



48 dB Gain, 1 Watt, 6 GHz to 12 GHz, Broadband  
High Gain Amplifier, 39 dBm IP3, 5 dB NF, SMA

## TECHNICAL DATA SHEET

PE15A3505

PE15A3505 is a 1W wideband coaxial power amplifier operating in the 6 to 12 GHz frequency range. The amplifier offers 30 dBm min of P1db and high 48 dB typical small signal gain with the excellent gain flatness of  $\pm 1.0$  dB max and an outstanding output IP3 performance of 39 dBm. This excellent technical performance is achieved through the use of hybrid MIC design and advanced GaAs PHEMT devices. The 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 -55°C and +85°C.

### Features

- 6 GHz to 12 GHz Frequency Range
- P1dB: 30 dBm min
- High Small Signal Gain: 48 dB typical
- Gain Flatness:  $\pm 1.0$  dB
- High output IP3: 39 dBm
- Noise Figure: 5 dB typical
- Reverse Isolation: 50 dB
- 50 Ohms Input and Output Matched
- -55 to +85°C Operating Temperature
- Unconditionally Stable
- Regulated Supply & Bias Sequencing
- Hermetically Sealed Module
- Overvoltage External Protection for Easy Repair

### Applications

- Electronic Warfare
- Electronic Countermeasures
- Radar Systems
- Telecom Infrastructure
- Test Instrumentation
- Military & Space
- Communication Systems
- Satellite Communication
- Microwave Radio Systems
- Driver Amplifier
- High Power Output Amplifier

**Electrical Specifications** (TA = +25°C, DC Voltage = 12Volts, DC Current = 1,350mA)

Description	Minimum	Typical	Maximum	Units
Frequency Range	6		12	GHz
Gain		48		dB
Gain Flatness		$\pm 1$		dB
Output at 1 dB Compression Point	+30			dBm
Output 3 <sup>rd</sup> Intercept Point		+39		dBm
Reverse Isolation		50		dB
Noise Figure		5	5.5	dB
Input VSWR			2:1	
Output VSWR			2:1	
Operating DC Voltage	11	12	15	Volts
Operating DC Current		1,350		mA
Operating Temperature Range (OTR)	-55		+85	°C

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [48 dB Gain, 1 Watt, 6 GHz to 12 GHz, Broadband High Gain Amplifier, 39 dBm IP3, 5 dB NF, SMA PE15A3505](#)



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### Absolute Maximum Rating

Parameter	Rating	Units
Source Voltage	+16	Volts
RF input Power	+17	dBm
Operating Temperature (base-plate)	-55 to +85	°C
Storage Temperature	-65 to +95	°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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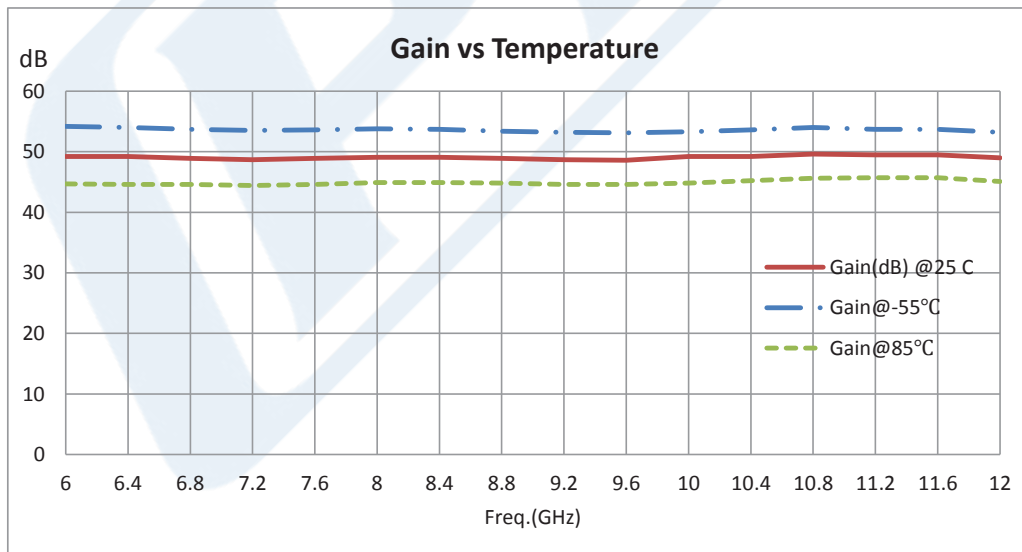
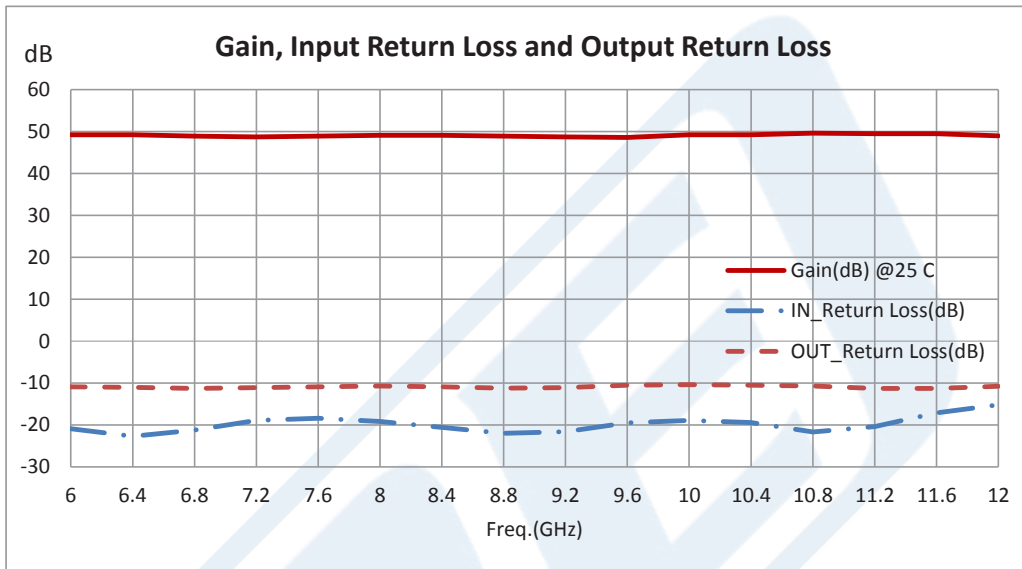


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### Power Data



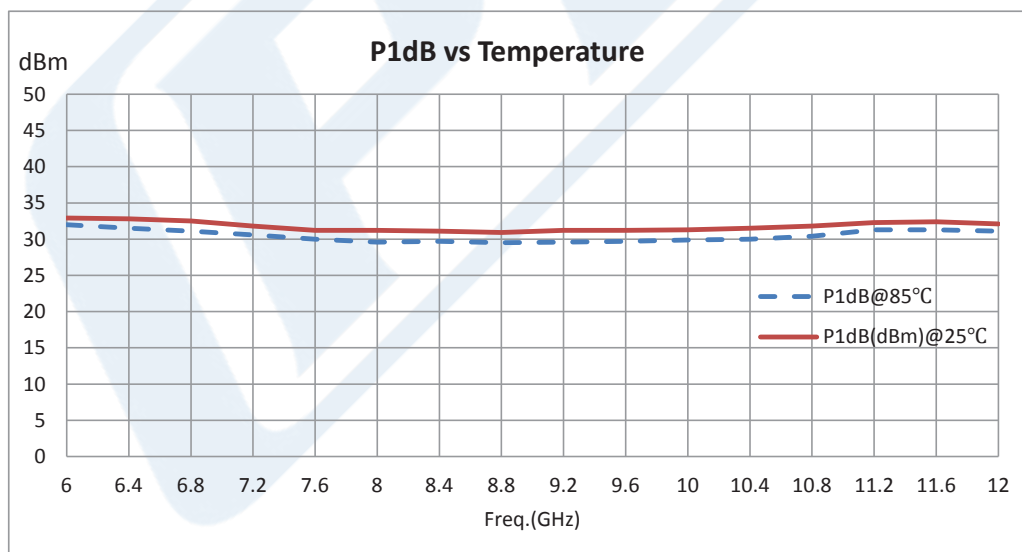
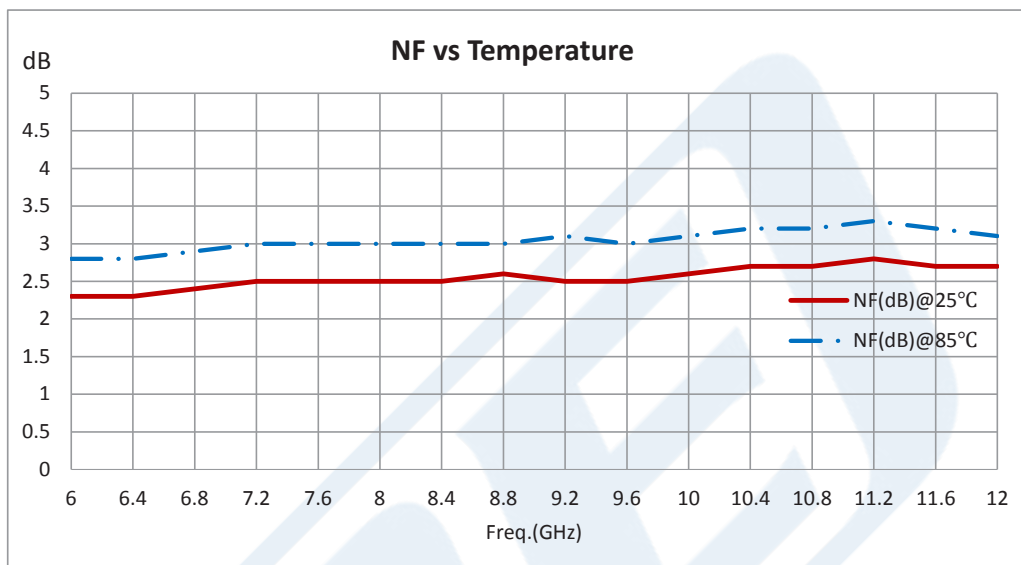
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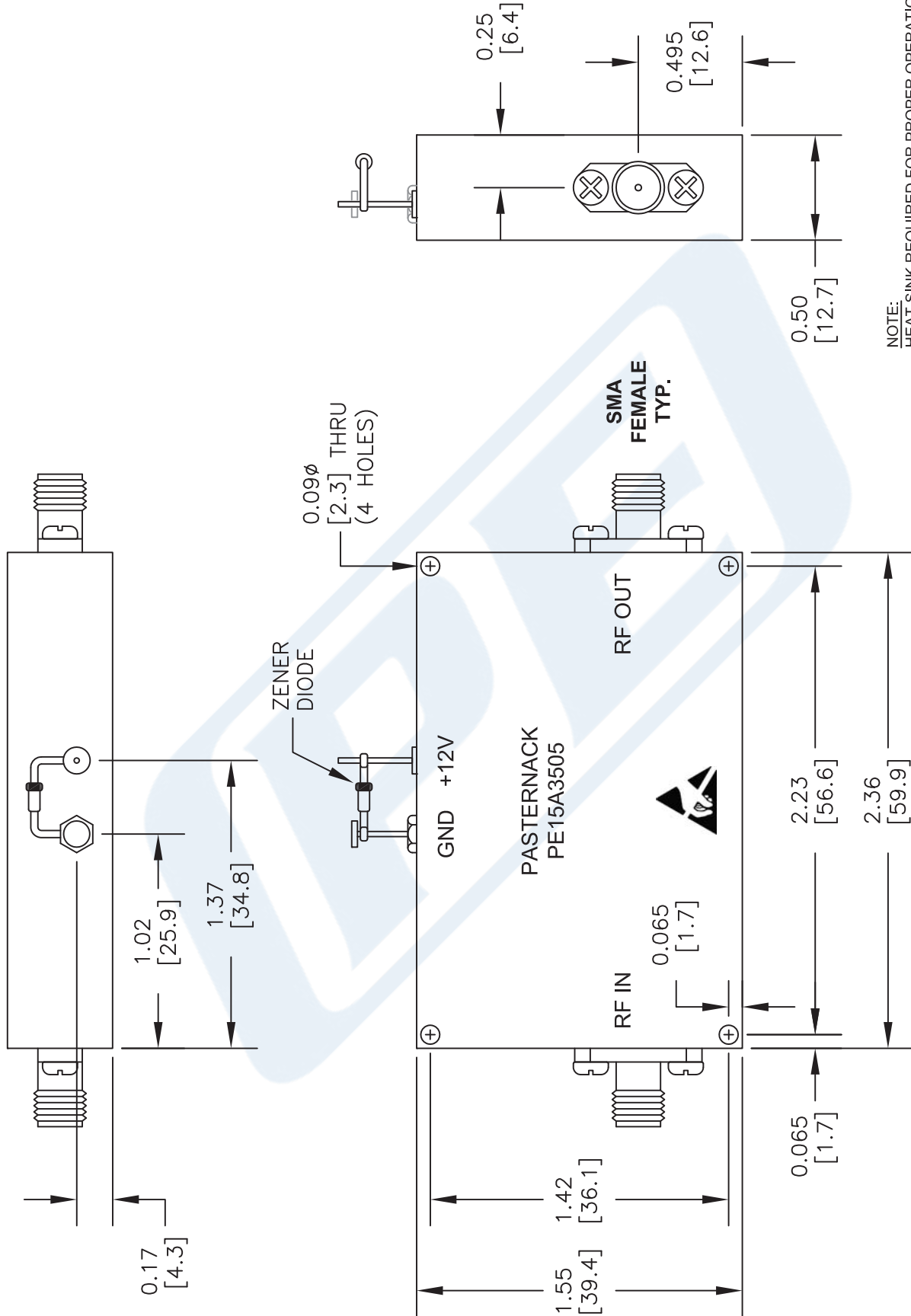
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## PE15A3505

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.

# PE15A3505 CAD Drawing

48 dB Gain, 1 Watt, 6 GHz to 12 GHz, Broadband High  
Gain Amplifier, 39 dBm IP3, 5 dB NF, SMA



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

## 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].

## DWG TITLE

**PE15A3505**

**PE PASTERNAK®**  
THE ENGINEER'S RF SOURCE

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FSCM NO. 53919

CAD FILE 031214

SCALE N/A

SIZE A

2233