PASTERNACK®
THE ENGINEER'S RF SOURCE

37 dBm IP3, 1.8 dB NF, 22 dBm P1dB, 50 MHz to 2 GHz, Low Noise Amplifier, 27 dB Gain, SMA

TECHNICAL DATA SHEET PE15A1042

The PE15A1042 is a low noise RF coaxial amplifier operating in the 50 MHz to 2 GHz frequency range. The amplifier offers 1.8 dB typical noise figure, 22 dBm typical P1dB and 27 dB typ small signal gain. This performance is achieved through the use of hybrid MIC design and advanced SiGe Bipolar devices. The amplifier desing input/output ports are internally matched to 50 ohms and are DC blocked. 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°C.

Features

- 50 MHz to 2 GHz Frequency Range
- P1dB: 22 dBm
- Small Signal Gain: 27 dB typical
- Noise Figure: 1.8 dB typ
- 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
- Radar Systems
- Telecom Infrastructure
- Test Instrumentation
- 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
- Fixed and Land Mobile

Electrical Specifications (TA = +25°C, DC Voltage = 12Vdc, DC Current = 160mA)

Description	Minimum	Typical	Maximum	Units
Frequency Range	0.05		2	GHz
Small Signal Gain	25	27	29	dB
Gain Flatness		±0.75	±1	dB
Gain Variance at OTR*		±1		dB
Output at 1 dB Compression Point	+20	+22		dBm
Output 3rd Intercept Point	+34	+37		dBm
Noise Figure		1.8	2	dB
Input VSWR		1.5:1	1.8:1	
Output VSWR		1.5:1	1.8:1	
Spurious			-60	dBc
Input Power (CW)			+20	dBm
Operating DC Voltage	10.5	12	13.5	Volts
Operating DC Current	140	160	190	mA
Operating Temperature Range	-40		+85	°C

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: 37 dBm IP3, 1.8 dB NF, 22 dBm P1dB, 50 MHz to 2 GHz, Low Noise Amplifier, 27 dB Gain, SMA PE15A1042

Pasternack Enterprises, Inc. • P.O. Box 16759, Irvine, CA 92623
Phone: (866) 727-8376 or (949) 261-1920 • **Fax:** (949) 261-7451
Sales@Pasternack.com • Techsupport@Pasternack.com

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*OTR= Base Plate Operating Temperature Range

Absolute Maximum Rating

Parameter	Rating	Units
DC Voltage	+15	V
RF Input Power	+20	dBm
Storage Temperature	-55 - 125	°C
Operating Temperture	-40 - 85	°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	0.044 lbs [19.96 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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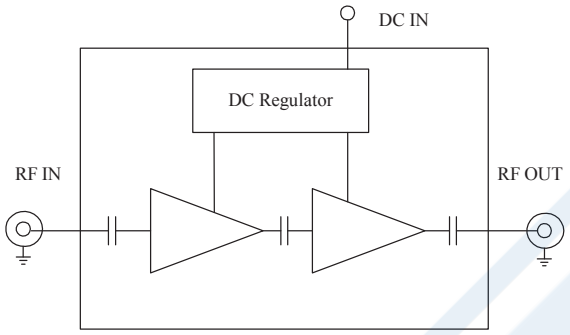
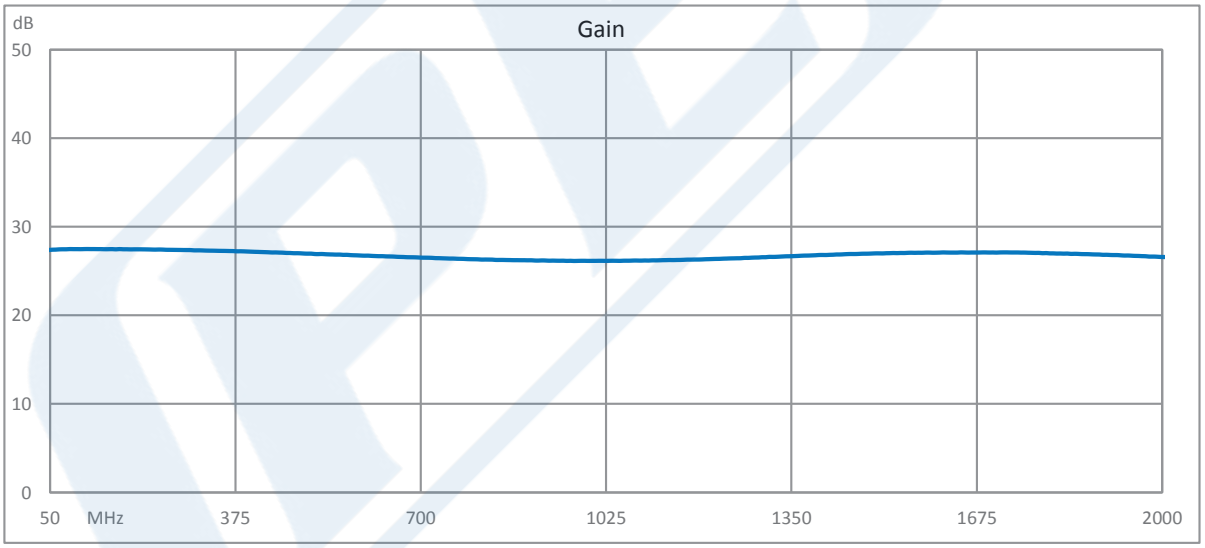
Functional Block Diagram



Typical Performance Data



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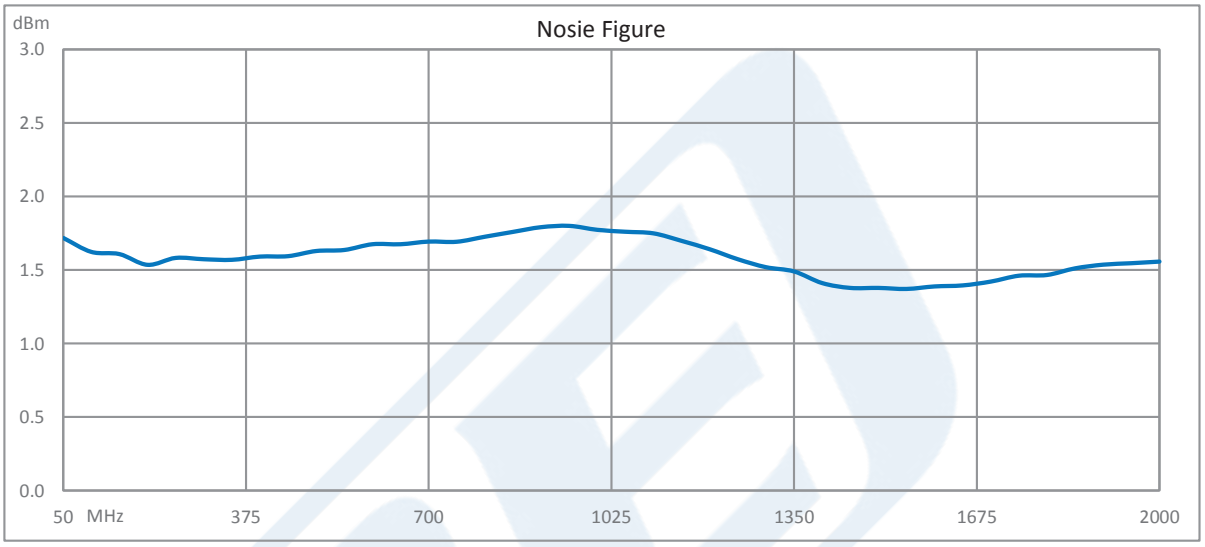

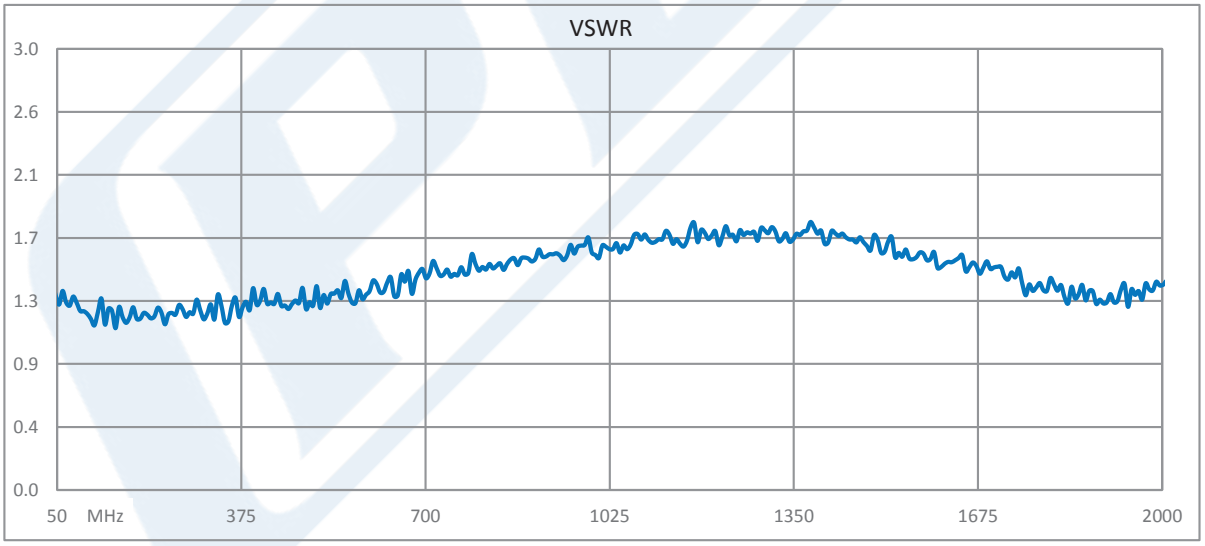

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URL: https://www.pasternack.com/1.8-db-2-ghz-low-noise-amplifier-27-db-gain-sma-pe15a1042-p.aspx

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PE15A1042 CAD Drawing

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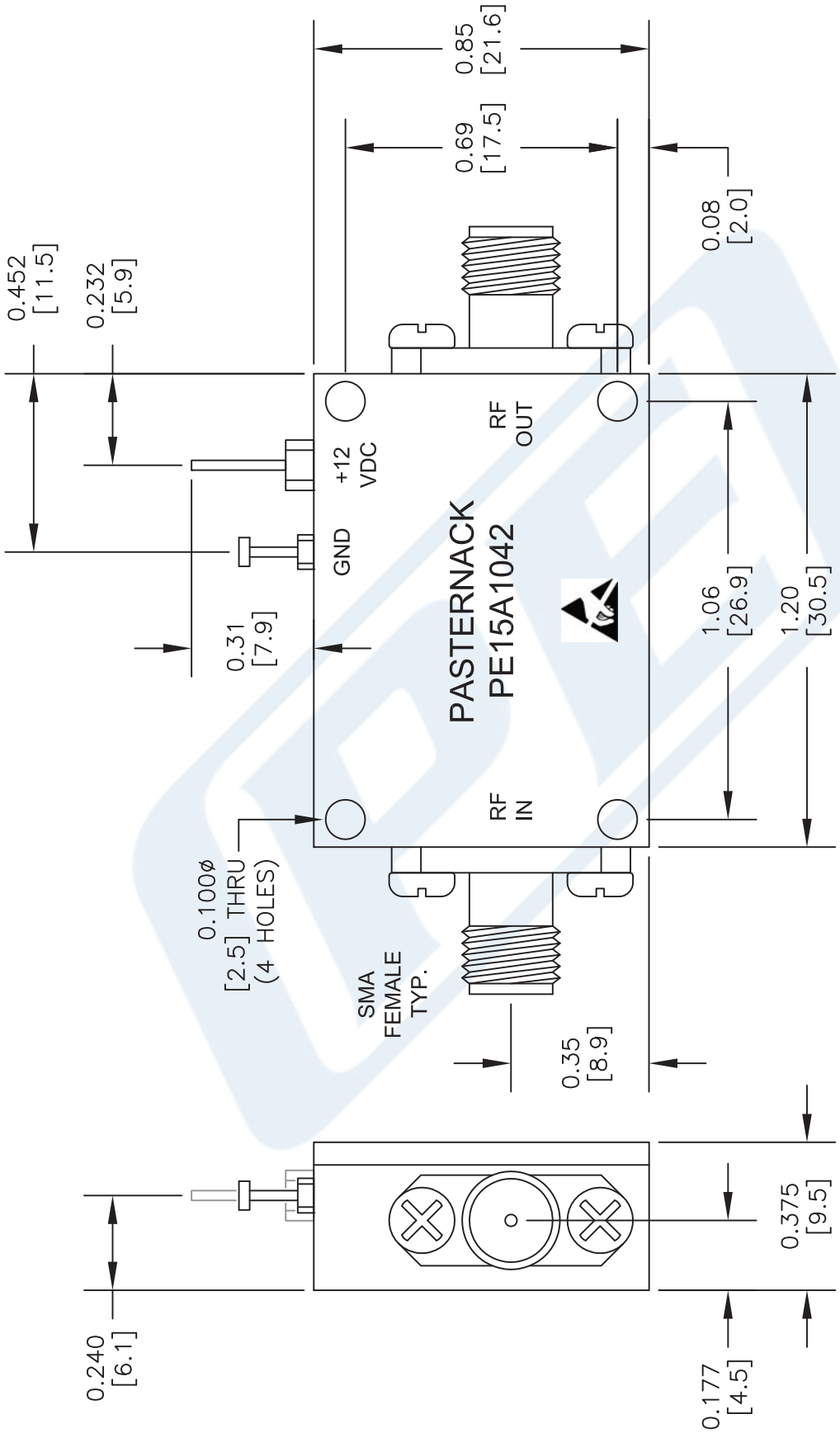

NOTES:
1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.
2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.
3. DIMENSIONS ARE IN INCHES [mm].

CAD FILE	071816	SCALE N/A	SIZE A	2233

DWG TITLE: **PE15A1042**

FSCM NO. 53919

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