



## 2 Watt, 2 GHz to 6 GHz, Medium Power Broadband Amplifier, 32 dB Gain, 42 dBm IP3, 5 dB NF, SMA

### TECHNICAL DATA SHEET

PE15A4003

PE15A4003 is a 2W coaxial wideband power amplifier operating in the 2 to 6 GHz frequency range. The amplifier offers 33 dBm min of P1db and 30 dB min small signal gain with the excellent gain flatness of  $\pm 1.0$  dB max and the output IP3 performance of 39 dBm. This performance is achieved through the use of hybrid MIC design and advanced GaAs PHEMT devices. The 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 -55°C and +85°C.

#### Features

- 2 GHz to 6 GHz Frequency Range
- P1dB: 33 dBm min
- Small Signal Gain: 32 dB Typical
- Gain Flatness:  $\pm 1.0$  dB max
- High output IP3: 42 dBm
- Noise Figure: 5 dB
- Reverse Isolation: 50 dB
- 50 Ohms Input and Output Matched
- -55 to +85°C Operating Temperature
- Unconditionally Stable
- Regulated Supply & Bias Sequencing
- Hermetically Sealed Module
- Overvoltage External Protection for Easy Repair

#### Applications

- Electronic Warfare
- Electronic Countermeasures
- Radar Systems
- Telecom Infrastructure
- Test Instrumentation
- Military & Space
- Communication Systems
- Satellite Communications/
- Microwave Radio Systems
- Driver Amplifier
- High Power Output Amplifier

#### Electrical Specifications (TA = +25°C, DC Voltage = 12Volts, DC Current = 1,700mA)

| Description                            | Minimum | Typical | Maximum | Units |
|--|---------|---------|---------|-------|
| Frequency Range                        | 2       |         | 6       | GHz   |
| Gain                                   | 31      | 32      |         | dB    |
| Small Signal Gain at OTR*              | 30      |         |         | dB    |
| Gain Flatness                          |         |         | $\pm 1$ | dB    |
| Output at 1 dB Compression Point       | +33     |         |         | dBm   |
| Output 3 <sup>rd</sup> Intercept Point |         | +42     |         | dBm   |
| Reverse Isolation                      |         | 50      |         | dB    |
| Noise Figure                           |         | 5       | 5.5     | dB    |
| Noise Figure at OTR*                   |         |         | 6       | dB    |
| Input VSWR                             |         |         | 2:1     |       |
| Output VSWR                            |         |         | 2:1     |       |
| Operating DC Voltage                   | 11      | 12      | 15      | Volts |
| Operating DC Current                   |         | 1,700   |         | mA    |
| Operating Temperature Range (OTR)      | -55     |         | +85     | °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: [2 Watt, 2 GHz to 6 GHz, Medium Power Broadband Amplifier, 32 dB Gain, 42 dBm IP3, 5 dB NF, SMA PE15A4003](#)



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**Absolute Maximum Rating**

| Parameter                          | Rating     | Units |
|------------------------------------|------------|-------|
| Source Voltage                     | +15        | Volts |
| RF input Power                     | +17        | dBm   |
| Operating Temperature (base-plate) | -55 to +85 | °C    |
| Storage Temperature                | -65 to +95 | °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.
- Heat Sink Required for Proper Operation, Unit is cooled by conduction to heat sink.

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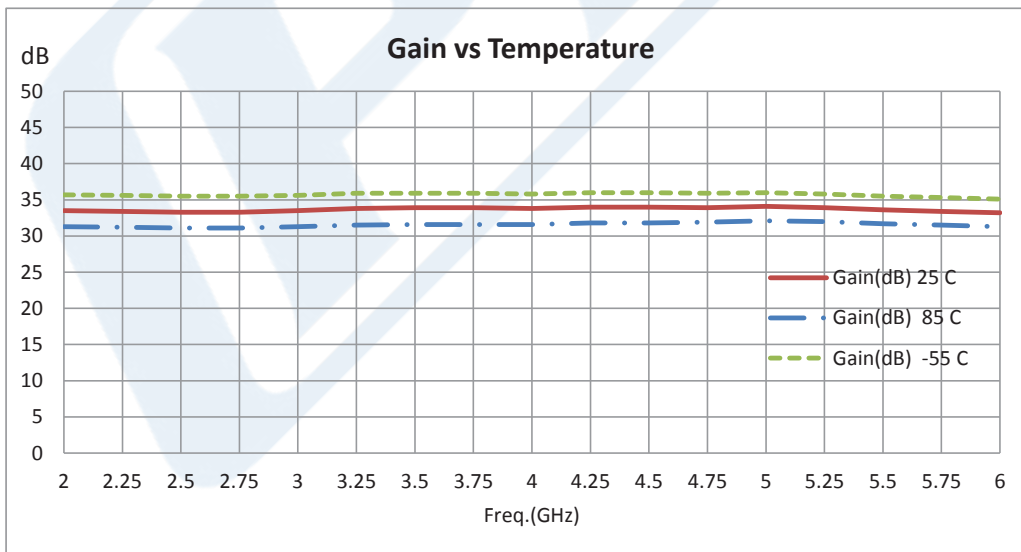
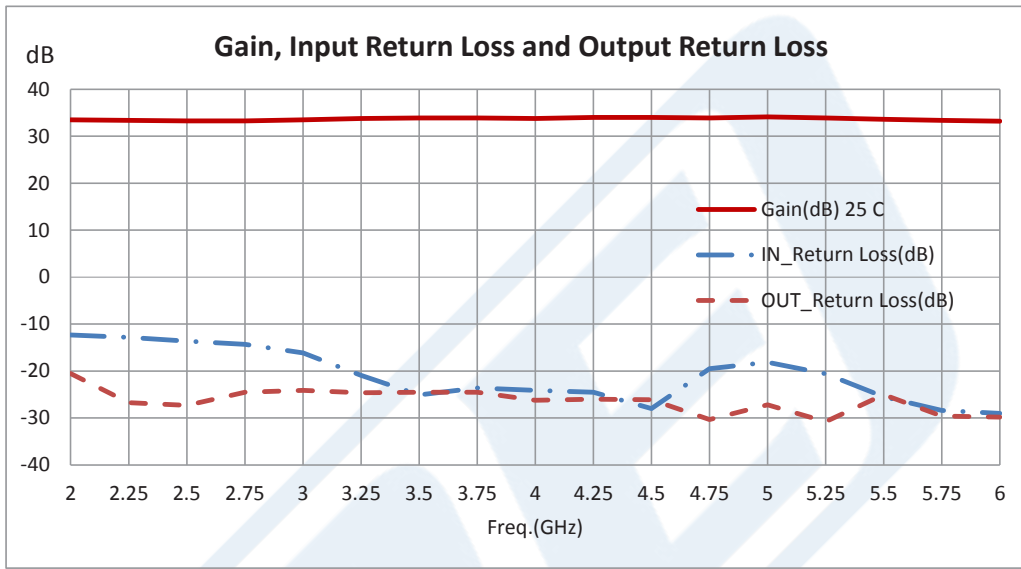


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Power Data



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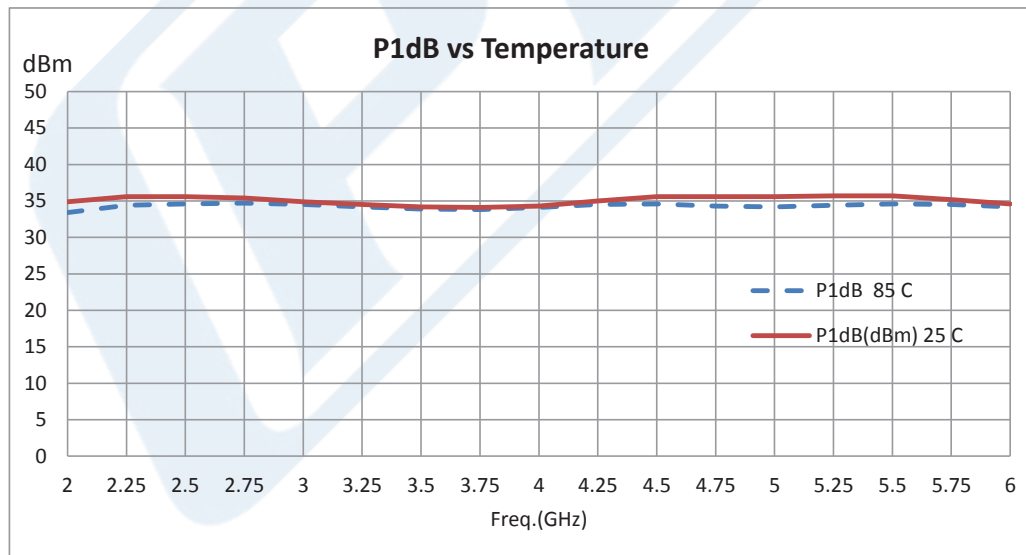
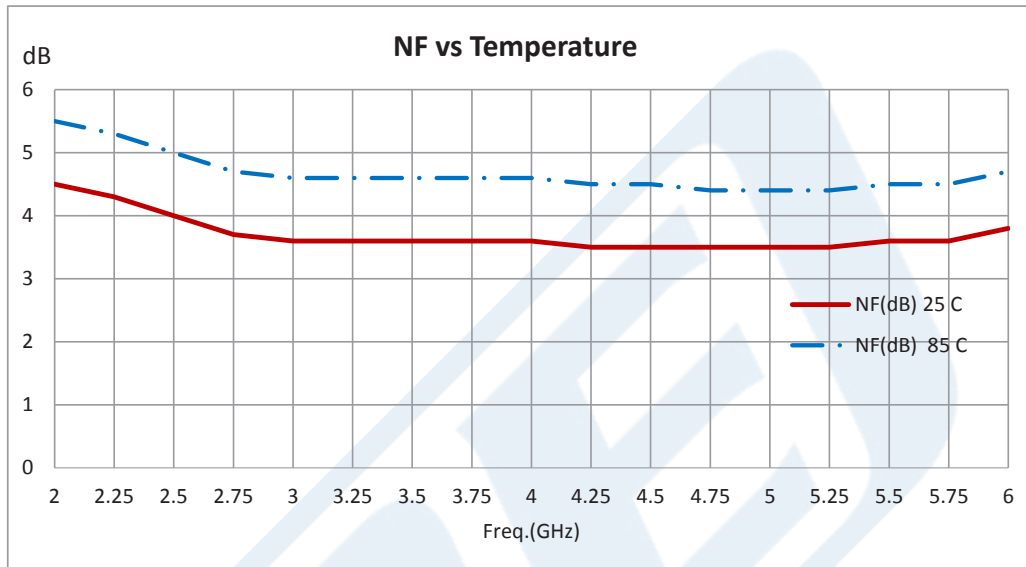




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2 Watt, 2 GHz to 6 GHz, Medium Power Broadband Amplifier, 32 dB Gain, 42 dBm IP3, 5 dB NF, SMA from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99% availability and are part of the broadest selection in the industry.

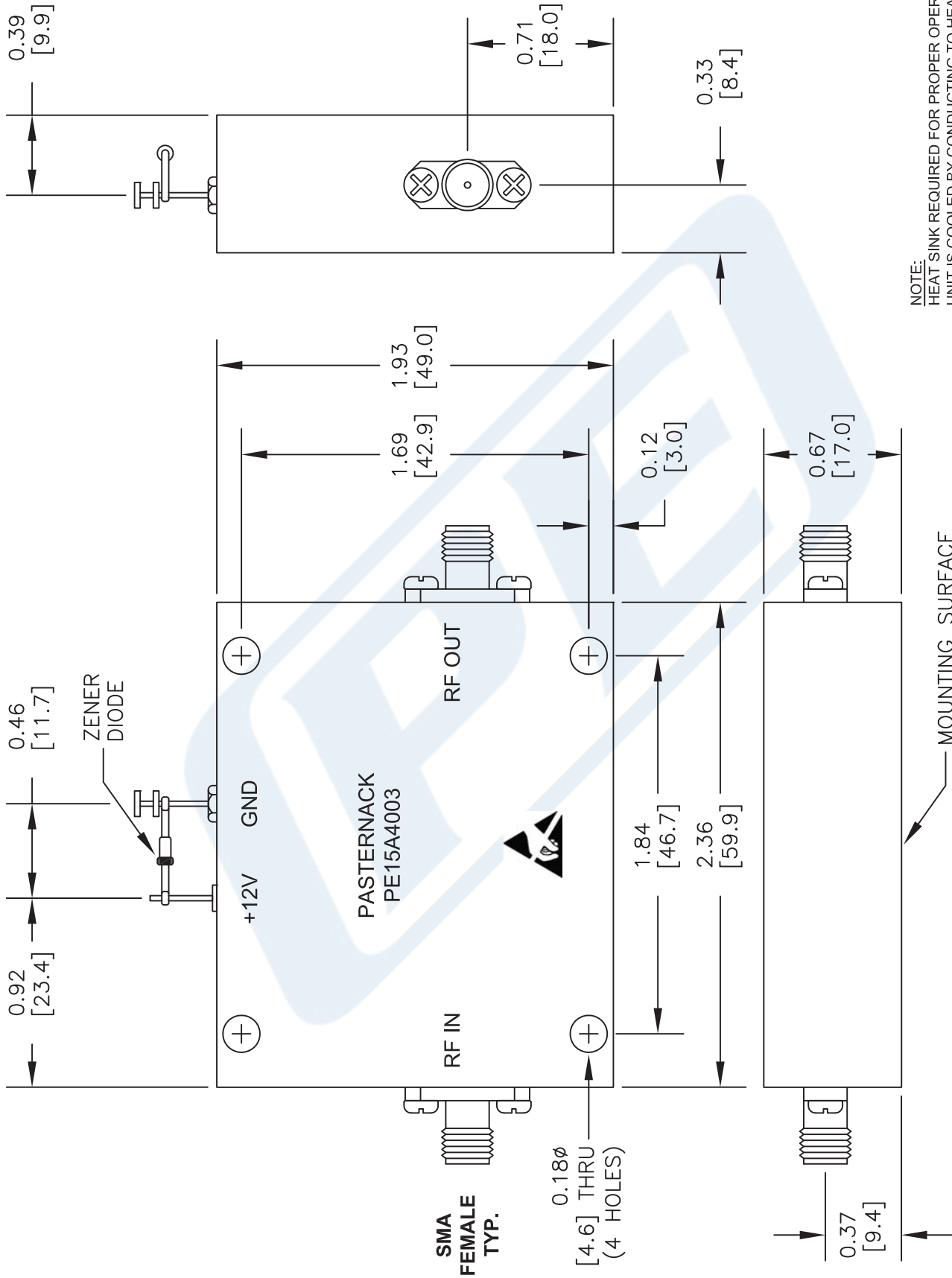
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [2 Watt, 2 GHz to 6 GHz, Medium Power Broadband Amplifier, 32 dB Gain, 42 dBm IP3, 5 dB NF, SMA PE15A4003](http://www.pasternack.com/6-ghz-medium-power-broadband-amplifier-32-db-gain-42-dbm-ip3-5-db-nf-sma-pe15a4003)

URL: <http://www.pasternack.com/6-ghz-medium-power-broadband-amplifier-32-db-gain-5-db-sma-pe15a4003-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.

# PE15A4003 CAD Drawing

2 Watt, 2 GHz to 6 GHz, Medium Power Broadband Amplifier,  
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NOTE:  
HEAT SINK REQUIRED FOR PROPER OPERATION,  
UNIT IS COOLED BY CONDUCTING TO HEAT SINK.

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 TITLE

**PE15A4003**



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FSCM NO. 53919

CAD FILE 031114

SCALE N/A

SIZE A

2233