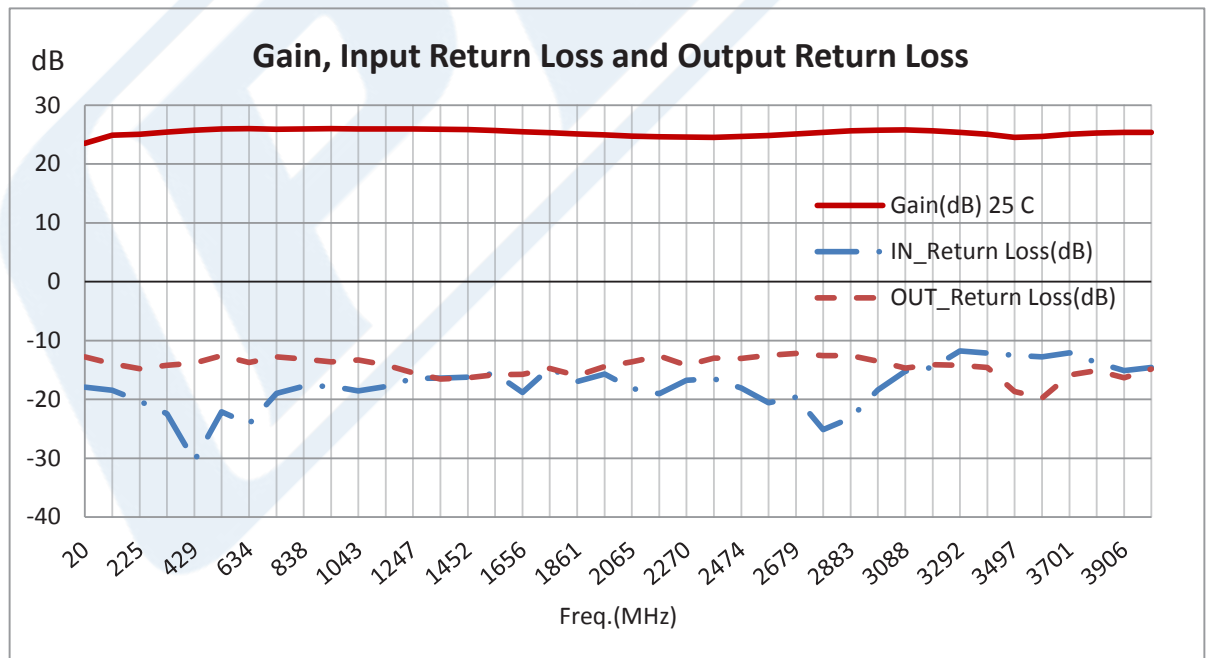
RoHS Compliant

**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.

**Power Data**



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23 dBm P1dB, 50 MHz to 4 GHz, Gain Block Amplifier, 26 dB Gain, 35 dBm IP3, 5 dB NF, 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.

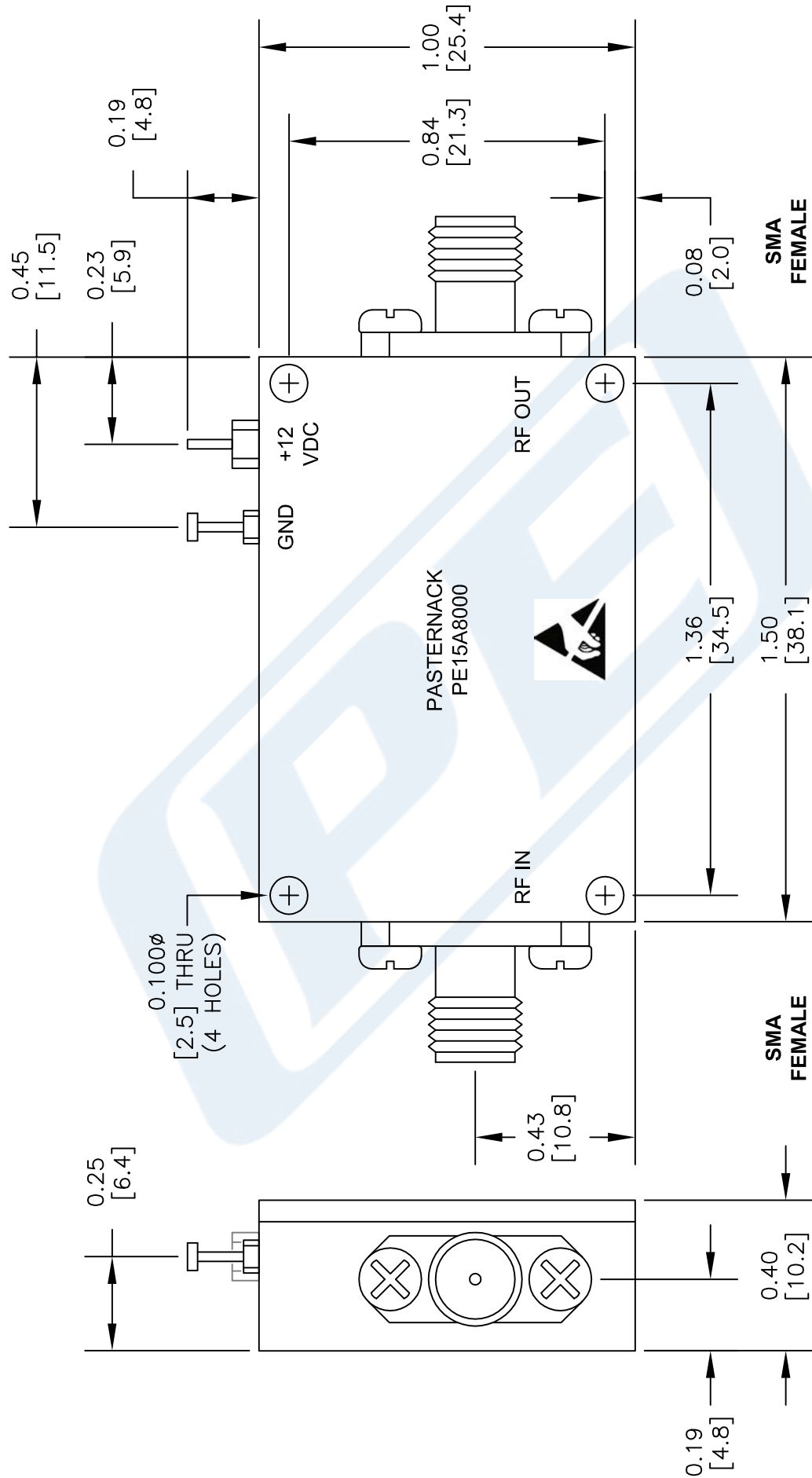
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [23 dBm P1dB, 50 MHz to 4 GHz, Gain Block Amplifier, 26 dB Gain, 35 dBm IP3, 5 dB NF, SMA PE15A8000](http://www.pasternack.com/4-ghz-gain-block-amplifier-26-db-gain-35-dbm-ip3-sma-pe15a8000-p.aspx)

URL: <http://www.pasternack.com/4-ghz-gain-block-amplifier-26-db-gain-35-dbm-ip3-sma-pe15a8000-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.

# PE15A8000 CAD Drawing

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26 dB Gain, 35 dBm IP3, 5 dB NF, SMA



DWG TITLE

**PE15A8000**

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].

FSCM NO. 53919

CAD FILE

011414

SCALE N/A

SIZE A

2233



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