



29 dBm IP3, 2.5 dB NF, 16 dBm P1dB, 0.009 MHz to 3 GHz, Low Noise Amplifier, 32 dB Gain, SMA

TECHNICAL DATA SHEET

PE15A1007

PE15A1007 is a wideband low noise RF coaxial amplifier operating in the 9 kHz to 3 GHz frequency range. The amplifier offers 2.5 dB typical noise figure, 16 dBm of P1dB and high 32 dB typical small signal gain with gain flatness of ± 1.25 dB typical. This exceptional technical performance is achieved through the use of hybrid MIC design and advanced SiGe Bipolar devices. The low noise amplifier requires typically a +12V DC power supply. The connectorized SMA module is unconditionally stable and includes built-in voltage regulation. This low noise amplifier requires only a single positive supply, is unconditionally stable and operates over the temperature range of -40°C and $+85^{\circ}\text{C}$.

Features

- 9 kHz to 3 GHz Frequency Range
- P1dB: 16 dBm Typ
- High Small Signal Gain: 32 dB Typ
- Gain Flatness: ± 1.25 dB Typ
- Gain Variance: ± 1 dB Typ
- Noise Figure: 2.5dB Typ
- Reverse Isolation: 55 dB Typ
- 50 Ohm Input and Output Matched
- -40 to $+85^{\circ}\text{C}$ Operating Temperature
- Unconditionally Stable
- Single DC Positive Supply
- Built-in Voltage Regulator

Applications

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

Electrical Specifications (TA = $+25^{\circ}\text{C}$, DC Voltage = +12Vdc, DC Current = 110mA)

Description	Minimum	Typical	Maximum	Units
Frequency Range	9KHz		3	GHz
Small Signal Gain	30	32	36	dB
Gain Flatness		± 1.25	± 1.5	dB
Gain Variance at OTR*		1		dB
Output at 1 dB Compression Point	+15	+16		dBm
Output 3rd Intercept Point	+26	+29		dBm
Noise Figure (10 MHz to 3 GHz)		2.5	3	dB
Input VSWR		1.6:1	2:1	
Output VSWR		1.8:1	2.5:1	
Reverse Isolation	45	55		dB
Spurious			-70	dBc
Operating DC Voltage	+11	+12	+15	Volts
Operating DC Current	90	110	130	mA
Operating Temperature Range	-40		+85	$^{\circ}\text{C}$

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [29 dBm IP3, 2.5 dB NF, 16 dBm P1dB, 0.009 MHz to 3 GHz, Low Noise Amplifier, 32 dB Gain, SMA PE15A1007](#)



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*OTR= Base Plate Operating Temperature Range

Absolute Maximum Rating

Parameter	Rating	Units
Source Voltage	+15	Volts
RF input Power	+5	dBm
Storage Temperature	-55 to +125	°C
Operating Temperature (base-plate)	-40 to +85	°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]
Weight	0.054 lbs [24.49 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
- ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in approved ESD Workstation.

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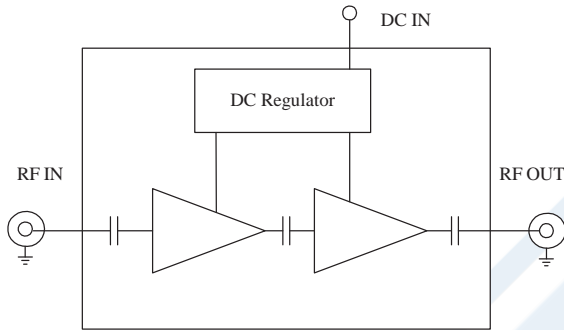


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Functional Block Diagram



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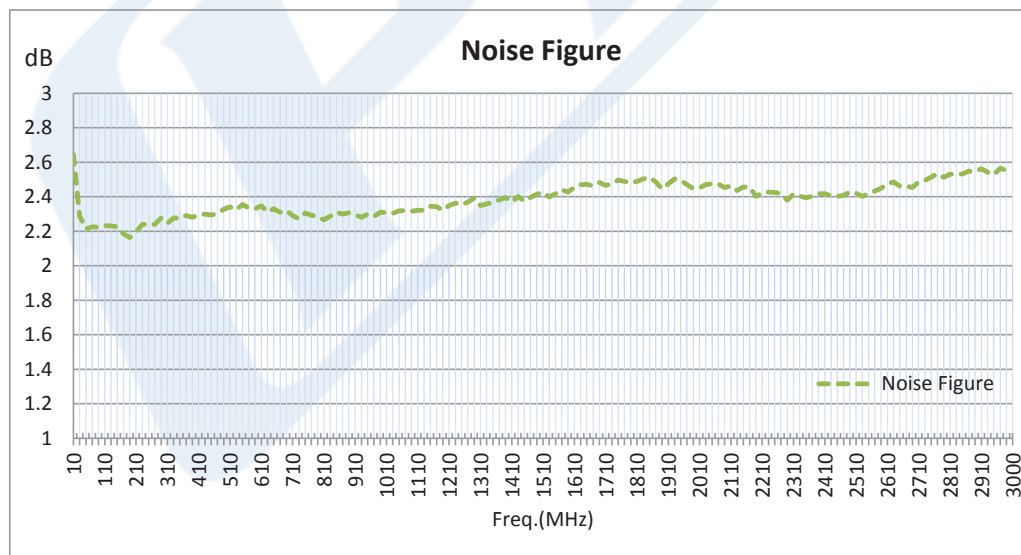
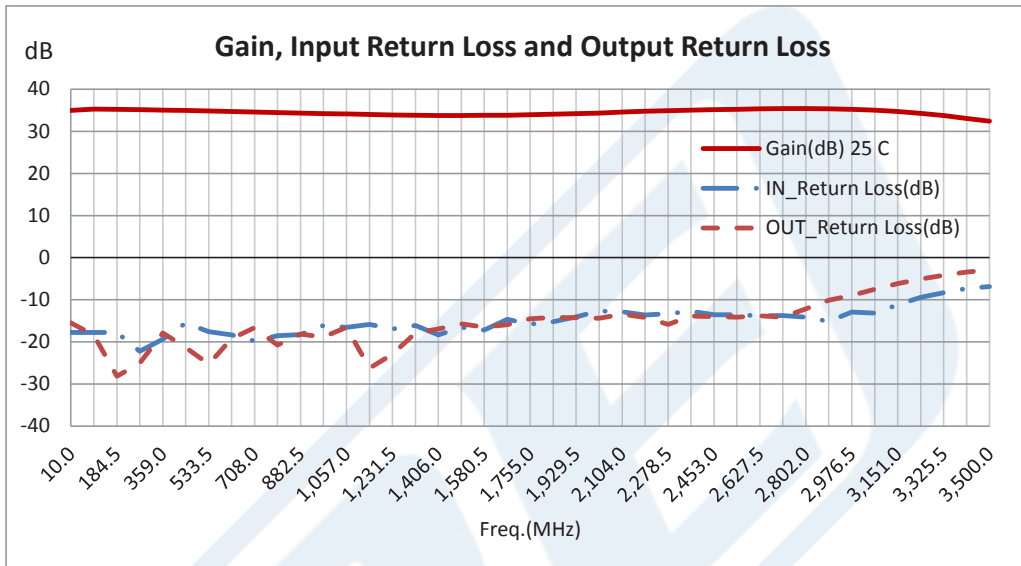


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Typical Performance Data



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29 dBm IP3, 2.5 dB NF, 16 dBm P1dB, 0.009 MHz to 3 GHz, Low Noise Amplifier, 32 dB Gain, SMA from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

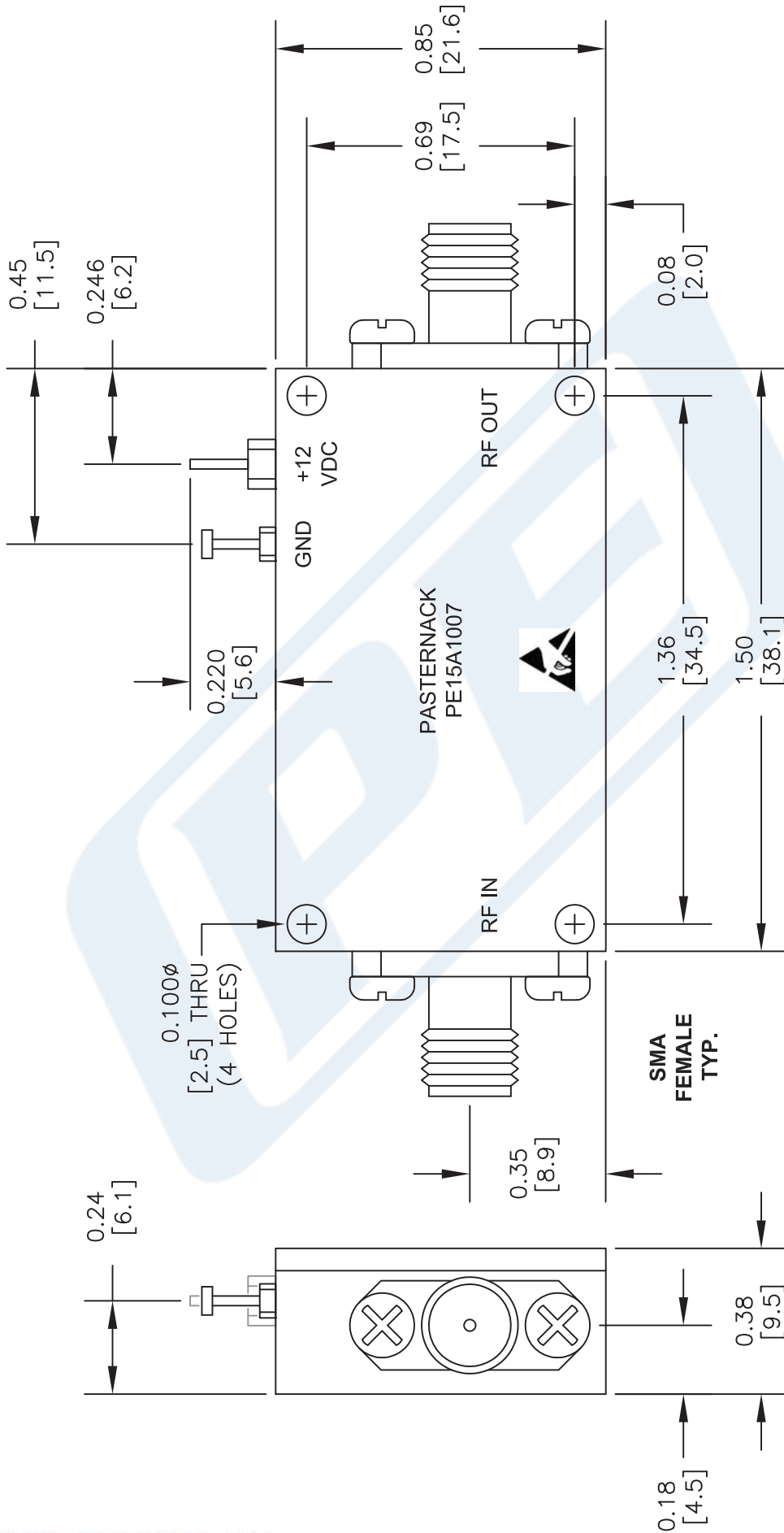
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The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements.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

PE15A1007 CAD Drawing

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DWG TITLE

PE15A1007

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].

FSCM NO. 53919

CAD FILE 090314

SCALE N/A

SIZE A

2233



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