



1 dB NF, 17 dBm P1dB, 10 MHz to 1,000 MHz,  
Low Noise Amplifier, 30 dB Gain, SMA

TECHNICAL DATA SHEET

PE15A1011

PE15A1011 is a wideband low noise RF coaxial power amplifier operating in the 10 MHz to 1 GHz frequency range. The amplifier offers 1 dB typical noise figure, 17 dBm of P1dB and 30 dB small signal gain with the excellent gain flatness of  $\pm 0.7$  dB. This exceptional technical performance is achieved through the use of hybrid MIC design and advanced GaAs PHEMT devices. The low noise amplifier requires typically a +12V DC power supply, is unconditionally stable and operates over the temperature range of -40°C and +75°C.

**Features**

- 10 MHz to 1 GHz Frequency Range
- P1dB: 17 dBm
- Flat Small Signal Gain: 30 dB
- Gain Flatness:  $\pm 0.7$  dB
- Gain Variance:  $\pm 1$  dB
- Noise Figure: 1 dB typ
- Reverse Isolation: 49 dB
- 50 Ohm Input and Output Matched
- -40 to 75°C Operating Temperature
- Unconditionally Stable
- Single DC Positive Supply
- Built-in Voltage Regulator

**Applications**

- Laboratory Applications
- R&D Labs
- Military Radio
- Telecom Infrastructure
- Test Instrumentation
- Military & Space
- Communication Systems
- Microwave Radio Systems
- Low Noise Amplifier
- General Purpose Amplification
- General Purpose Wireless
- Wideband Gain Block
- RF Wideband Front Ends
- RF Pre-amplification

**Electrical Specifications** (TA = +25°C, DC Voltage = 12Volts, DC Current = 110mA)

Description	Minimum	Typical	Maximum	Units
Frequency Range	10		1,000	MHz
Small Signal Gain	28	30	32	dB
Gain Flatness		$\pm 0.7$	$\pm 1$	dB
Gain Variance at OTR*		$\pm 1$		dB
Output at 1 dB Compression Point	+16	+17		dBm
Output at 1 dB Compression Point	+16	+17		dBm
Noise Figure (50 MHz to 1,000 MHz)		1	1.2	dB
Input VSWR		1.3:1	1.5:1	
Output VSWR		1.2:1	1.5:1	
Reverse Isolation	45	49		dB
Spurious			-60	dBc
Operating DC Voltage	9	12	15	Volts
Operating DC Current	90	110	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, 17 dBm P1dB, 10 MHz to 1,000 MHz, Low Noise Amplifier, 30 dB Gain, SMA PE15A1011](#)



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**Absolute Maximum Rating**

Parameter	Rating	Units
Source Voltage	+15	Volts
RF input Power	+15	dBm
Operating Temperature (base-plate)	-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	1.5 in [38.1 mm]
Width	0.85 in [21.59 mm]
Height	0.375 in [9.53 mm]
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** (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.



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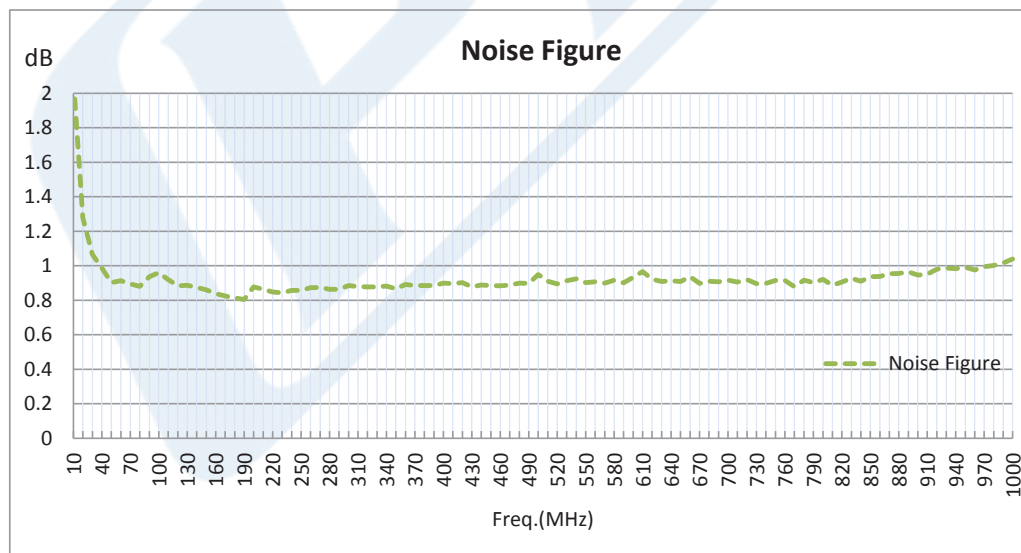
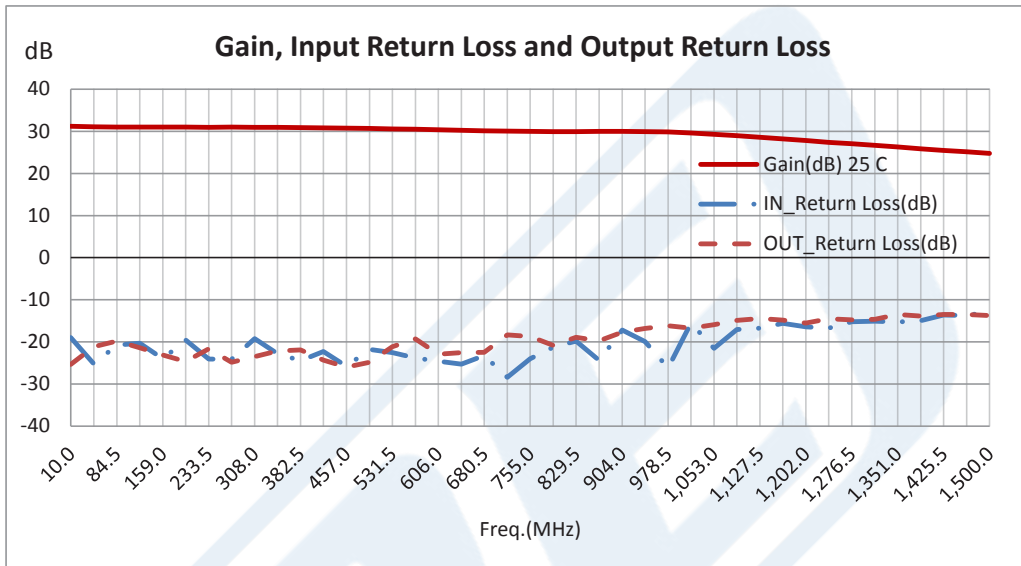


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Typical Performance Data



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1 dB NF, 17 dBm P1dB, 10 MHz to 1,000 MHz, Low Noise Amplifier, 30 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.

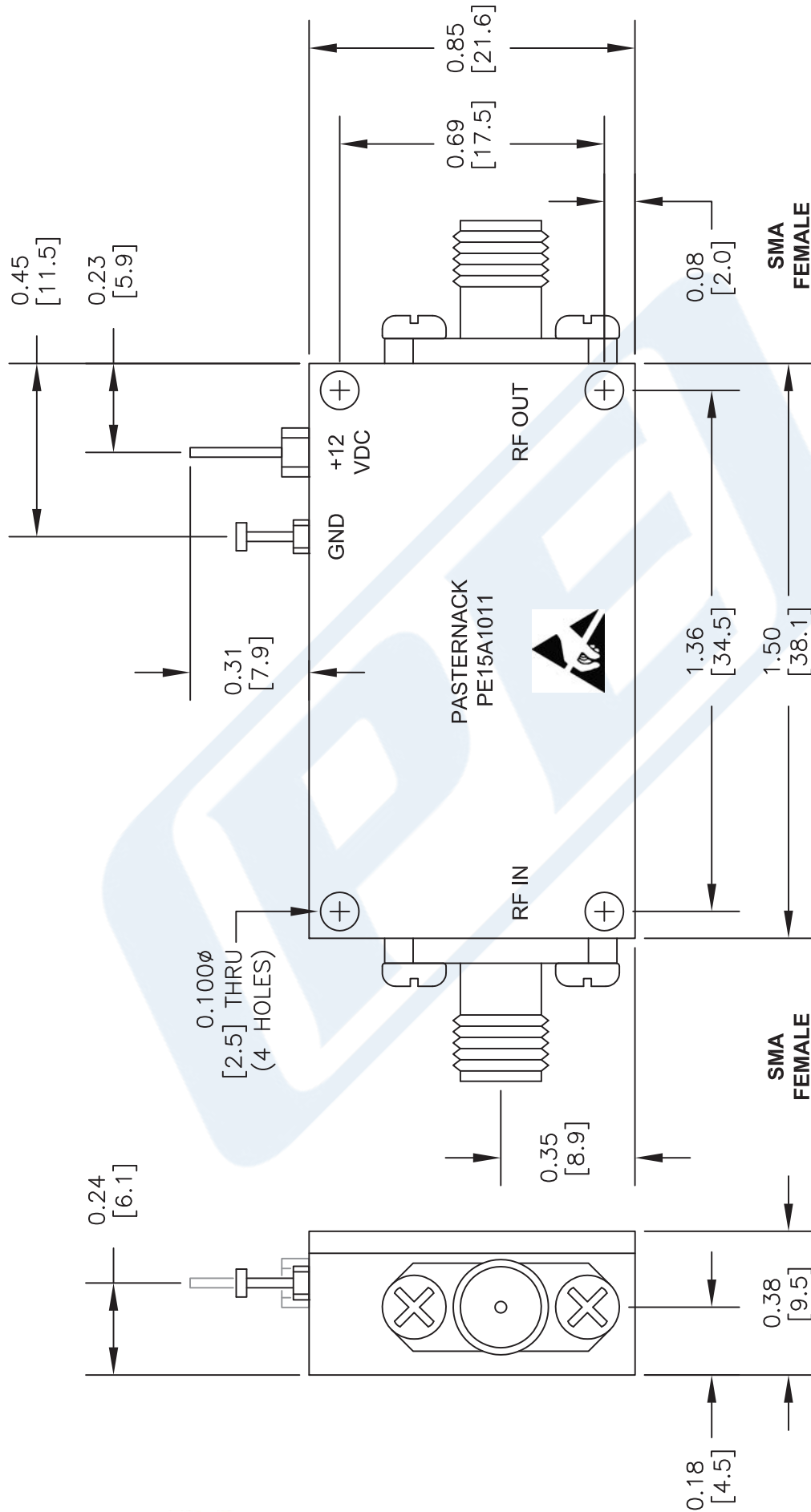
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [1 dB NF, 17 dBm P1dB, 10 MHz to 1,000 MHz, Low Noise Amplifier, 30 dB Gain, SMA PE15A1011](http://www.pasternack.com/1-db-1000-mhz-low-noise-amplifier-30-db-gain-sma-pe15a1011-p.aspx)

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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.

# PE15A1011 CAD Drawing

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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  
**PE15A1011**

FSCM NO. 53919

CAD FILE 021714

SCALE N/A

SIZE A

2233

**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