



2 dB NF, 20 mW, 2 GHz to 4 GHz, Low  
Noise Amplifier, 38 dB Gain, SMA

TECHNICAL DATA SHEET

PE15A1001

PE15A1001 is a S-band coaxial low noise amplifier operating in the 2 to 4 GHz frequency range. The amplifier offers 2 dB noise figure, 13 dBm minimum of saturated power and high 38 dB minimal small signal gain with the excellent gain flatness of  $\pm 1.0$  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  $-40^{\circ}\text{C}$  and  $+85^{\circ}\text{C}$ .

**Features**

- 2 GHz to 4 GHz Frequency Range
- Psat: 13 dBm min
- High Small Signal Gain: 38 dB
- Gain Flatness:  $\pm 1.0$  dB max
- Noise Figure: 2 dB
- 50 Ohm Input and Output Matched
- $-40$  to  $85^{\circ}\text{C}$  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
- Wireless Communications
- Satellite Communications
- Microwave Radio Systems
- Low Noise Amplifier
- General Purpose Amplification
- Gain Block

**Electrical Specifications** (TA =  $+25^{\circ}\text{C}$ , DC Voltage = 12Volts, DC Current = 200mA)

| Description                 | Minimum | Typical | Maximum | Units              |
|-----------------------------|---------|---------|---------|--------------------|
| Frequency Range             | 2       |         | 4       | GHz                |
| Small Signal Gain           | 38      |         |         | dB                 |
| Gain Flatness               |         |         | $\pm 1$ | dB                 |
| Minimum Psat                | +13     |         |         | dBm                |
| Noise Figure                |         | 2       |         | dB                 |
| Input VSWR                  |         |         | 2:1     |                    |
| Output VSWR                 |         |         | 2:1     |                    |
| Operating DC Voltage        | 11      | 12      | 13      | Volts              |
| Operating DC Current        |         |         | 200     | mA                 |
| Operating Temperature Range | -40     |         | +85     | $^{\circ}\text{C}$ |

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [2 dB NF, 20 mW, 2 GHz to 4 GHz, Low Noise Amplifier, 38 dB Gain, SMA PE15A1001](#)



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### Absolute Maximum Rating

| Parameter                          | Rating     | Units |
|------------------------------------|------------|-------|
| Source Voltage                     | +15        | Volts |
| RF input Power                     | +17        | dBm   |
| Operating Temperature (base-plate) | -40 to +85 | °C    |
| Storage Temperature                | -55 to +85 | °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.

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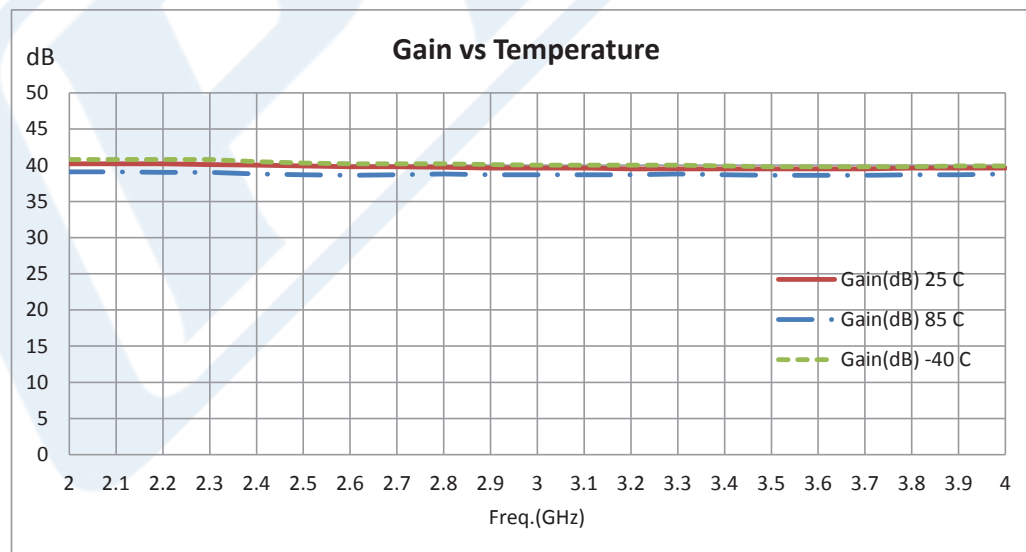
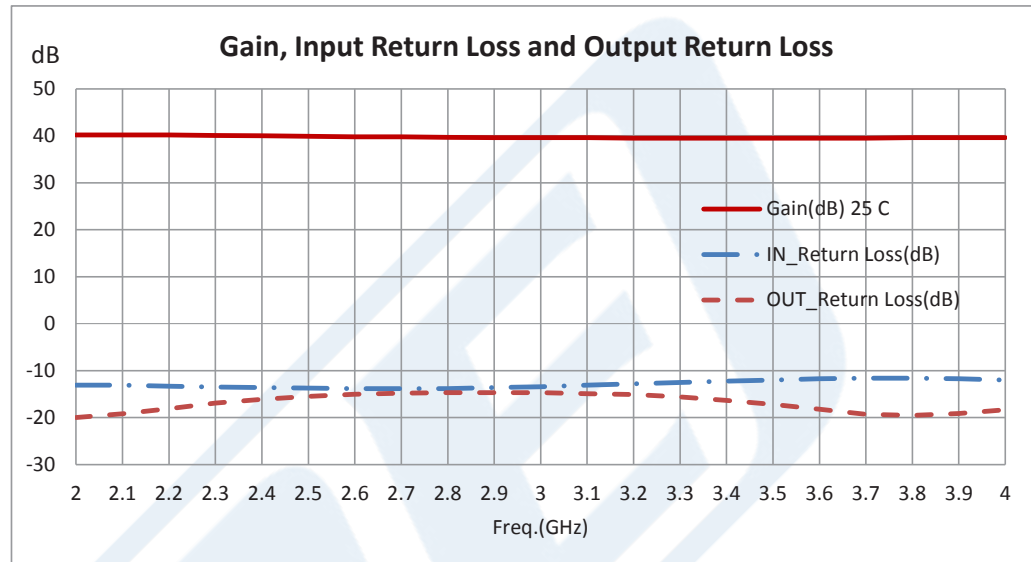


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### Power Data



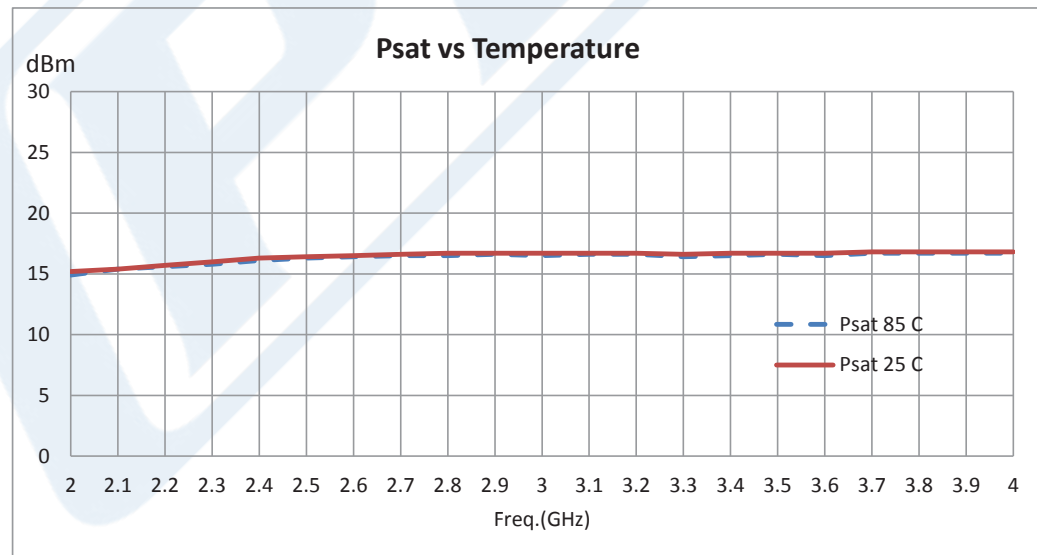
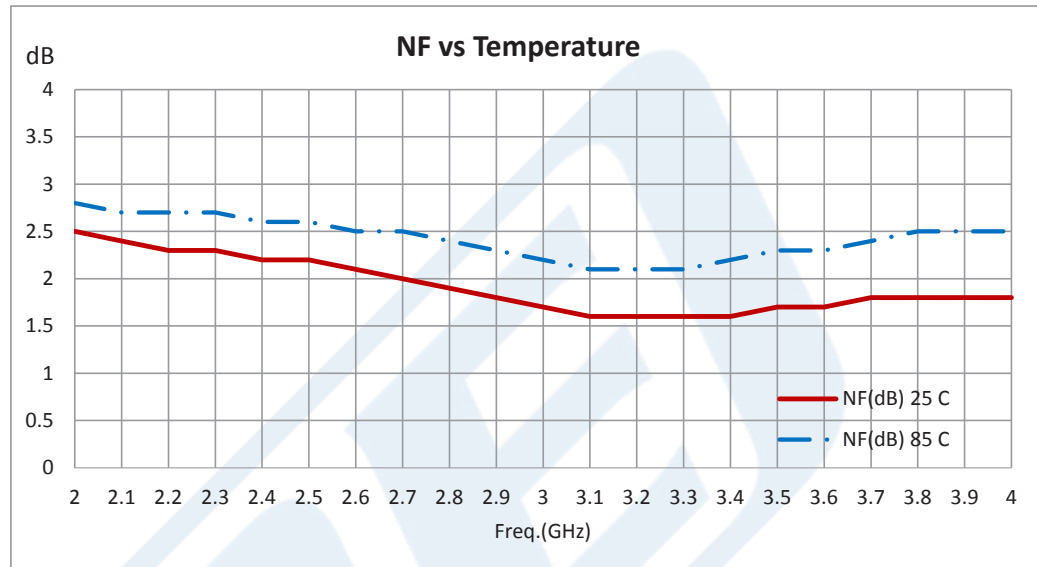
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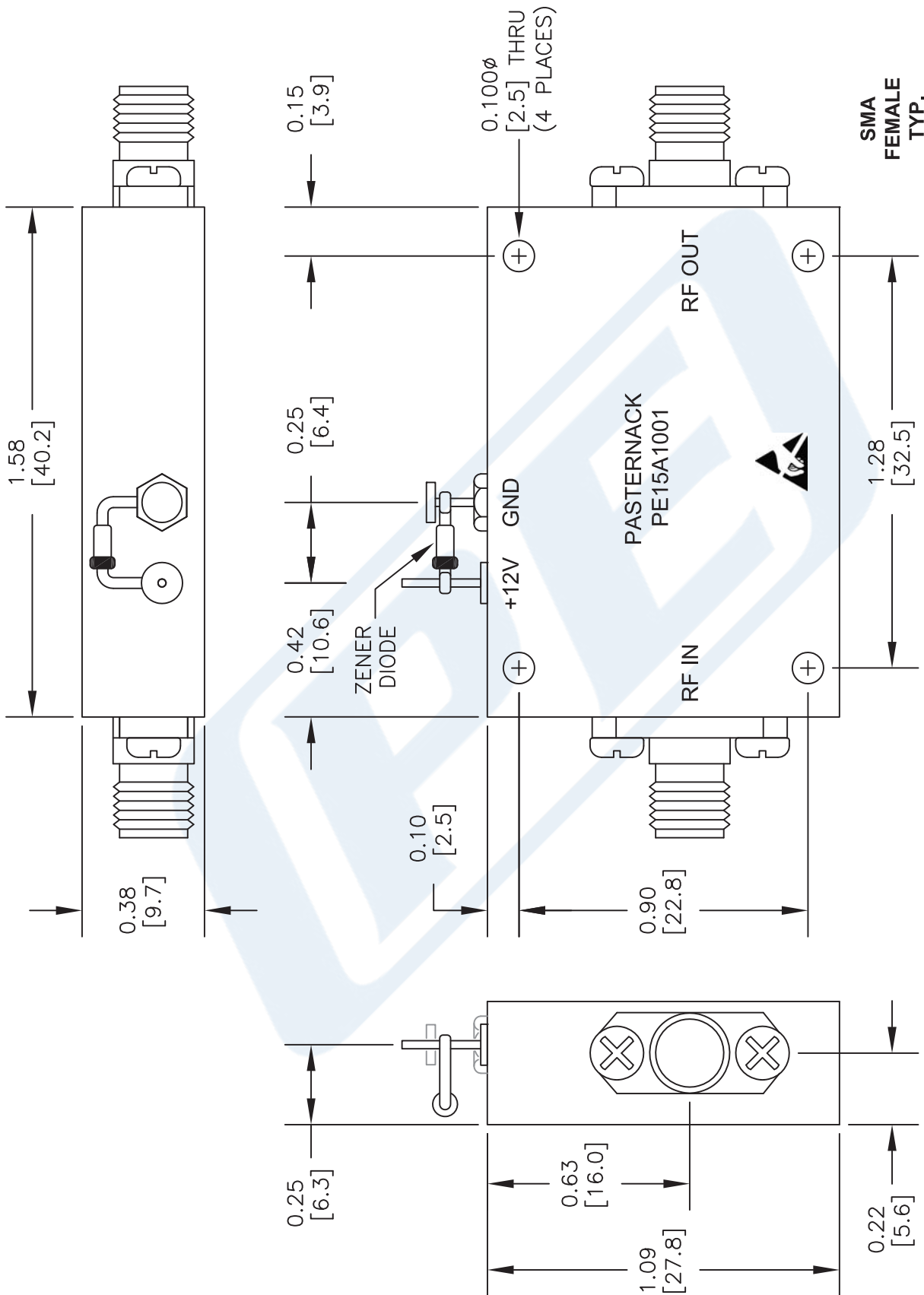


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# PE15A1001 CAD Drawing

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DWG TITLE

**PE15A1001**

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].

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FSCM NO. 53919

CAD FILE 041414

SCALE N/A

SIZE A

2233