



1 dB NF Input Protected Low Noise Amplifier, Operating from 10 MHz to 1 GHz with 30 dB Gain, 17 dBm P1dB and SMA

TECHNICAL DATA SHEET

PE15A63000

The PE15A63000 is an Input Protected Low Noise RF coaxial amplifier operating in the 10 MHz to 1 GHz frequency range. The amplifier has a 1.0 dB typical noise figure and can handle up to 1 Watt CW input power without damage. Additional typical performance includes 30dB small signal gain, 1.3:1 VSWR and +17dBm 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 +75°C. This model is RoHS compliant and has an EAR99 export classification.

Features

- 10 MHz to 1 GHz Frequency Range
- 1 Watt CW input protection
- P1dB: 17 dBm typ
- Small Signal Gain: 30 dB typ
- Gain Flatness: ±0.7 dB typ
- Noise Figure: 1.0 dB typ
- 50 Ohm Input and Output Matched
- -40°C to +75°C Operating Temperature
- Single DC Positive Supply
- 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 = 120mA)

Description	Minimum	Typical	Maximum	Units
Frequency Range	10		1,000	MHz
Small Signal Gain	28	30	32	dB
Gain Flatness		±0.7	±1	dB
Gain Variance at OTR*		±1		dB
Output at 1 dB Compression Point	+16	+17		dBm
Output 3rd Intercept Point	+29	+32		dBm
Noise Figure		1	3	dB
Input VSWR		1.3:1	1.5:1	
Output VSWR		1.3:1	1.5:1	
Reverse Isolation	45	50		dB
Spurious			-70	dBc
Input Power (CW)			+30	dBm
Operating DC Voltage	10	12	15	Volts
Operating DC Current	90	120	130	mA
Operating Temperature Range	-40		+75	°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: [1 dB NF Input Protected Low Noise Amplifier, Operating from 10 MHz to 1 GHz with 30 dB Gain, 17 dBm P1dB and SMA PE15A63000](#)



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Performance by Frequency

Description	Min	Typ	Max	Units
Frequency Band 1	10.0		50.0	MHz
Noise Figure		1.5	3.0	dB
Frequency Band 2	50.0		1000.0	MHz
Noise Figure		1.0	1.3	dB

Absolute Maximum Rating

Parameter	Rating	Units
Source Voltage	+15	Volts
RF input Power	+30	dBm
Operating Temperature	-40 to +75	°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	0.85 in [21.59 mm]
Height	0.375 in [9.53 mm]
Weight	0.0534 lbs [24.22 g]
Input Connector	SMA Female
Output Connector	SMA Female

Environmental Specifications

Temperature

Operating Range	-40 to +75 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
- ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in approved ESD Workstation.

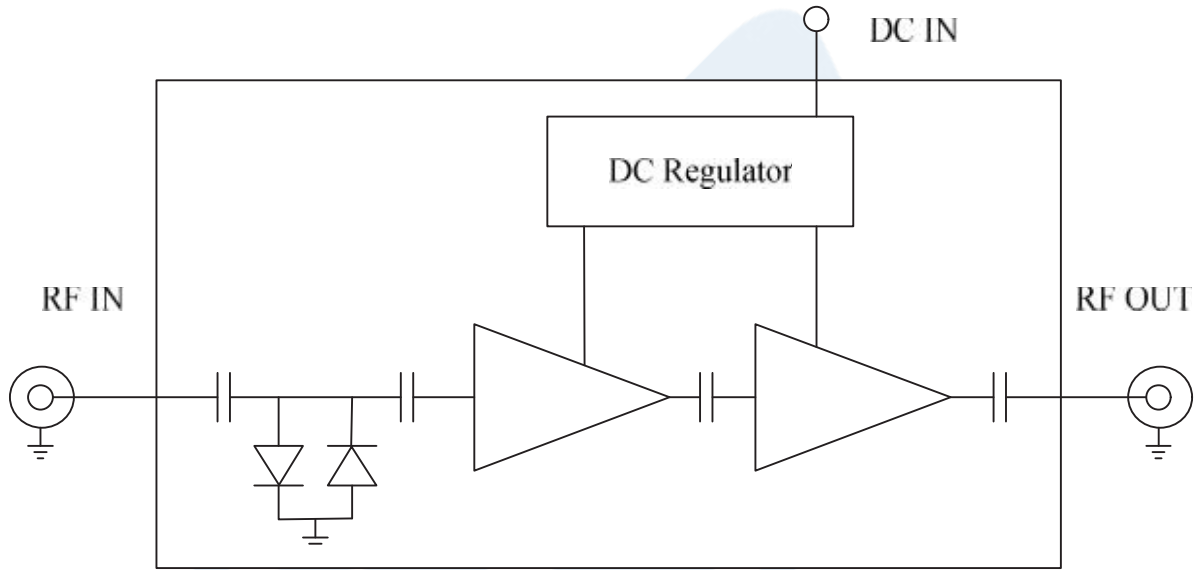
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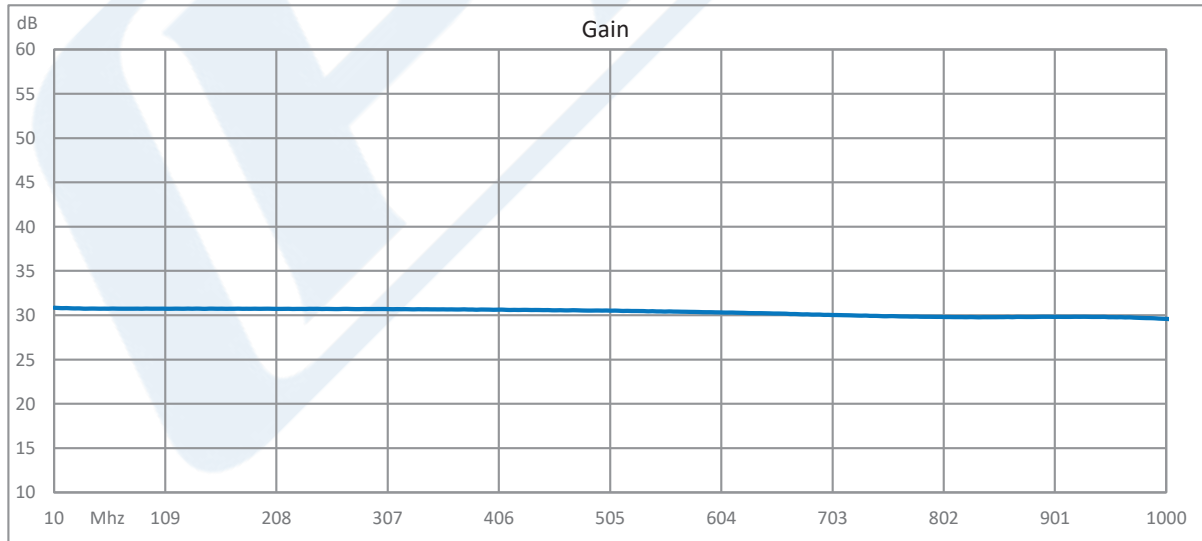
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Functional Block Diagram



Typical Performance Data

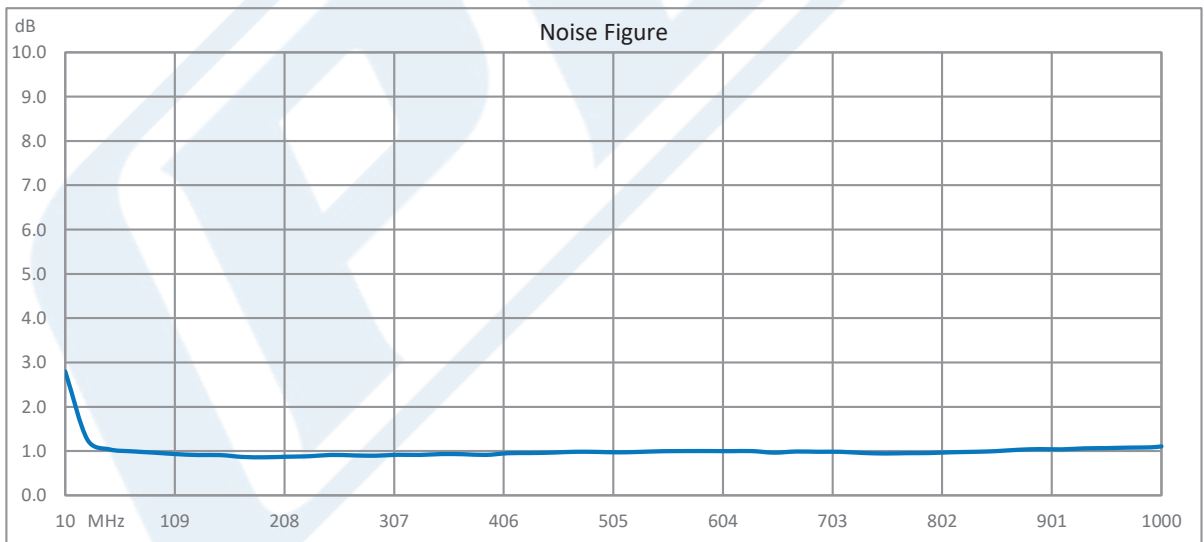
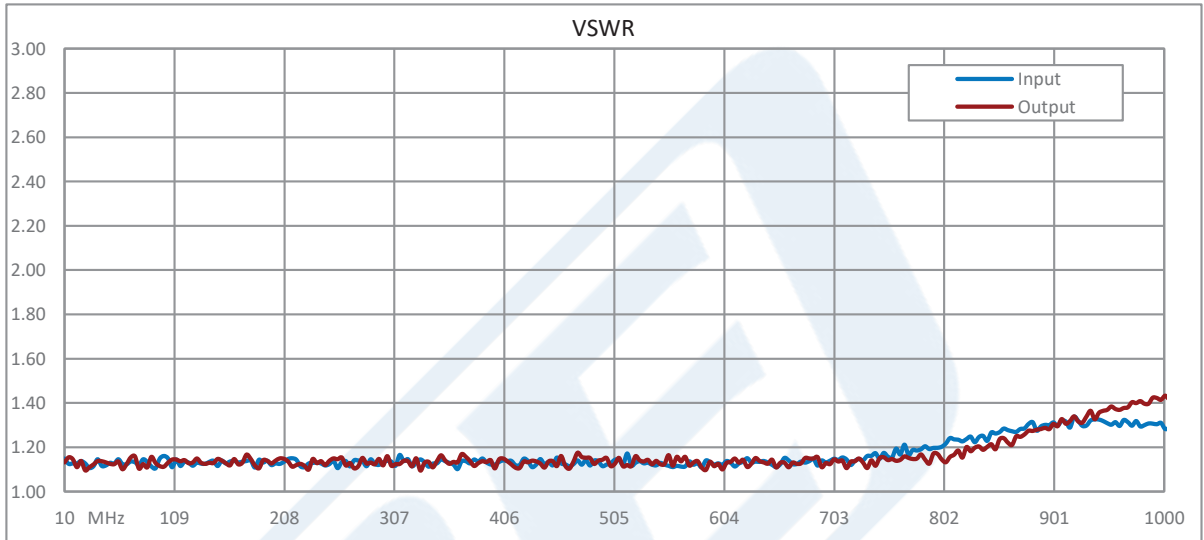


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1 dB NF Input Protected Low Noise Amplifier, Operating from 10 MHz to 1 GHz with 30 dB Gain, 17 dBm P1dB and SMA from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

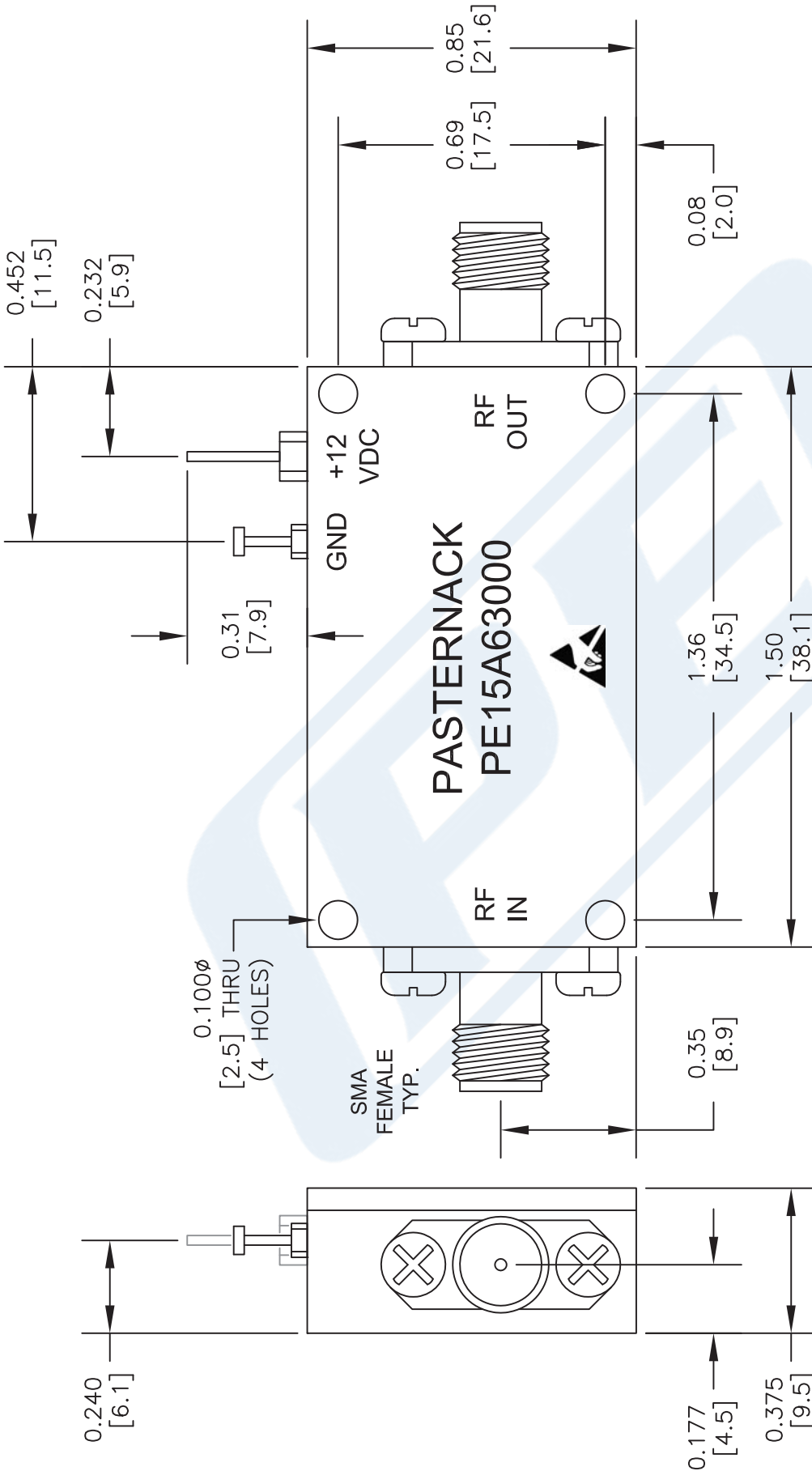
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PE15A63000 CAD Drawing

1 dB NF Input Protected Low Noise Amplifier, Operating from 10 MHz to 1 GHz with 30 dB Gain, 17 dBm P1dB and SMA



STANDARD TOLERANCES
 .X ±0.2
 .XX ±0.1
 .XXX ±0.05

*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES

<p>PE PASTERNAK THE ENGINEER'S RF SOURCE Pasternack Enterprises, Inc. P.O. Box 16759 Irvine CA 92623 Phone: (949) 261-1920 Fax: (949) 261-7451 Website: www.pasternack.com E-Mail: sales@pasternack.com</p>	<p>DWG TITLE PE15A63000</p>		<p>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].</p>	
	<p>FSCM NO. 53919</p>	<p>CAD FILE 101716</p>	<p>SCALE N/A</p>	<p>SIZE A</p>