



40 dB Gain, 25 dBm IP3, 0.8 dB NF, 11 dBm P1dB,  
1 GHz to 2 GHz, Low Noise High Gain Amplifier SMA

## TECHNICAL DATA SHEET

PE15A1019

PE15A1019 is a wideband low noise RF coaxial power amplifier operating in the 1 GHz to 2 GHz frequency range. The amplifier offers 0.8 dB noise figure typical, 11 dBm of P1dB and 40 dB small signal gain with gain flatness of  $\pm 1.0$  dB. The low noise amplifier requires typically a +10V DC power supply and is unconditionally stable. The amplifier operates over the temperature range of -40°C and +85°C.

### Features

- 1 GHz to 2 GHz Frequency Range
- Noise Figure: 0.8 dB typ
- P1dB: 11 dBm
- Flat Small Signal Gain: 40 dB
- Gain Flatness:  $\pm 1.0$  dB
- Gain Variance over OTR:  $\pm 1.0$  dB
- 50 Ohm Input and Output Matched
- -40 to 85°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°C, DC Voltage = 10Volts, DC Current = 120mA)

Description	Minimum	Typical	Maximum	Units
Frequency Range	1		2	GHz
Small Signal Gain	37	40	43	dB
Gain Flatness		$\pm 1$		dB
Gain Variance at OTR*		$\pm 1$		dB
Output at 1 dB Compression Point		+11		dBm
Output 3rd Intercept Point	+22	+25		dBm
Noise Figure		0.8	1	dB
Input VSWR		1.7:1	2:1	
Output VSWR		1.6:1	2:1	
Spurious			-60	dBc
Operating DC Voltage	9	10	12	Volts
Operating DC Current	100	120	135	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: [40 dB Gain, 25 dBm IP3, 0.8 dB NF, 11 dBm P1dB, 1 GHz to 2 GHz, Low Noise High Gain Amplifier SMA PE15A1019](#)



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### Absolute Maximum Rating

Parameter	Rating	Units
Source Voltage	+15	Volts
RF input Power	+13	dBm
DC Voltage at RF I/O	+25	Volts
Operating Temperature (base-plate)	-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	1.5 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 +85 deg C
Storage Range	-55 to +125 deg C

### 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.



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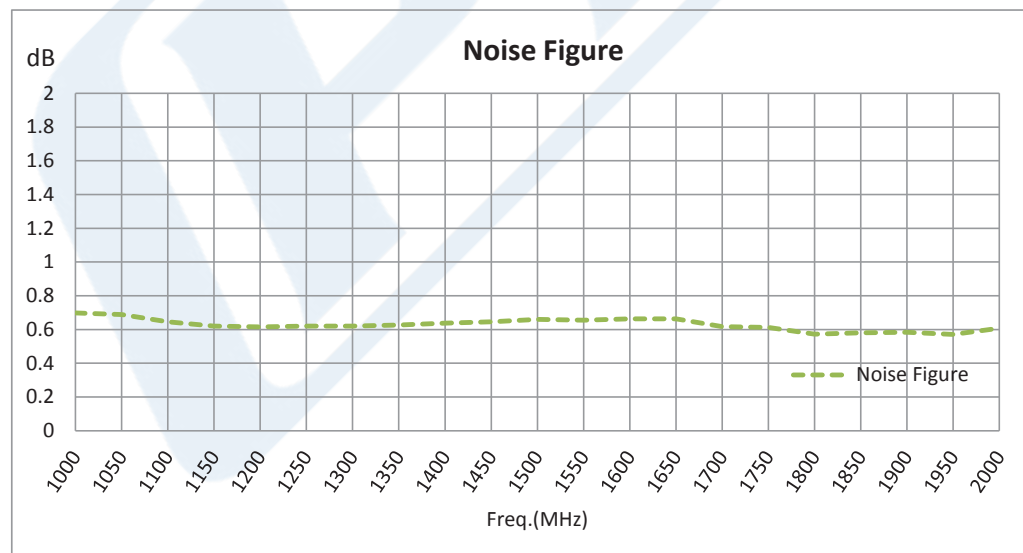
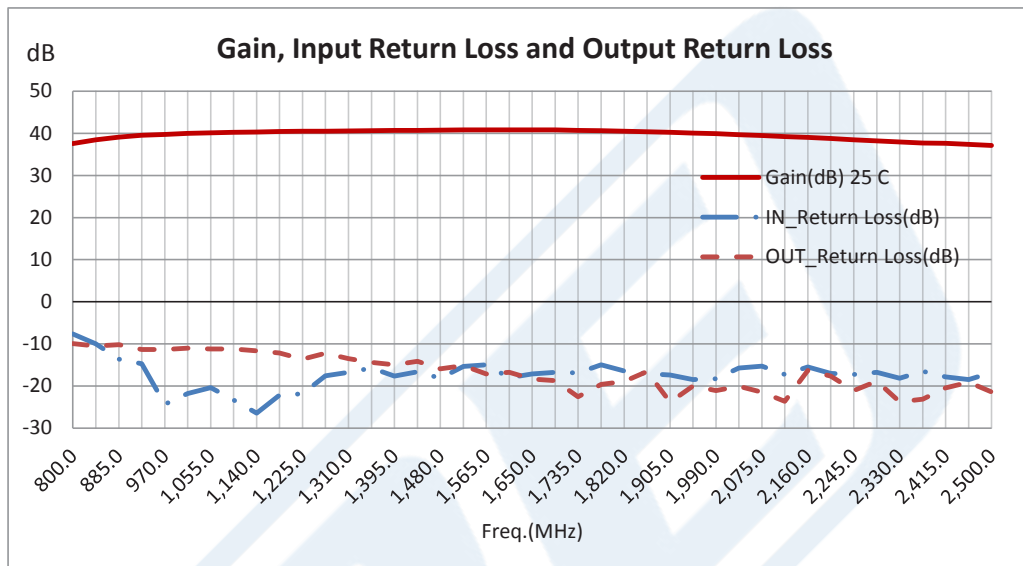


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### Typical Performance Data



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40 dB Gain, 25 dBm IP3, 0.8 dB NF, 11 dBm P1dB, 1 GHz to 2 GHz, Low Noise High Gain Amplifier 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.

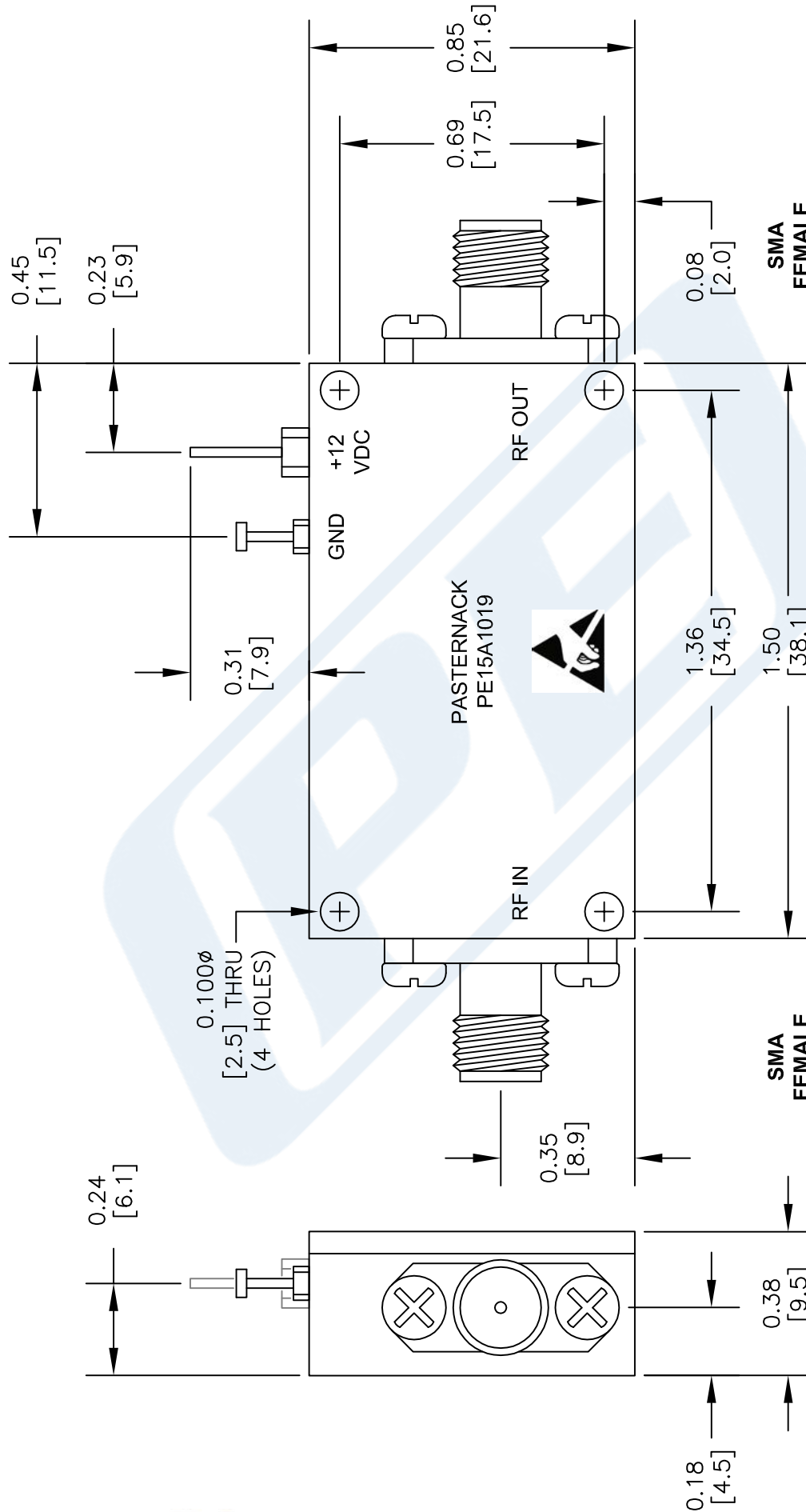
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [40 dB Gain, 25 dBm IP3, 0.8 dB NF, 11 dBm P1dB, 1 GHz to 2 GHz, Low Noise High Gain Amplifier SMA PE15A1019](http://www.pasternack.com/40-db-0.8-db-2-ghz-low-noise-high-gain-amplifier-sma-pe15a1019-p.aspx)

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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.

# PE15A1019 CAD Drawing

40 dB Gain, 25 dBm IP3, 0.8 dB NF, 11 dBm P1dB, 1 GHz  
to 2 GHz, Low Noise High Gain Amplifier SMA



DWG TITLE

**PE15A1019**

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].

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FSCM NO. 53919

CAD FILE 091014

SCALE N/A

SIZE A

150