



High Power Bi-Directional Amplifier, 5/20 Watts, 2.4 GHz to 2.5 GHz, 1 us switching, 20 dB Gain, SMA

TECHNICAL DATA SHEET

PE15B5000

PE15B5000 is an S-Band bi-directional module that delivers high quality TX signals while amplifying the RX signal with an advanced LNA to produce the highest possible data rates. The amplifier operating in the 2.4 to 2.5 GHz frequency range and offers 5 Watts typ Power for 802.11g and 20 Watts typ Power for 802.11b. High efficiency devices and advanced switching technology meets the requirements of some of the most demanding RF radio systems. The module provides 20 dB typical small signal gain with the gain flatness of  $\pm 0.5$  dB typical. The connectorized SMA module is unconditionally stable, requires typically a +28V DC and operates over the temperature range of  $-40^{\circ}\text{C}$  and  $+80^{\circ}\text{C}$ .

**Features**

- 2.4 GHz to 2.5 GHz Frequency Range
- 20 Watts typ Power for 802.11b
- 5 Watts typ Power for 802.11g
- Small Signal Gain: 20 dB min
- Gain Flatness:  $\pm 0.5$  typical
- 50 Ohms Input and Output Matched
- Unconditionally Stable

**Applications**

- L-band Military Radio
- Communication Systems
- High Gain Driver Power Amplifier
- High Gain Output Power Amplifier
- Unmanned Aerial Vehicles (UAV)
- Unmanned Ground Vehicles
- L and S Band Radar
- Commercial Air Traffic Control
- Weather and Earth Observation
- Satellites

**Electrical Specifications** (TA =  $+25^{\circ}\text{C}$ , DC Voltage = 28Volts DC Current = 2,400mA)

**Transmit**

Description	Minimum	Typical	Maximum	Units
Frequency Range	2.4		2.5	GHz
Power for 802.11b		20		Watts
Power for 802.11g		5		Watts
Gain	19	20	21	dB
Gain Flatness		$\pm 0.5$	$\pm 1.3$	dB
Input Return Loss		-12		dB
Operating DC Voltage	24	28	30	Volts
Current Draw 802.11b		2,400		mA
Current Draw 802.11g		900		mA
Switching Time		1	2	uSec

**Receive**

Description	Minimum	Typical	Maximum	Units
1 dB Compression Point		+0		dBm
Gain		11		dB
Gain Flatness		$\pm 0.5$	$\pm 1.3$	dB
Input Return Loss		-10		dB
Noise Figure		2.5		dB

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [High Power Bi-Directional Amplifier, 5/20 Watts, 2.4 GHz to 2.5 GHz, 1 us switching, 20 dB Gain, SMA PE15B5000](#)



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Current Draw 50 70 mA

### Mechanical Specifications

#### Size

Length	3.33 in [84.58 mm]
Width	2.69 in [68.33 mm]
Height	0.69 in [17.53 mm]
Weight	0.812 lbs [368.32 g]

### Environmental Specifications

#### Temperature

Operating Range	-40 to +80 deg C
Storage Range	-65 to +150 deg C

Altitude	0-30,000
Weatherproofing	IP 64 Rating

### Compliance Certifications (visit [www.Pasternack.com](http://www.Pasternack.com) for current document)

Not 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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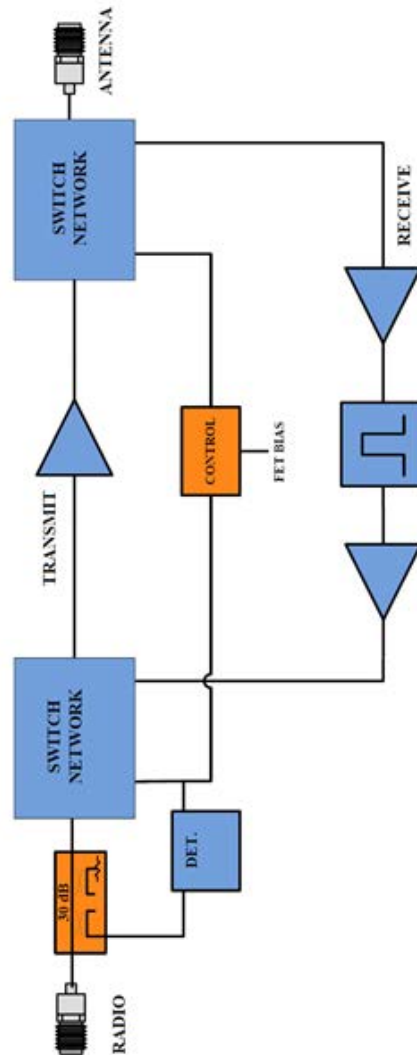


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Block Diagram



PE15B5000 Block Diagram

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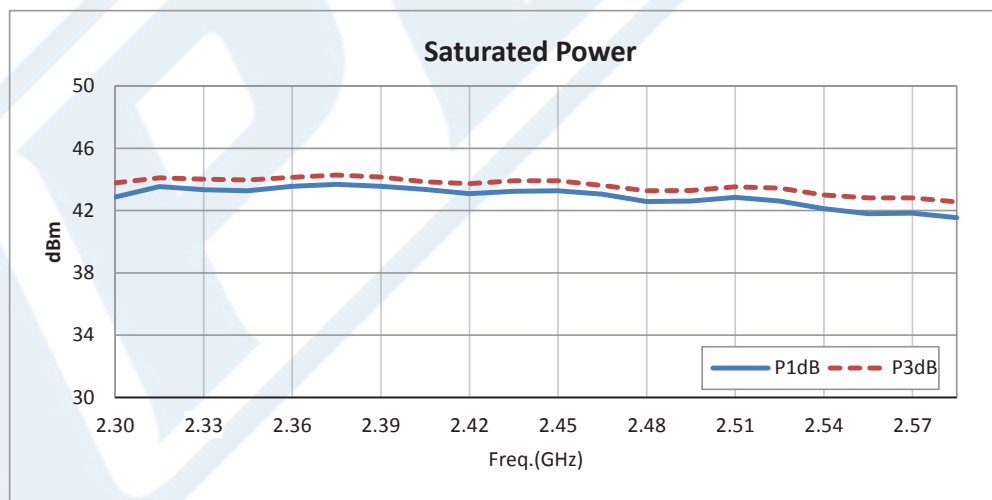
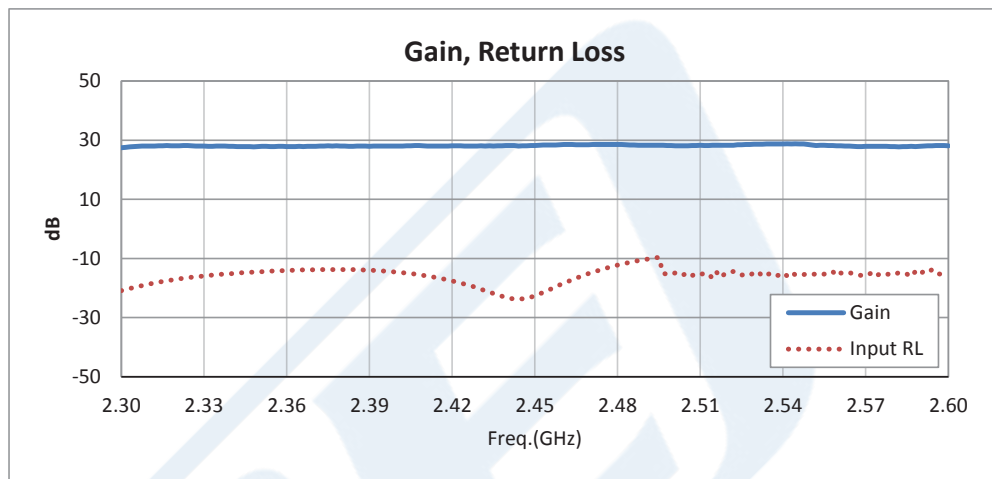


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### Typical Performance Data



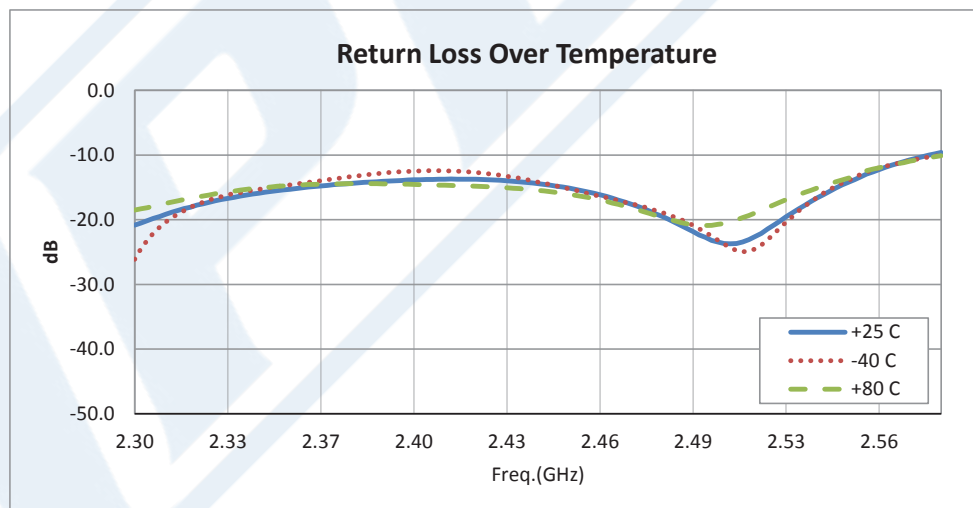
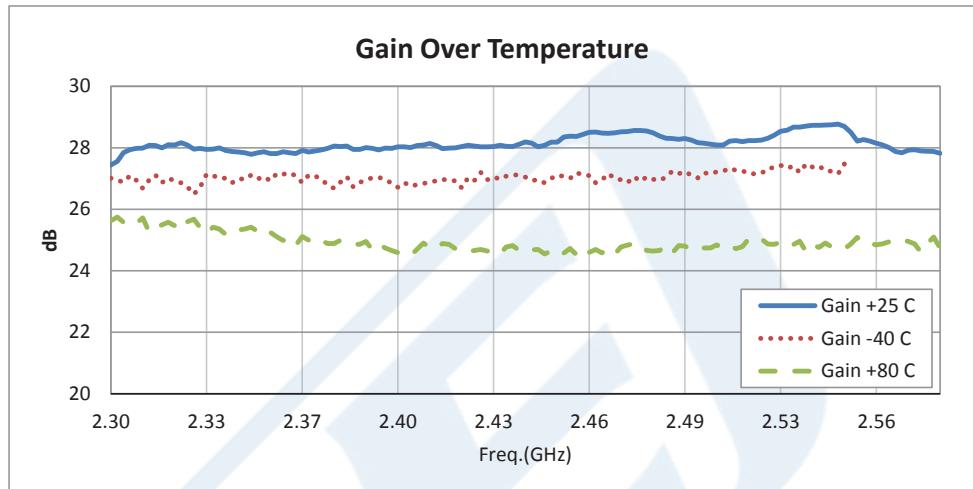
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High Power Bi-Directional Amplifier, 5/20 Watts, 2.4 GHz to 2.5 GHz, 1 us switching, 20 dB Gain, SMA from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99% availability and are part of the broadest selection in the industry.

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [High Power Bi-Directional Amplifier, 5/20 Watts, 2.4 GHz to 2.5 GHz, 1 us switching, 20 dB Gain, SMA PE15B5000](http://www.pasternack.com/high-power-bi-directional-amplifier-5-20-watts-2.5-ghz-sma-pe15b5000-p.aspx)

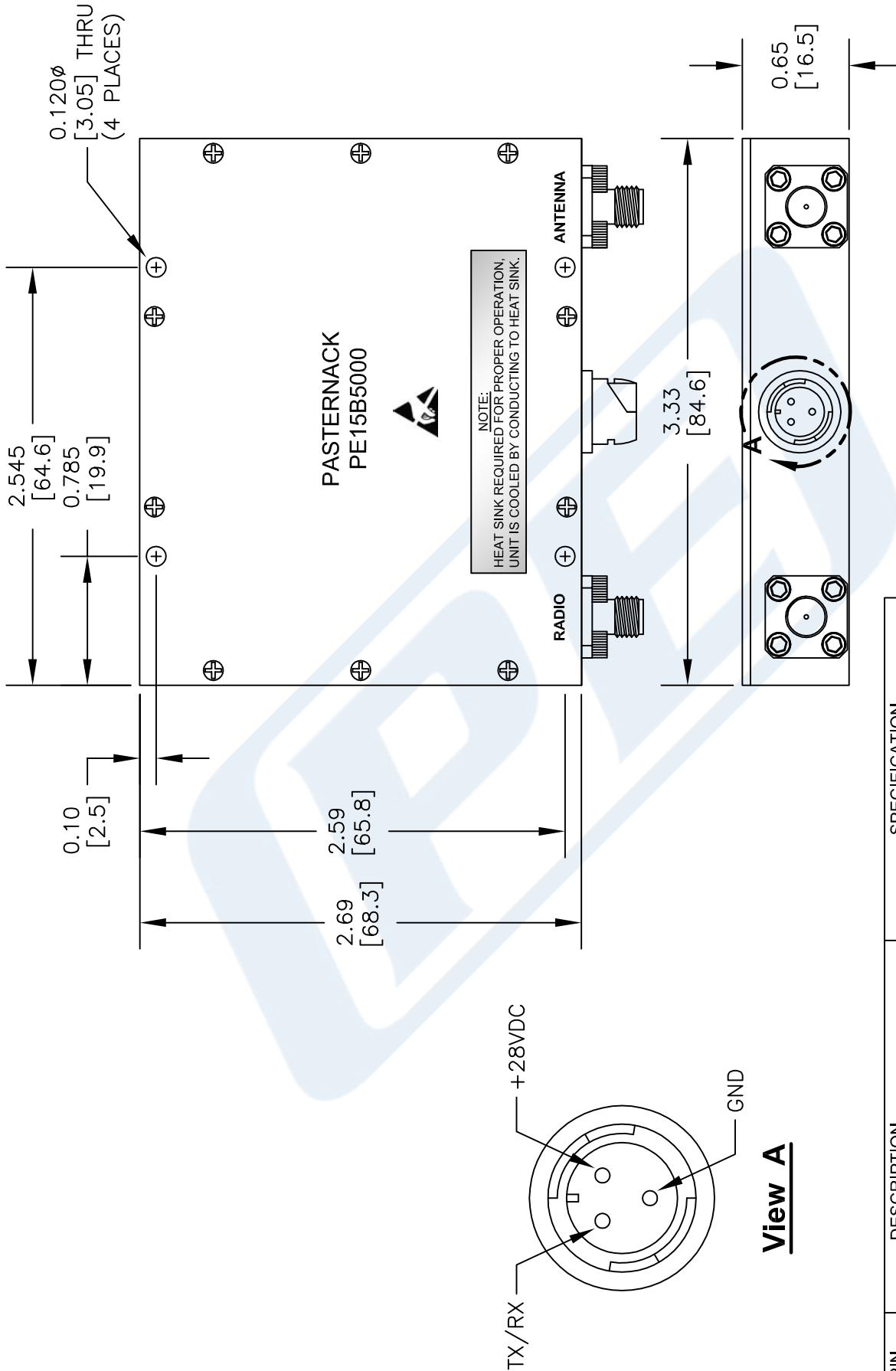
URL: <http://www.pasternack.com/high-power-bi-directional-amplifier-5-20-watts-2.5-ghz-sma-pe15b5000-p.aspx>

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.



# PE15B5000 CAD Drawing

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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

**PE15B5000**

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

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FSCM NO. 53919

CAD FILE 012915

SCALE N/A

SIZE A

150