



1 Watt, 8.5 GHz to 11 GHz, Medium Power Amplifier,  
30 dB Gain, 38 dBm IP3, 3 dB NF, SMA

## TECHNICAL DATA SHEET

PE15A4006

PE15A4006 is a 1 W X-band coaxial power amplifier designed for high linearity applications in the 8.5 to 11 GHz frequency range. The amplifier offers 26 dB small signal gain with the excellent gain flatness of  $\pm 0.75$  dB and the IP3 performance of 36 dBm. High power devices utilized in the amplifier provide excellent linearity, high gain and wide dynamic range. High efficiency is achieved through using hybrid MIC design and advanced GaAs PHEMT devices. The amplifier requires a +15V 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  $-30^{\circ}\text{C}$  and  $+60^{\circ}\text{C}$ .

### Features

- 8.5 GHz to 11 GHz Frequency Range
- High P1dB Output Power: 30 dBm
- Small Signal Gain: 30 dB min
- Gain Flatness:  $\pm 0.5$  dB
- High Output IP3: 38 dBm
- Noise Figure: 3 dB
- 50 Ohms Input and Output Matched
- $-30$  to  $+60^{\circ}\text{C}$  Operating Temperature
- Unconditionally Stable
- Regulated Supply & Bias Sequencing
- Hermetically Sealed Module
- Overvoltage External Protection for Easy Repair

### Applications

- Telecom Infrastructure
- Test Instrumentation
- Fixed Microwave Backhaul
- Military & Space
- Radar Systems
- Communication Systems
- Microwave Radio Systems
- Satellite Communication
- Commercial Avionics
- Driver Amplifier
- High Power Output Amplifier

**Electrical Specifications** (TA =  $+25^{\circ}\text{C}$ , DC Voltage = 15Volts, DC Current = 900mA)

Description	Minimum	Typical	Maximum	Units
Frequency Range	8.5		11	GHz
Small Signal Gain	30			dB
Gain Flatness		$\pm 0.5$	$\pm 1$	dB
Output at 1 dB Compression Point	+29	+30		dBm
Output 3rd Intercept Point	+37	+38		dBm
Noise Figure		3	4	dB
Input VSWR		1.7:1	2:1	
Output VSWR		1.7:1	2:1	
Operating DC Voltage		15		Volts
Operating DC Current		900	1,100	mA
Operating Temperature Range	-30		+60	$^{\circ}\text{C}$

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [1 Watt, 8.5 GHz to 11 GHz, Medium Power Amplifier, 30 dB Gain, 38 dBm IP3, 3 dB NF, SMA PE15A4006](#)



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**Absolute Maximum Rating**

Parameter	Rating	Units
Source Voltage	+15	Volts
RF input Power	+17	dBm
Operating Temperature (base-plate)	-30 to +60	°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.
- Heat Sink Required for Proper Operation, Unit is cooled by conduction to heat sink.

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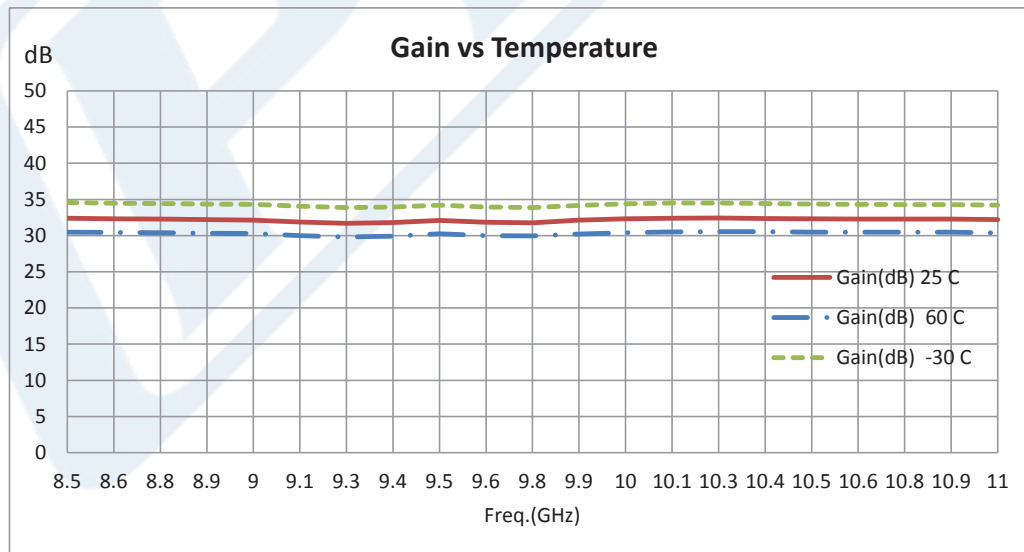
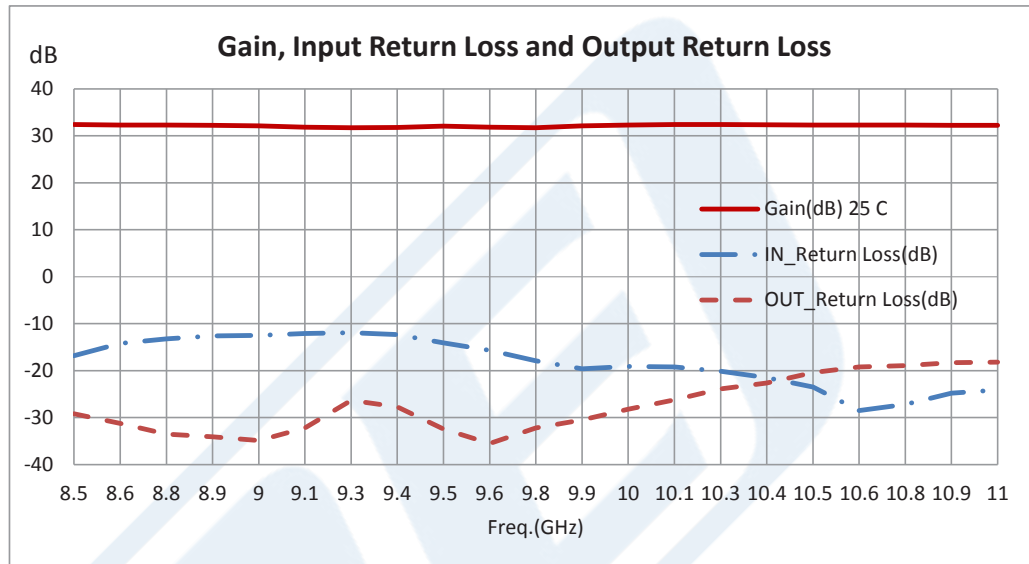




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**Power Data**



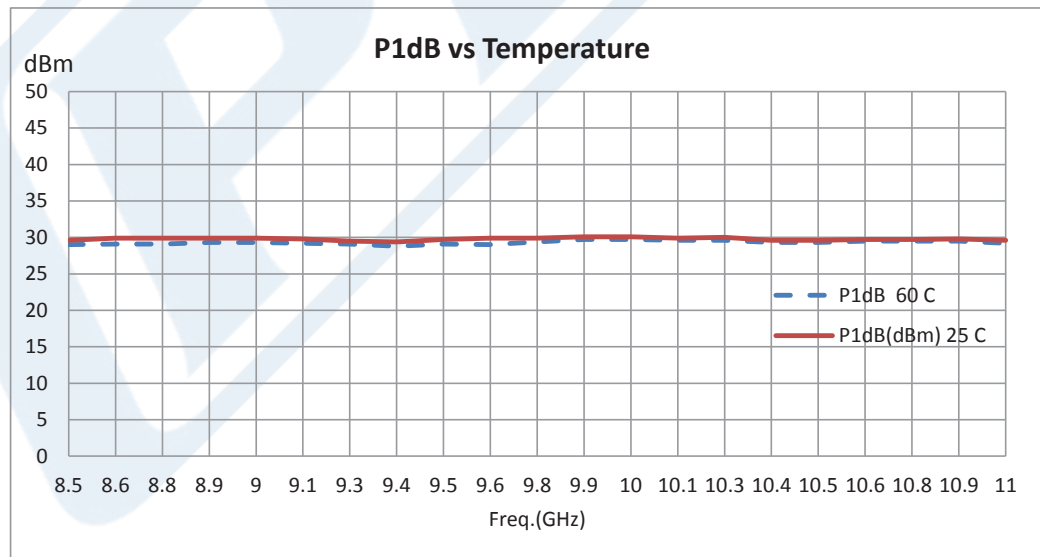
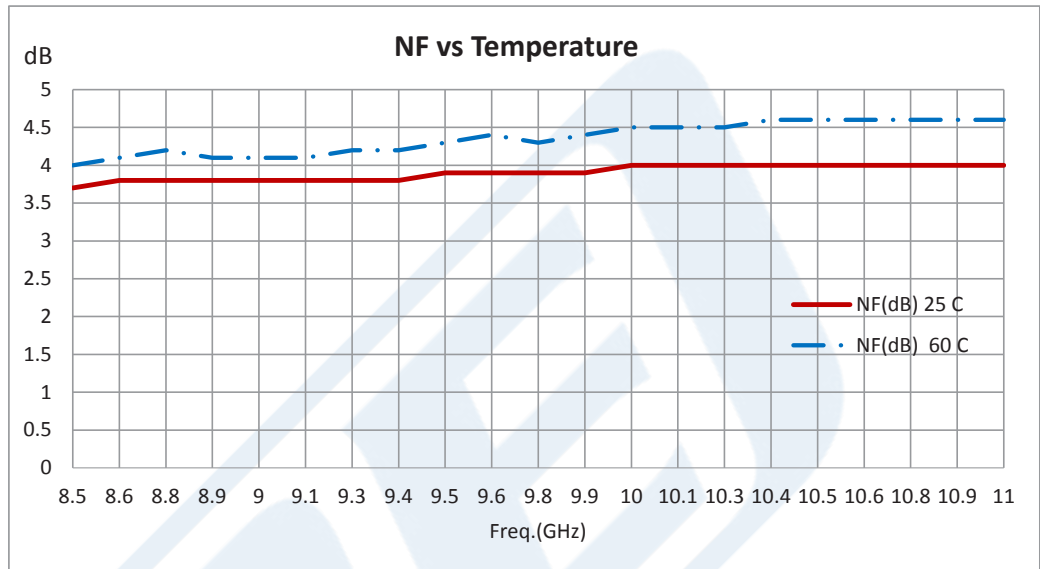
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1 Watt, 8.5 GHz to 11 GHz, Medium Power Amplifier, 30 dB Gain, 38 dBm IP3, 3 dB NF, SMA from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99% availability and are part of the broadest selection in the industry.

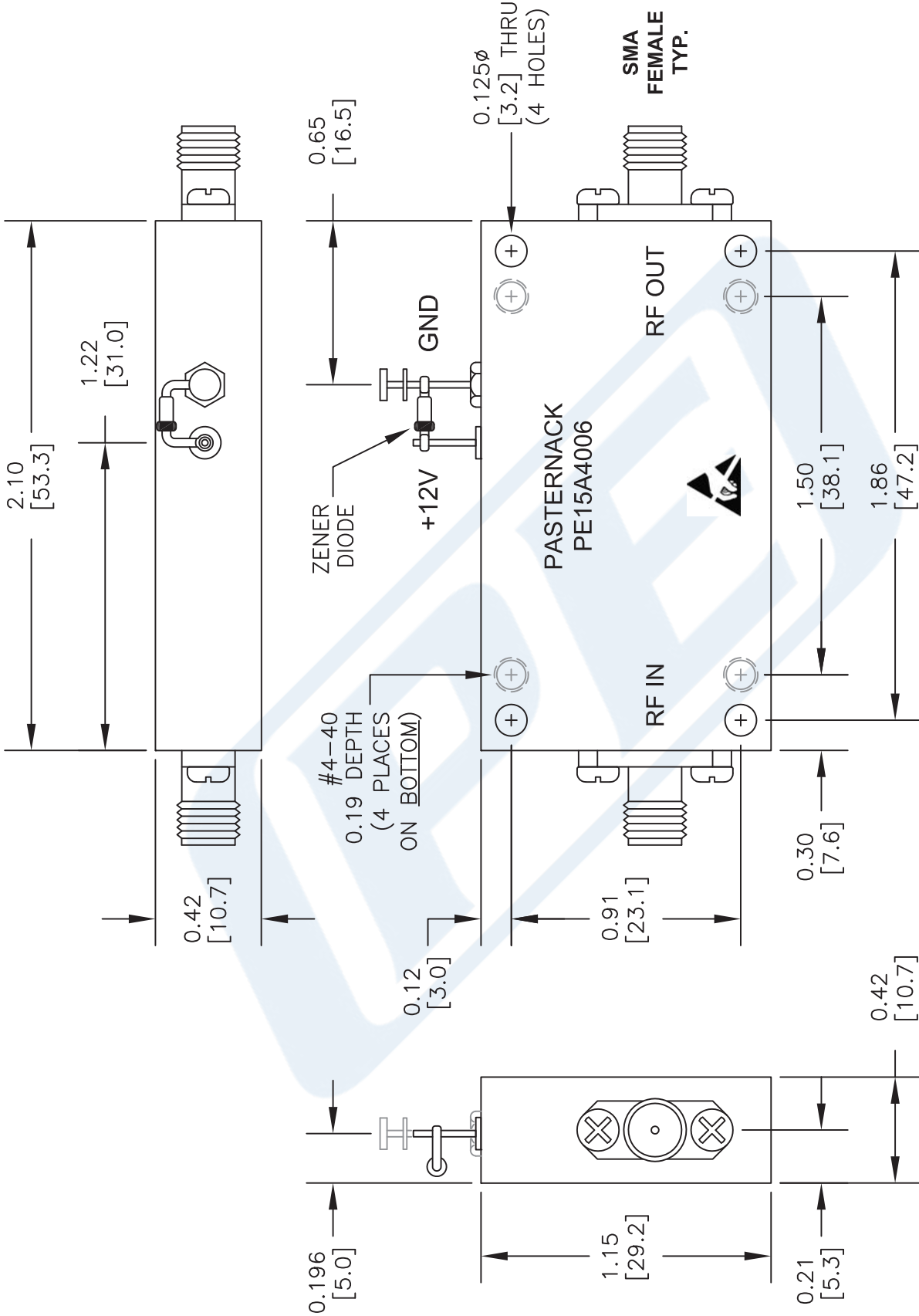
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The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. 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.

# PE15A4006 CAD Drawing

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NOTE:  
HEAT SINK REQUIRED FOR PROPER OPERATION,  
UNIT IS COOLED BY CONDUCTING TO HEAT SINK.

<b>DWG TITLE</b> <b>PE15A4006</b>		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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<b>FSCM NO. 53919</b>		SIZE A	150