



## 40 dB Gain, 1.5 dB NF, 15 dBm P1dB, 1.2 GHz to 1.4 GHz, Low Noise High Gain Amplifier SMA

### TECHNICAL DATA SHEET

**PE15A1005**

PE15A1005 is an L-band high gain low noise coaxial amplifier operating in the 1.2 to 1.4 GHz frequency range. The low noise amplifier offers 15 dBm min of P1db and high 40 dB typical small signal gain with gain flatness of  $\pm 0.75$  dB typical. This excellent 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

- 1.2 GHz to 1.4 GHz Frequency Range
- P1dB: 15 dBm min
- Small Signal Gain: 40 dB min
- Gain Flatness:  $\pm 0.75$  dB typical
- Noise Figure: 1.5 dB max
- 50 Ohm Input and Output Matched
- Unconditionally Stable
- Regulated Supply & Bias Sequencing
- Hermetically Sealed Module
- Overvoltage External Protection for Easy Repair

#### Applications

- L-band Military Radar
- Commercial Air Traffic Control
- Weather & Earth Observation Satellites
- Radar & Communication Systems
- High Gain Low Noise Amplifier

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

Description	Minimum	Typical	Maximum	Units
Frequency Range	1.2		1.4	GHz
Small Signal Gain	40			dB
Gain Flatness		$\pm 0.75$	$\pm 1$	dB
Gain Variance at OTR*			$\pm 1.8$	dB
Output at 1 dB Compression Point	+15			dBm
Noise Figure		1.5		dB
Input VSWR		2:1		
Output VSWR		2:1		
Operating DC Voltage	10.8	12	13.2	Volts
Operating DC Current		200	250	mA
Operating Temperature Range	-40		+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: [40 dB Gain, 1.5 dB NF, 15 dBm P1dB, 1.2 GHz to 1.4 GHz, Low Noise High Gain Amplifier SMA PE15A1005](#)



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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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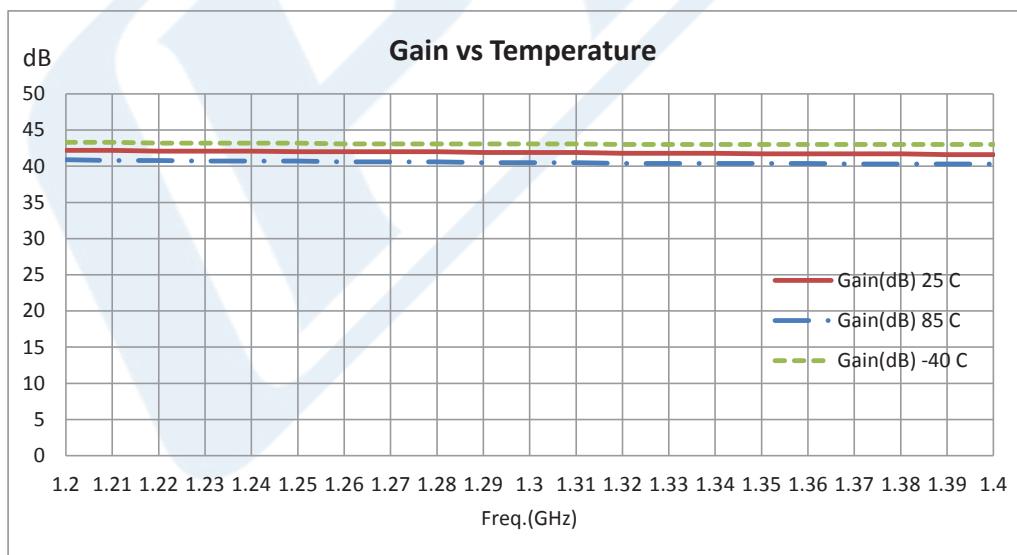
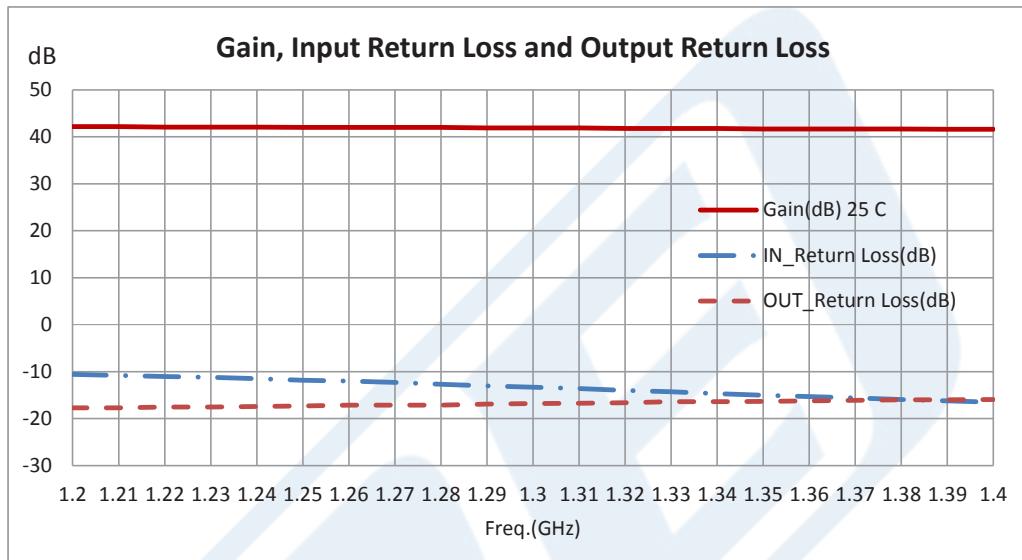


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### Typical Performance Data



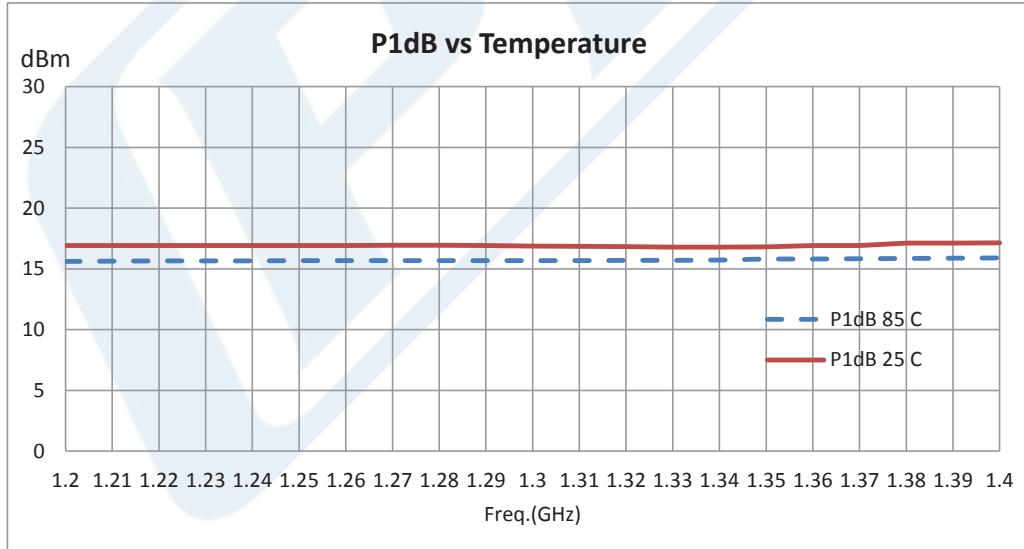
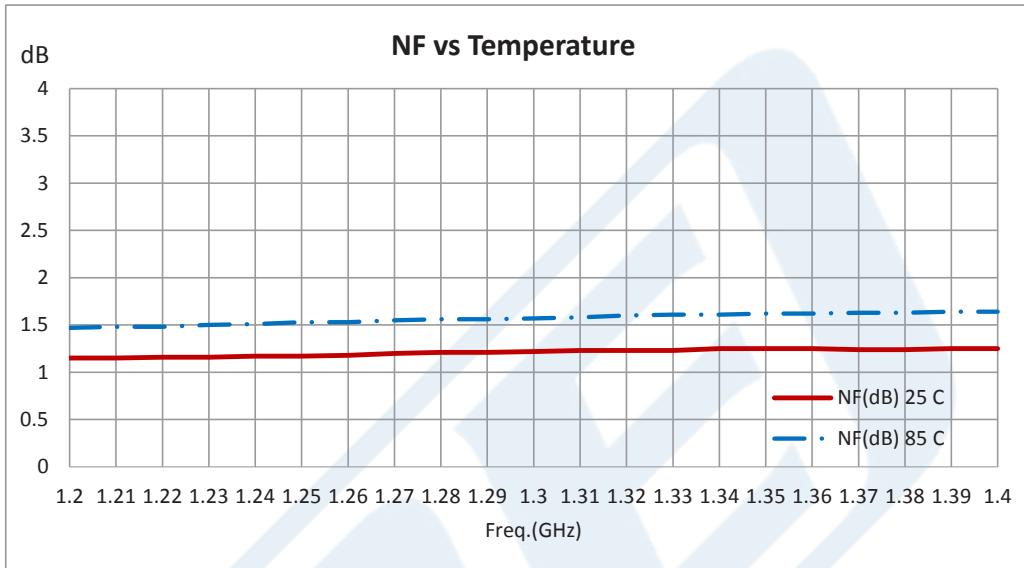
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40 dB Gain, 1.5 dB NF, 15 dBm P1dB, 1.2 GHz to 1.4 GHz, Low Noise High Gain Amplifier SMA from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99% availability and are part of the broadest selection in the industry.

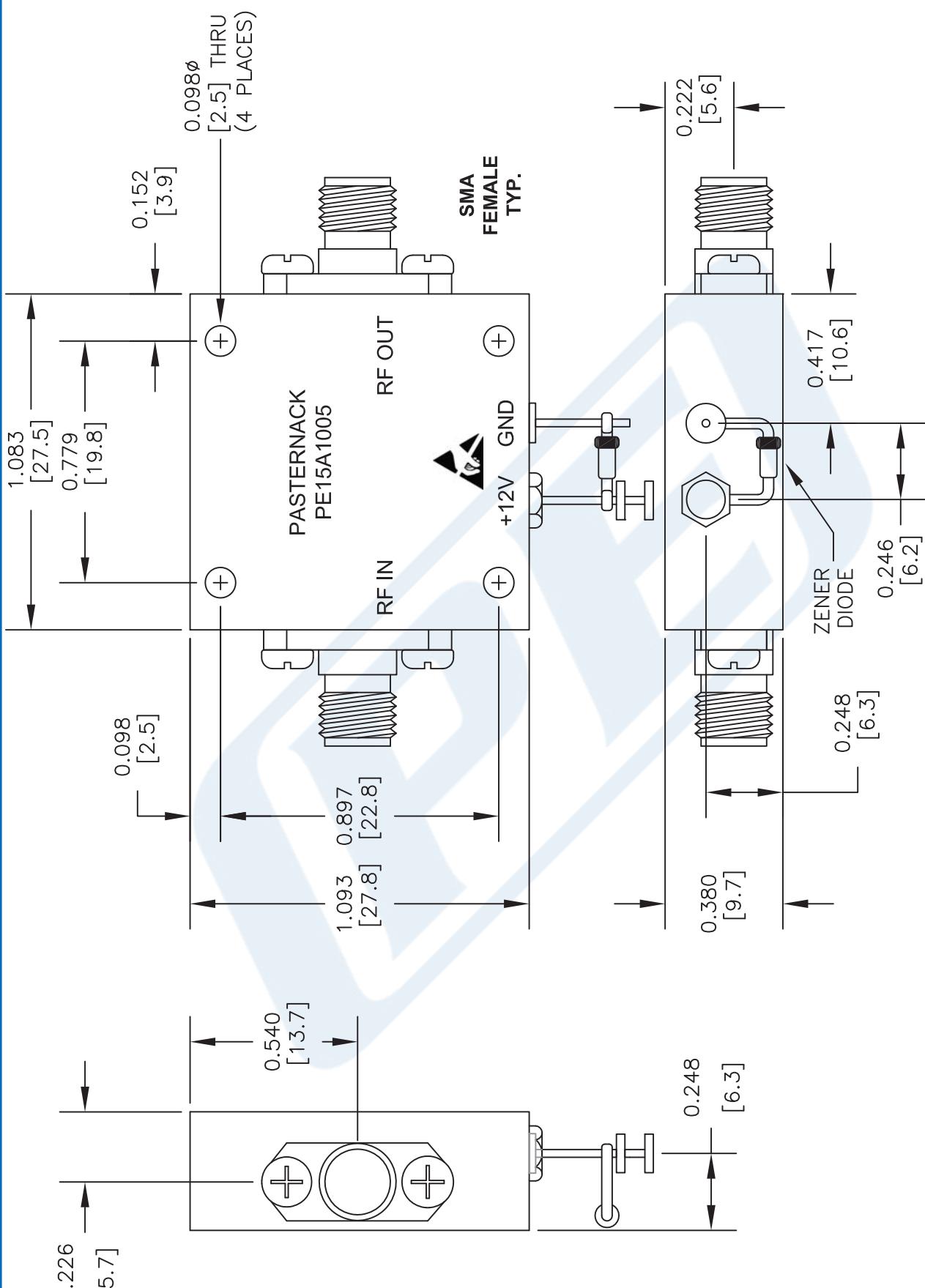
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URL: <http://www.pasternack.com/40-db-gain-1.5-db-1.4-ghz-low-noise-high-gain-amplifier-sma-pe15a1005-p.aspx>

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PE15A1005 CAD Drawing

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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].

WG TITLE  
PE15  
FSC



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THE ENGINEER'S RF SOURCE

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