



600 mW, 100 MHz to 12 GHz, Medium Power Broadband Amplifier, 18 dB Gain, 33 dBm IP3, 3 dB NF, SMA

## TECHNICAL DATA SHEET

PE15A3007

PE15A3007 is a broadband GaAs PHEMT MMIC-based 300 mW coaxial low noise amplifier, operating in the 0.5 to 12 GHz frequency range. The amplifier offers 25 dBm of P1dB and 32 dB small signal gain, with the excellent gain flatness of  $\pm 1$  dB, along with a 33 dBm of IP3 performance. This power amplifier requires only a single positive DC supply, is unconditionally stable, operates over the temperature range of  $-40^{\circ}\text{C}$  to  $75^{\circ}\text{C}$ , and characterized by a light weight (25 g) and small size (1.2"x1.2"x0.4").

### Features

- 0.5 to 12 GHz Frequency Range
- P1dB: 25 dBm
- Psat: 28 dBm
- Small Signal Gain: 18 dB
- Gain Flatness:  $\pm 1$  dB
- Gain Variation Over the Temperature Range:  $\pm 1$  dB
- Output IP3: 33 dBm
- Noise Figure: 3 dB
- Reverse Isolation: 40 dB
- 50 Ohm Input and Output Matched
- $-40$  to  $+75^{\circ}\text{C}$  Operating Temperature
- Unconditionally Stable
- Single DC Positive Supply
- Built-in DC Voltage Regulator
- Small Size & Light Weight

### Applications

- Laboratory Applications
- R&D Labs
- Radar Systems
- Electronic Warfare
- Telecom Infrastructure
- Test Instrumentation
- Military & Space
- Communication Systems
- Satellite Communications
- Wireless Communications
- Unmanned Systems
- Microwave Radio Systems
- Power Amplifier
- Low Noise Amplifier
- General Purpose Amplification
- RF Front Ends

### Electrical Specifications (TA = $+25^{\circ}\text{C}$ , DC Voltage = 12Volts, DC Current = 300mA)

Description	Minimum	Typical	Maximum	Units
Frequency Range	0.1		12	GHz
Gain	16	18	20	dB
Gain Flatness		$\pm 1$	$\pm 1.5$	dB
Gain Variance at OTR*		$\pm 1$		dB
Output at 1 dB Compression Point	+24	+25		dBm
Saturation Output Power	+27	+28		dBm
Output 3 <sup>rd</sup> Intercept Point	+28	+33		dBm
Reverse Isolation	30	40		dB
Spurious			-60	dBc
Noise Figure		3	5	dB
Input VSWR		1.6:1	1.8:1	
Output VSWR		1.8:1	2:1	
Operating DC Voltage	11	12	13	Volts
Operating DC Current	250	300	350	mA
Operating Temperature Range (OTR)	-40		+75	$^{\circ}\text{C}$

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [600 mW, 100 MHz to 12 GHz, Medium Power Broadband Amplifier, 18 dB Gain, 33 dBm IP3, 3 dB NF, SMA PE15A3007](#)



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\*OTR= Base Plate Operating Temperature Range

**Absolute Maximum Rating**

Parameter	Rating	Units
Source Voltage	+13.5	Volts
RF input Power	+17	dBm
Operating Temperature (base-plate)	-55 to +125	°C
Storage Temperature	-40 to +75	°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.

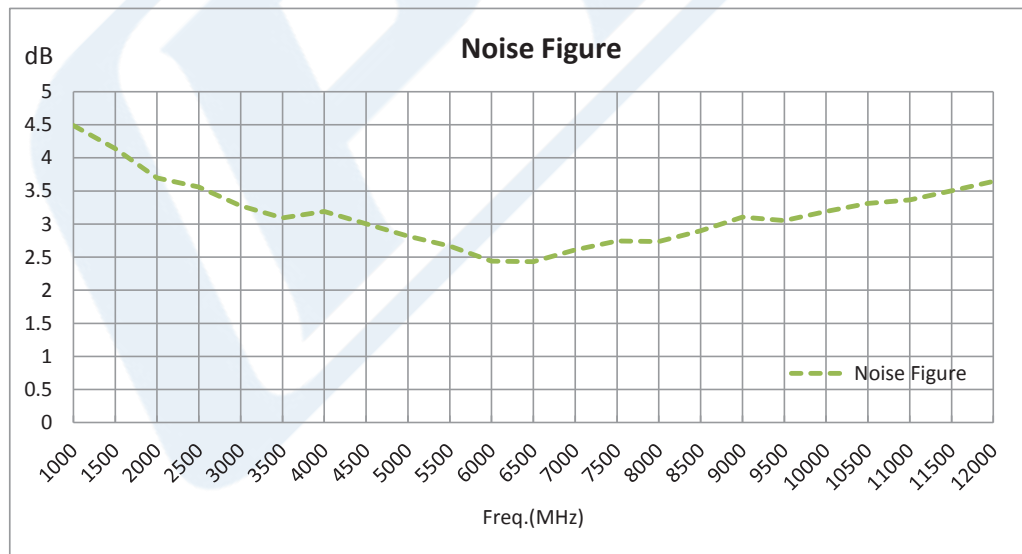
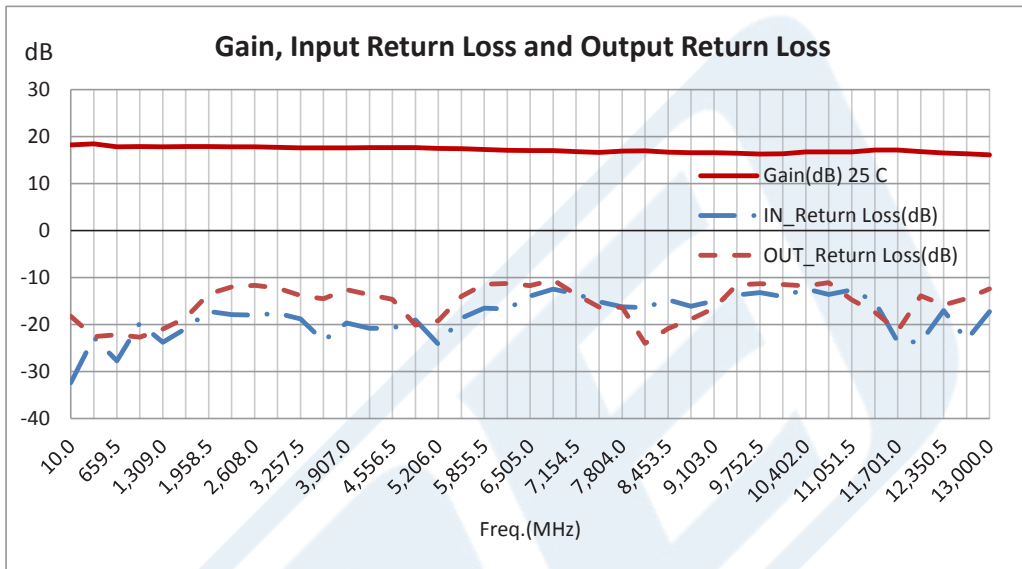
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**Power Data**



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600 mW, 100 MHz to 12 GHz, Medium Power Broadband Amplifier, 18 dB Gain, 33 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.

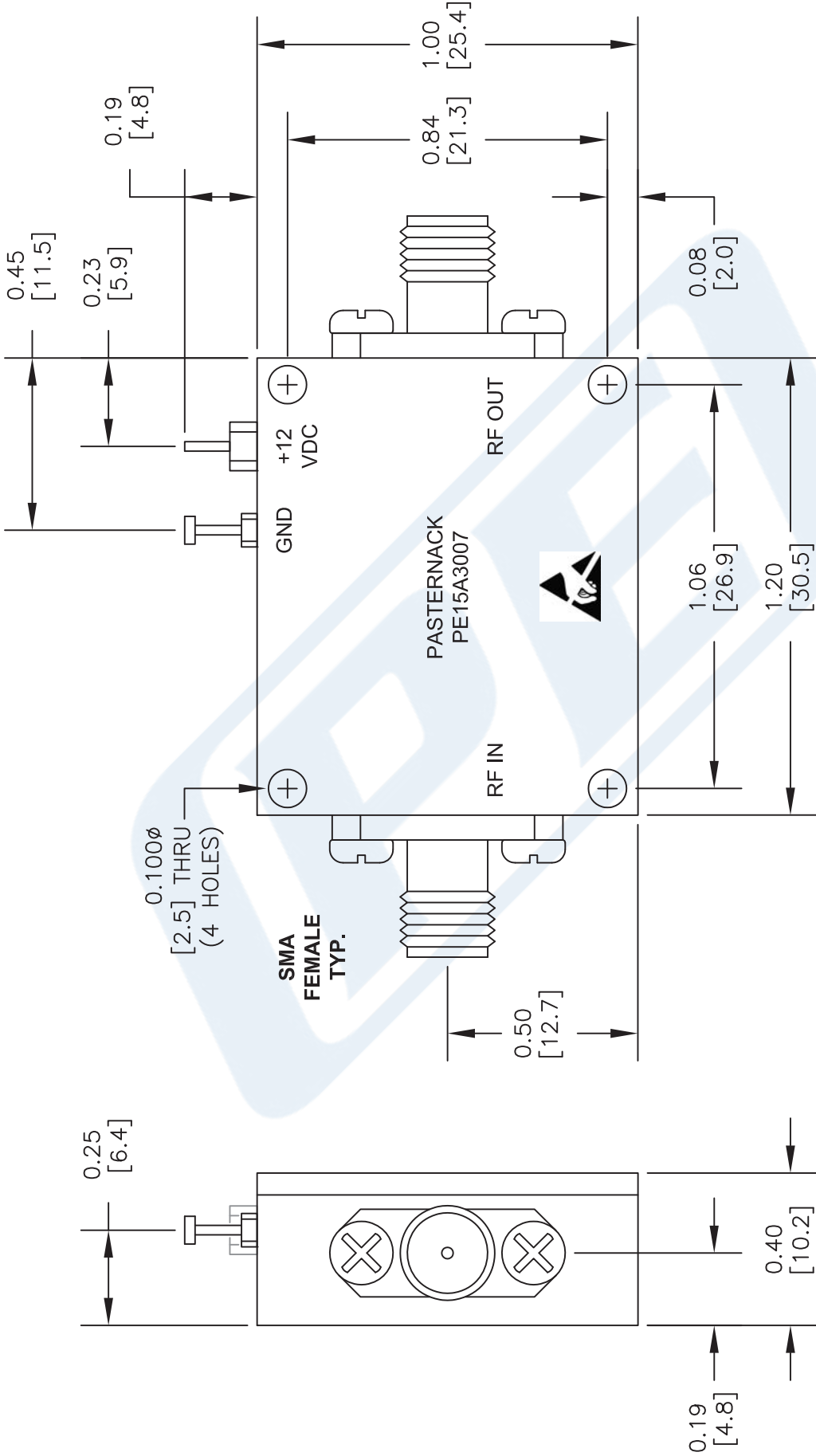
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [600 mW, 100 MHz to 12 GHz, Medium Power Broadband Amplifier, 18 dB Gain, 33 dBm IP3, 3 dB NF, SMA PE15A3007](http://www.pasternack.com/12-ghz-medium-power-broadband-amplifier-18-db-gain-3-db-sma-pe15a3007-p.aspx)

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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.

# PE15A3007 CAD Drawing

600 mW, 100 MHz to 12 GHz, Medium Power Broadband Amplifier, 18 dB Gain, 33 dBm IP3, 3 dB NF, SMA



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



**PASTERNAK**  
THE ENGINEER'S RF SOURCE  
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DWG TITLE

**PE15A3007**

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 041714

SCALE N/A

SIZE A

2233