



2.2 dB NF, 13 dBm Psat, 8 GHz to 12 GHz,  
Low Noise Amplifier, 38 dB Gain, SMA

## TECHNICAL DATA SHEET

PE15A1003M

PE15A1003M is a X-band coaxial low noise amplifier operating in the 8 to 12 GHz frequency range. The amplifier offers 2.2 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 exceptional 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 and has a BNC interface for the DC Power. 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

- 8 GHz to 12 GHz Frequency Range
- Psat: 13 dBm min
- High Small Signal Gain: 38 dB
- Gain Flatness:  $\pm 1.0$  dB max
- Noise Figure: 2.2 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
- BNC interface for DC Power

### Applications

- Laboratory Applications
- R&D Labs
- Radar Systems
- Telecom Infrastructure
- Test Instrumentation
- Military & Space
- Communication Systems
- Microwave Radio Systems
- Satellite Communications
- Low Noise Amplifier
- General Purpose Amplification
- Gain Block

### Electrical Specifications (TA = $+25^{\circ}\text{C}$ , DC Voltage = 12Volts, DC Current = 250mA)

Description	Minimum	Typical	Maximum	Units
Frequency Range	8		12	GHz
Small Signal Gain	38			dB
Gain Flatness			$\pm 1$	dB
Minimum Psat	+13			dBm
Noise Figure		2.2		dB
Input VSWR			2:1	
Output VSWR			2:1	
Operating DC Voltage	11	12	13	Volts
Operating DC Current			250	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: [2.2 dB NF, 13 dBm Psat, 8 GHz to 12 GHz, Low Noise Amplifier, 38 dB Gain, SMA PE15A1003M](#)



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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.

**Mechanical Specifications**

**Size**

Length	2.283 in [57.99 mm]
Width	1.093 in [27.76 mm]
Height	0.382 in [9.7 mm]
Input Connector	SMA Female
Output Connector	SMA Female

**Environmental Specifications**

**Temperature**

Operating Range -40 to +85 deg C

Shock  
Vibration

RTCA, DO-160C  
RTCA, DO-160C

**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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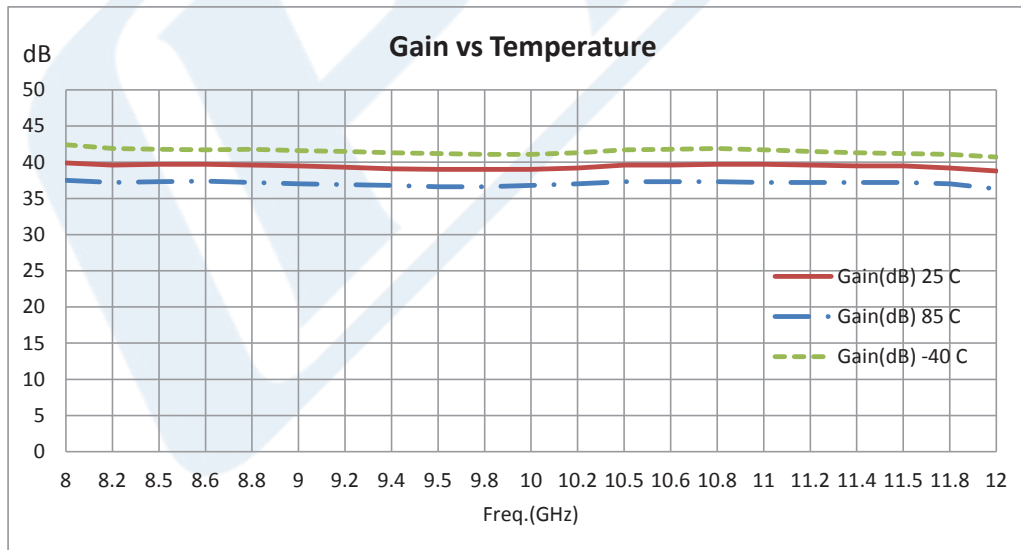
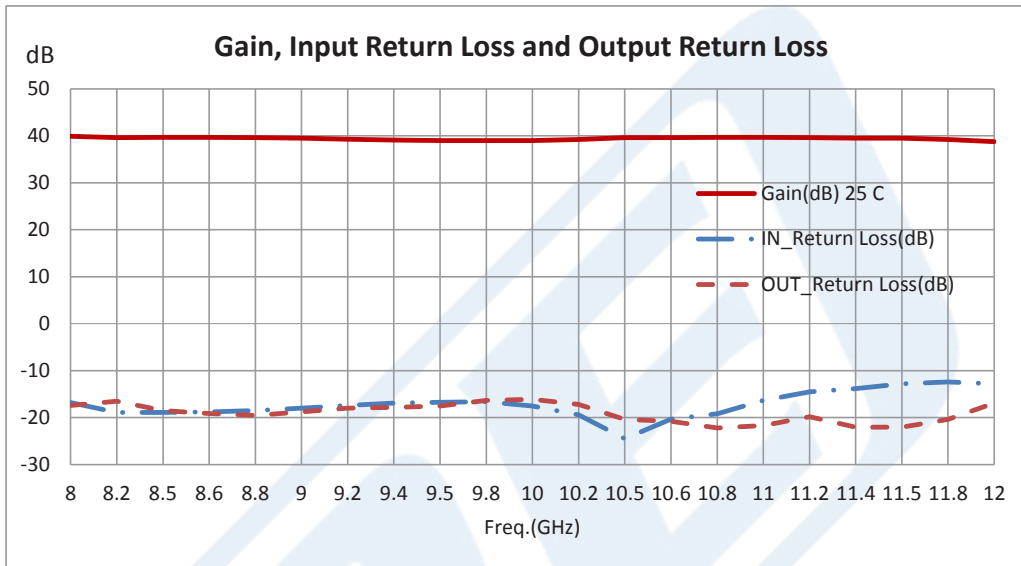


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Typical Performance Data



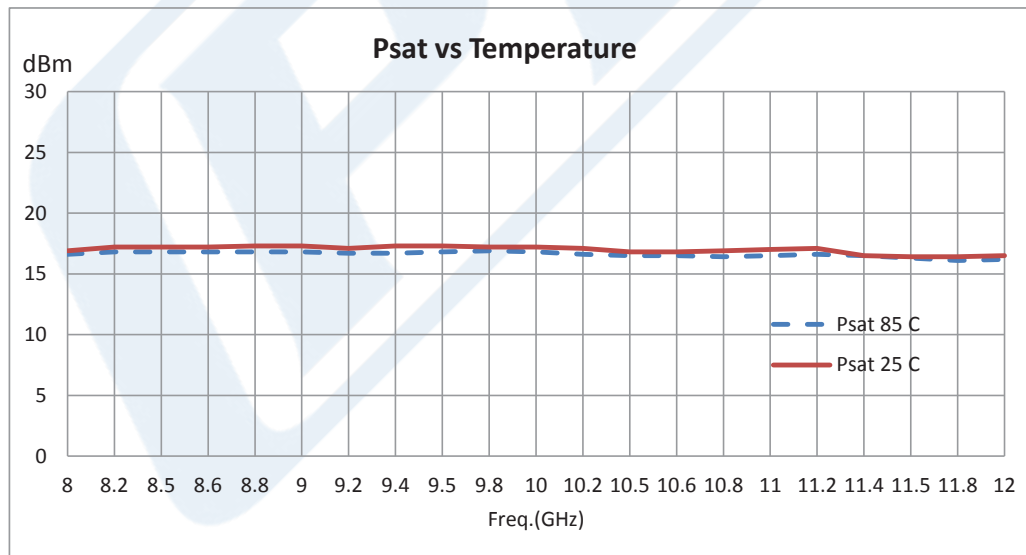
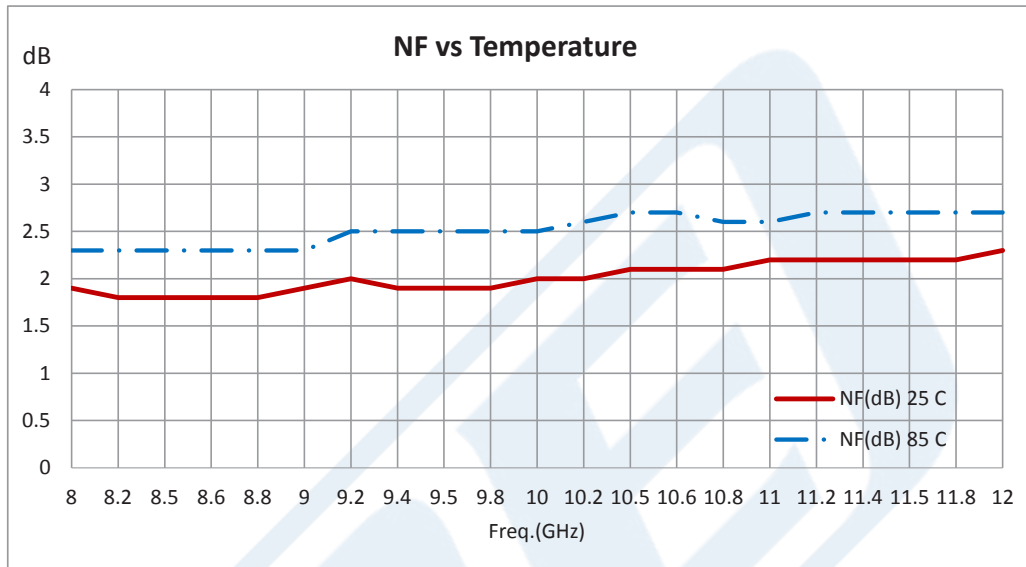
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2.2 dB NF, 13 dBm Psat, 8 GHz to 12 GHz, Low Noise Amplifier, 38 dB Gain, SMA from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99% availability and are part of the broadest selection in the industry.

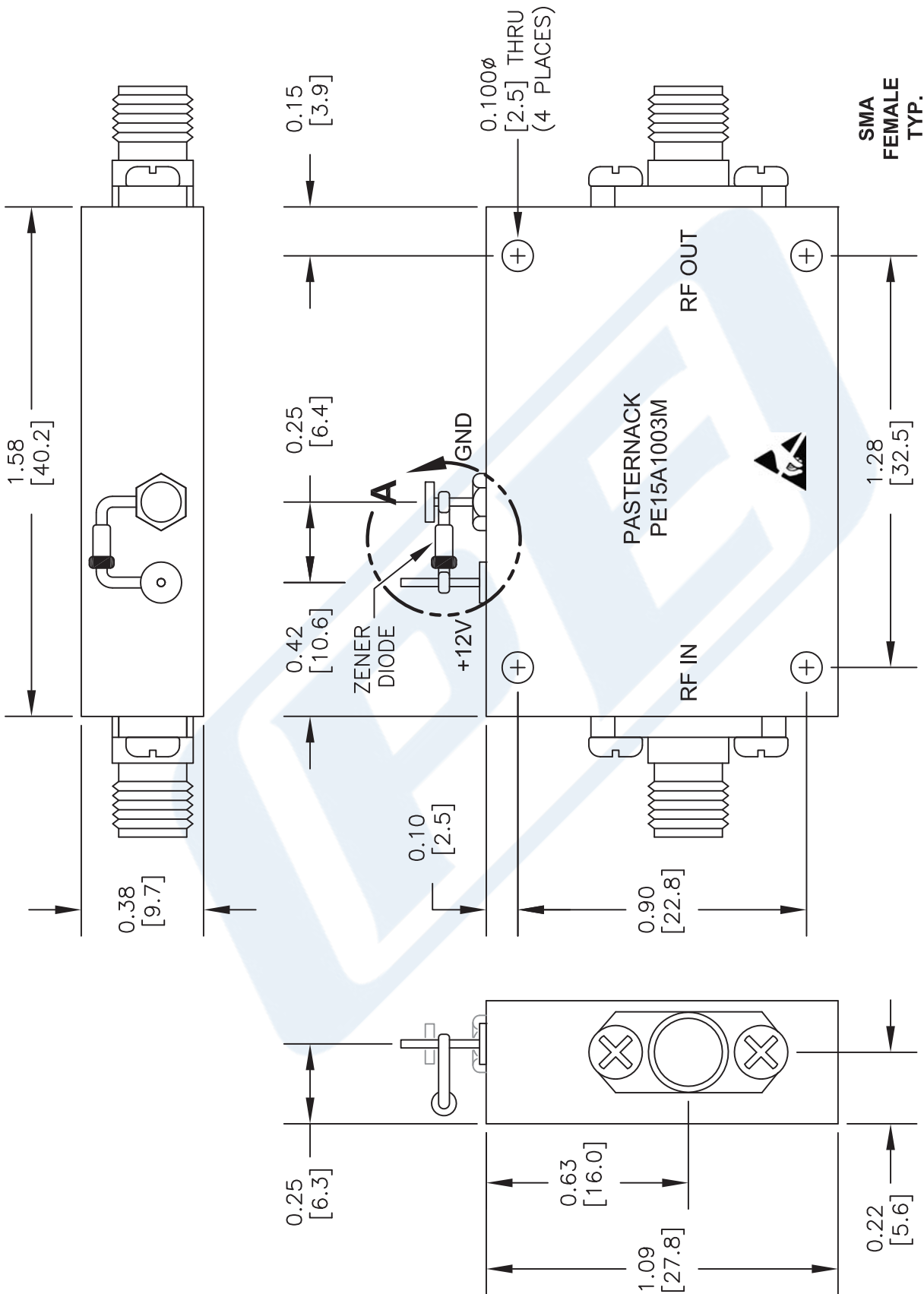
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# PE15A1003M CAD Drawing

2.2 dB NF, 13 dBm Psat, 8 GHz to 12 GHz, Low Noise Amplifier, 38 dB Gain, SMA



DWG TITLE

**PE15A1003M**

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 060215

SCALE N/A

SIZE A

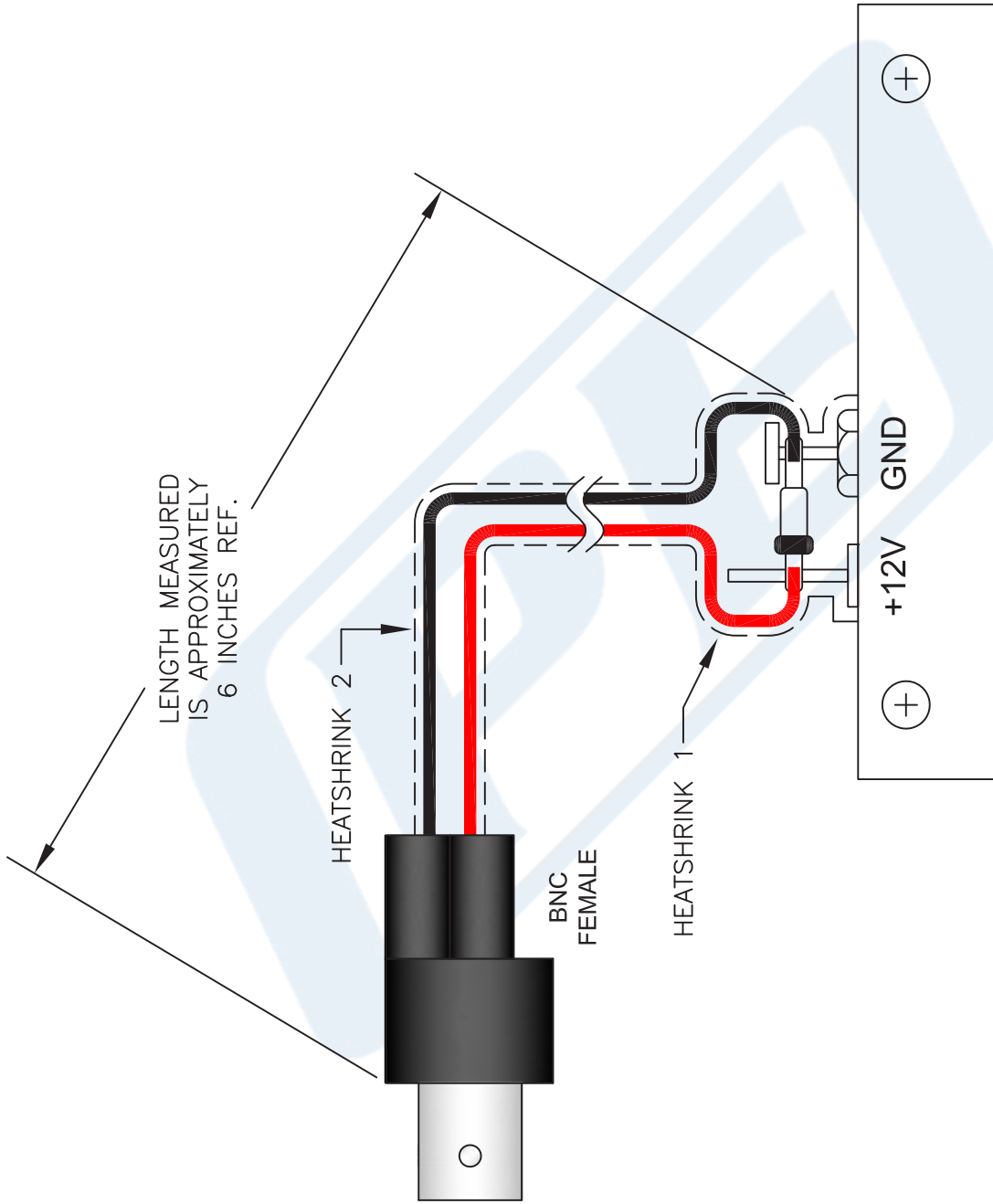
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Pasternack Enterprises, Inc.  
 P.O. Box 16759 | Irvine | CA | 92623  
 Phone: (949) 261-1920 | Fax: (949) 261-7451  
 Website: www.pasternack.com | E-Mail: sales@pasternack.com

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**View A**

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SIZE A

SCALE N/A

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 Website: www.pasternack.com | E-Mail: sales@pasternack.com