



## 0.8 dB NF Input Protected Low Noise Amplifier, Operating from 3.1 GHz to 3.5 GHz with 28 dB Gain, 8 dBm P1dB and SMA

### TECHNICAL DATA SHEET

PE15A63010

PE15A63010 is an Input Protected Low Noise RF coaxial amplifier operating in the 3.1 MHz to 3.5 GHz frequency range. The amplifier has a 0.8 dB typical noise figure and can handle up to 1 Watt CW input power without damage. Additional typical performance includes 28 dB small signal gain +/- 0.5 dB flatness, 1.35:1 VSWR, and +8.0 dBm P1dB. The exceptional technical performance is achieved through the use of a 3 stage hybrid MIC assembly that incorporates a low loss input Pin Diode Limiter protective circuit followed by gain stages that use Enhancement Mode (Emode) GaAs pHEMT devices. The 50 Ohm SMA connectorized module is unconditionally stable, includes built-in DC voltage regulation, and supports DC blocking Capacitors on the RF ports. The Amplifier operates with a bias voltage of +12V typical and over the temperature range of -40°C to +85°C. This model is RoHS compliant and has an EAR99 export classification.

#### Features

- 3.1 MHz to 3.5 GHz Frequency Range
- P1dB: 8 dBm
- High Small Signal Gain: 28 dB typical
- Gain Flatness: ±.5 dB
- Noise Figure: .8 dB typ
- 50 Ohm Input and Output Matched
- -40°C to +85°C Operating Temperature
- Single DC Positive Supply
- Maximum CW Input Power: 1W
- DC Blocking Capacitors

#### Applications

- R&D Labs
- Radar Systems
- Test Instrumentation
- Communication Systems
- IF Amplifier/RF Driver Amplifier
- RF Wideband Front Ends

#### Electrical Specifications (TA = +25°C, DC Voltage = 12Vdc, DC Current = 45mA)

Description	Minimum	Typical	Maximum	Units
Frequency Range	3.1		3.5	GHz
Small Signal Gain	26	28	30	dB
Gain Flatness		±0.5	±0.75	dB
Gain Variance at OTR*		±1		dB
Output at 1 dB Compression Point	+8	+8		dBm
Output 3rd Intercept Point	+17	+20		dBm
Noise Figure		0.8	1	dB
Input VSWR		1.35:1	1.5:1	
Output VSWR		1.35:1	1.5:1	
Reverse Isolation		45		dB
Spurious			-60	dBc
Input Power (CW)			+30	dBm
Operating DC Voltage	8	12	15	Volts
Operating DC Current	35	45	55	mA
Operating Temperature Range	-40		+85	°C

\*OTR= Base Plate Operating Temperature Range

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [0.8 dB NF Input Protected Low Noise Amplifier, Operating from 3.1 GHz to 3.5 GHz with 28 dB Gain, 8 dBm P1dB and SMA PE15A63010](#)



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**Absolute Maximum Rating**

Parameter	Rating	Units
Source Voltage	+18	Volts
RF input Power	+30	dBm
Operating Temperature	-40 to +85	°C
Storage Temperature	-55 to +125	°C



ESD Sensitive Material,  
Transport material in  
Approved ESD bags.  
Handle only in approved  
ESD Workstation.

**Mechanical Specifications**

**Size**

Length	1.2 in [30.48 mm]
Width	1 in [25.4 mm]
Height	0.4 in [10.16 mm]
Weight	0.061 lbs [27.67 g]
Input Connector	SMA Female
Output Connector	SMA Female

**Environmental Specifications**

**Temperature**

Operating Range	-40 to +85 deg C
Storage Range	-55 to +125 deg C

**Compliance Certifications** (see [product page](#) for current document)

**Plotted and Other Data**

Notes:

- Values at +25 °C, sea level

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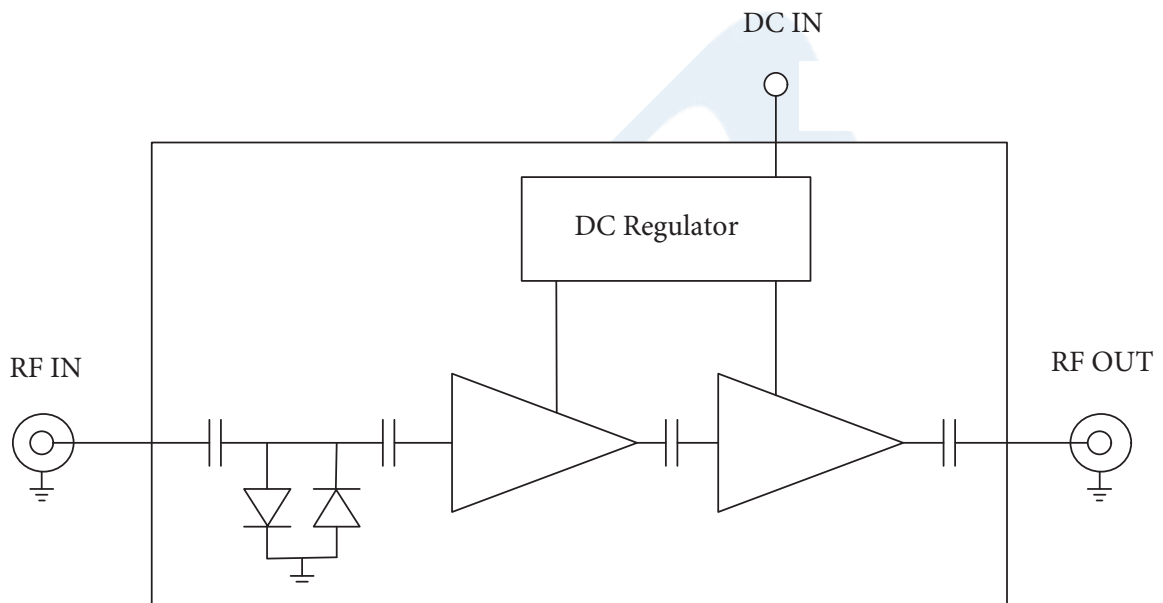


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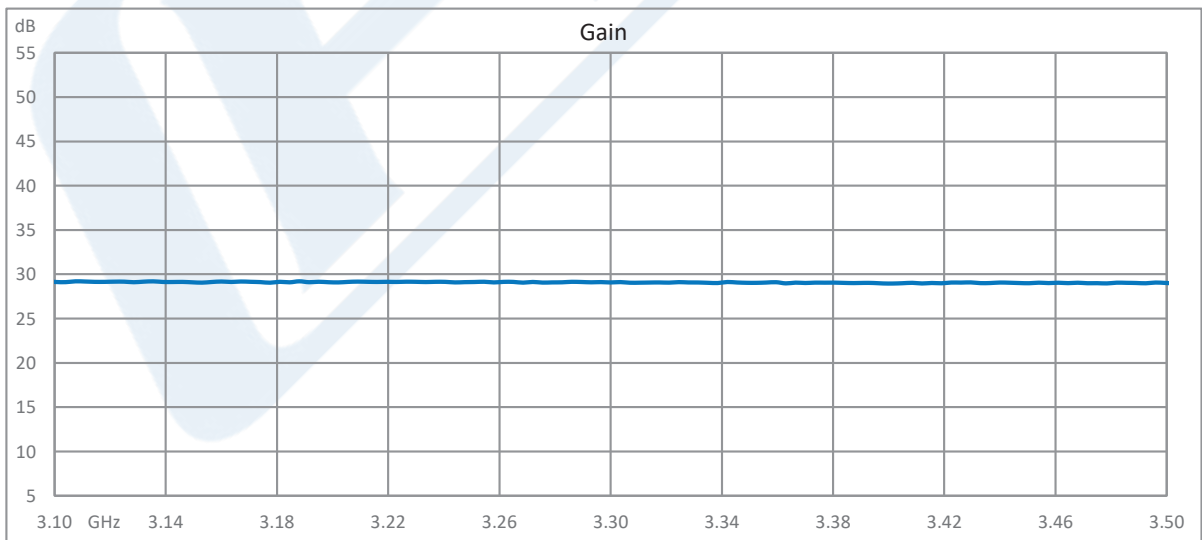
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Functional Block Diagram



Typical Performance Data



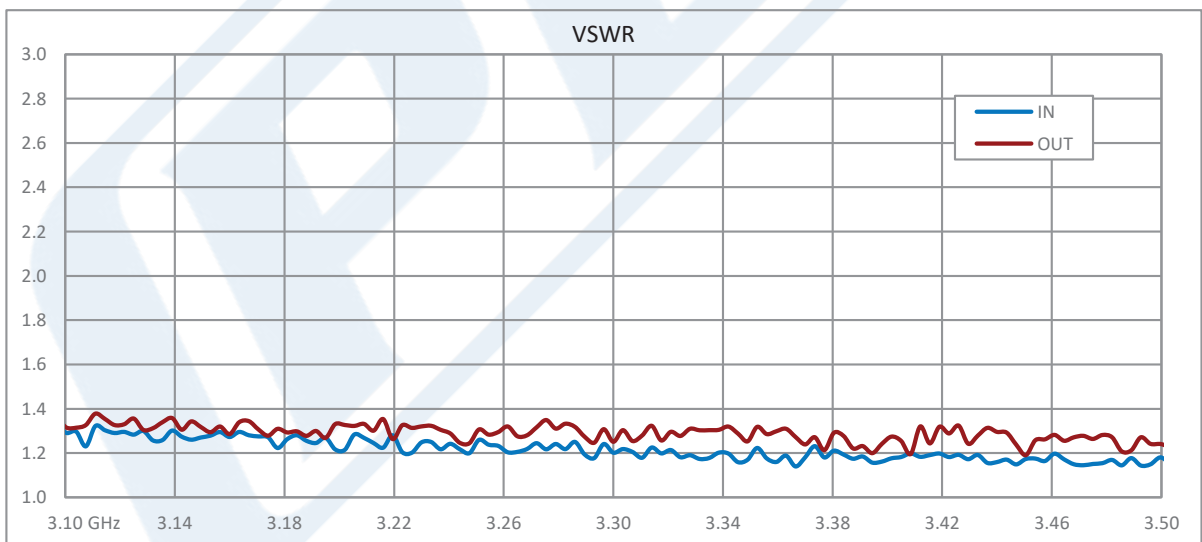
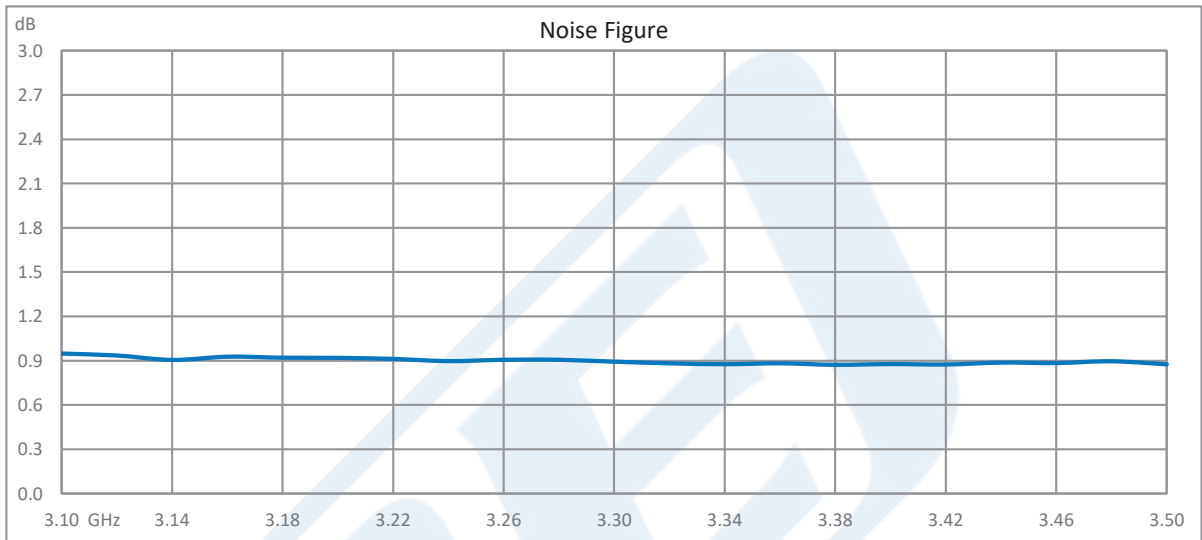
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0.8 dB NF Input Protected Low Noise Amplifier, Operating from 3.1 GHz to 3.5 GHz with 28 dB Gain, 8 dBm P1dB and SMA from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

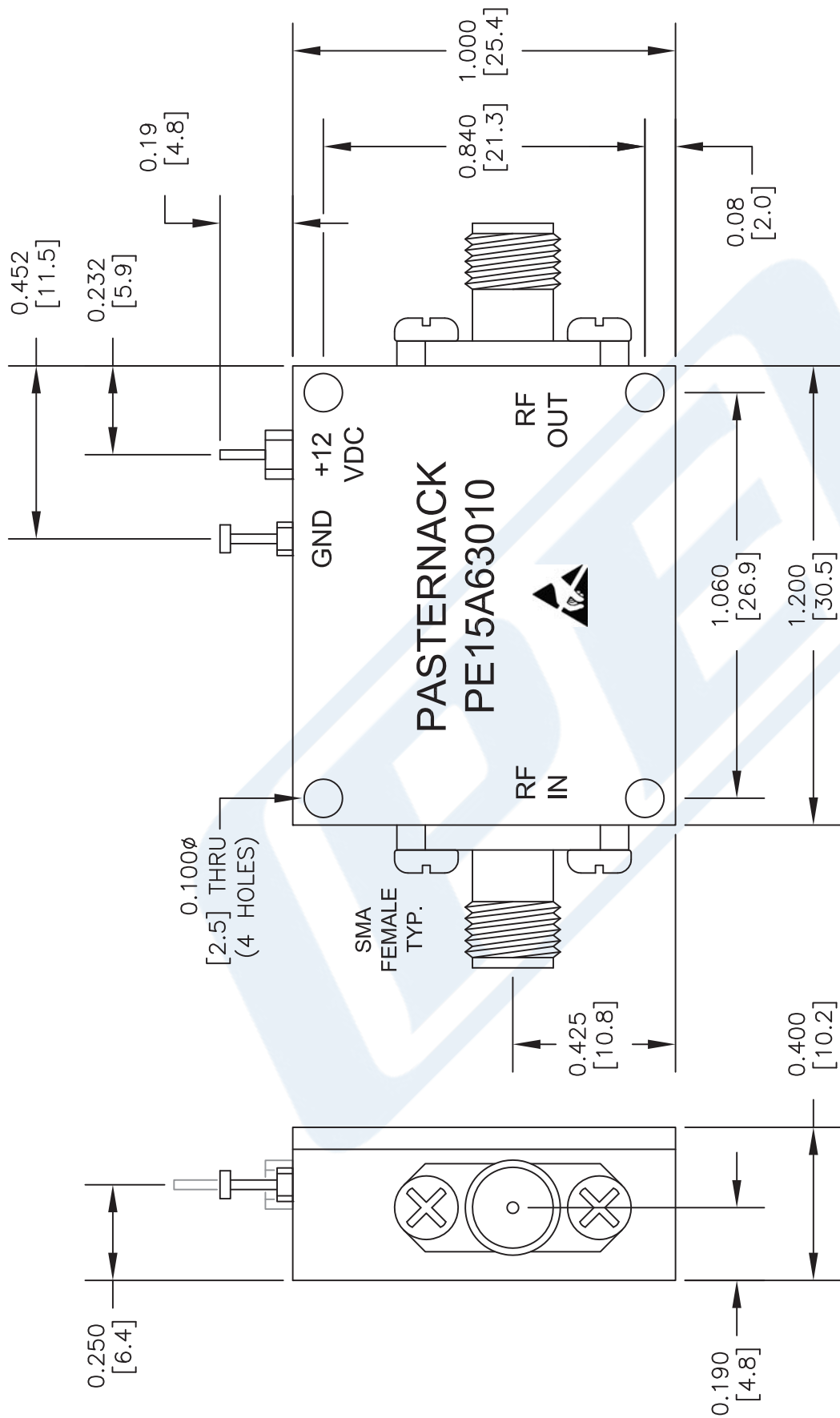
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The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements.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

# PE15A63010 CAD Drawing

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**STANDARD TOLERANCES**  
 .X  $\pm 0.2$   
 .XX  $\pm 0.1$   
 .XXX  $\pm 0.05$

\*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES

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  
**PE15A63010**

CAGE CODE 53919

CAD FILE 041917

SCALE N/A

SIZE A

2233

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

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