PASTERNACK®
THE ENGINEER'S RF SOURCE

40 dB Gain, 31.5 dBm IP3, 0.8 dB NF, 17 dBm P1dB, 10 MHz to 1 GHz, Low Noise High Gain Amplifier SMA

TECHNICAL DATA SHEET PE15A1012

PE15A1012 is a wideband low noise RF coaxial power amplifier operating in the 10 MHz to 1 GHz frequency range. The amplifier offers 0.8 dB typical noise figure, 18 dBm of P1dB and 40 dB small signal gain with the excellent gain flatness of ±1 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. The connectorized SMA module is unconditionally stable and includes built-in voltage regulation, bias sequencing, and reverse bias protection for added reliability. The amplifier operates over the temperature range of -40°C and +85°C.

Features

- 10 MHz to 1 GHz Frequency Range
- P1dB: 18 dBm
- Flat Small Signal Gain: 40 dB
- Gain Flatness: ±1 dB
- Noise Figure: 0.8dB typ
- Reverse Isolation: 55 dB
- 50 Ohm Input and Output Matched
- -40 to 85°C Operating Temperature
- Unconditionally Stable
- Regulated Supply & Bias Sequencing
- Overvoltage Protection

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 = 12Vdc, DC Current = 110mA)

Description	Minimum	Typical	Maximum	Units
Frequency Range	10		1,000	MHz
Small Signal Gain	37	40	42	dB
Gain Flatness		±1	±1.25	dB
Gain Variance at OTR*		±1.25		dB
Output at 1 dB Compression Point	+16	+17		dBm
Output 3rd Intercept Point	+28	+31.5		dBm
Noise Figure (50 MHz to 1,000 MHz)		0.8	1	dB
Input VSWR		1.45:1	1.65:1	
Output VSWR		1.3:1	1.5:1	
Reverse Isolation	50	55		dB
Spurious			-70	dBc
Operating DC Voltage	10	12	15	Volts
Operating DC Current	100	110	125	mA
Operating Temperature Range	-40		+75	°C

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, 31.5 dBm IP3, 0.8 dB NF, 17 dBm P1dB, 10 MHz to 1 GHz, Low Noise High Gain Amplifier SMA PE15A1012

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
Source Voltage	+15	Volts
RF input Power	+13	dBm
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]
Weight	0.0525 lbs [23.81 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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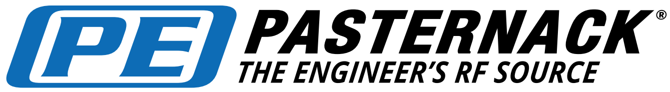

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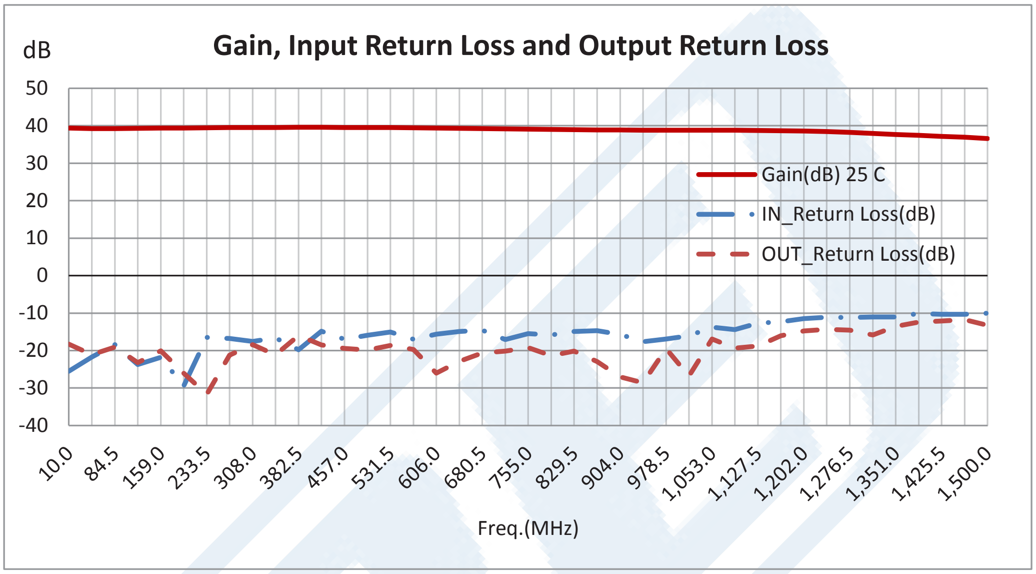
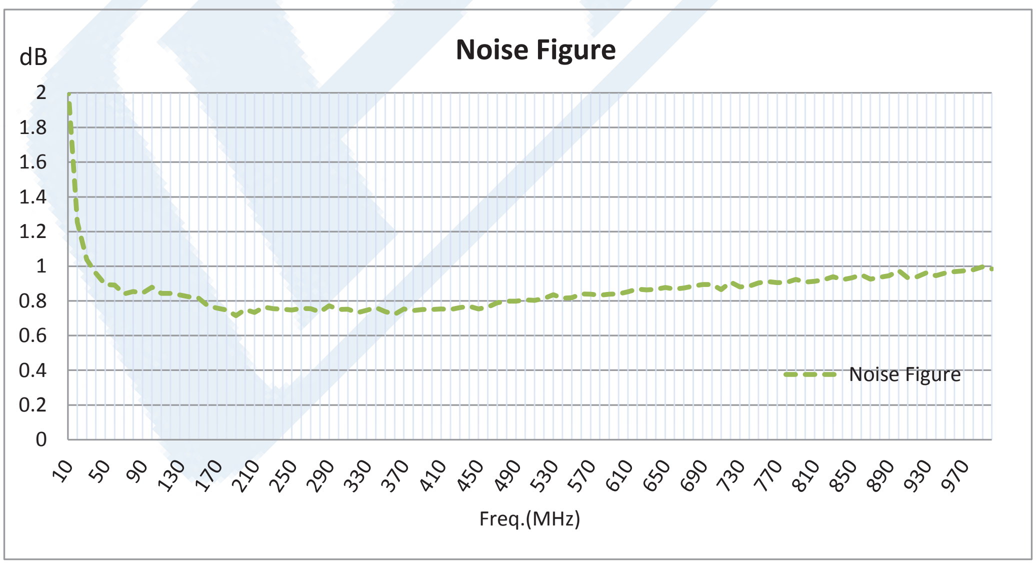
Typical Performance Data





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40 dB Gain, 31.5 dBm IP3, 0.8 dB NF, 17 dBm P1dB, 10 MHz to 1 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 99.4% availability and are part of the broadest selection in the industry.

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URL: https://www.pasternack.com/40-db-gain-1000-mhz-low-noise-high-gain-amplifier-sma-pe15a1012-p.aspx

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PE15A1012 CAD Drawing

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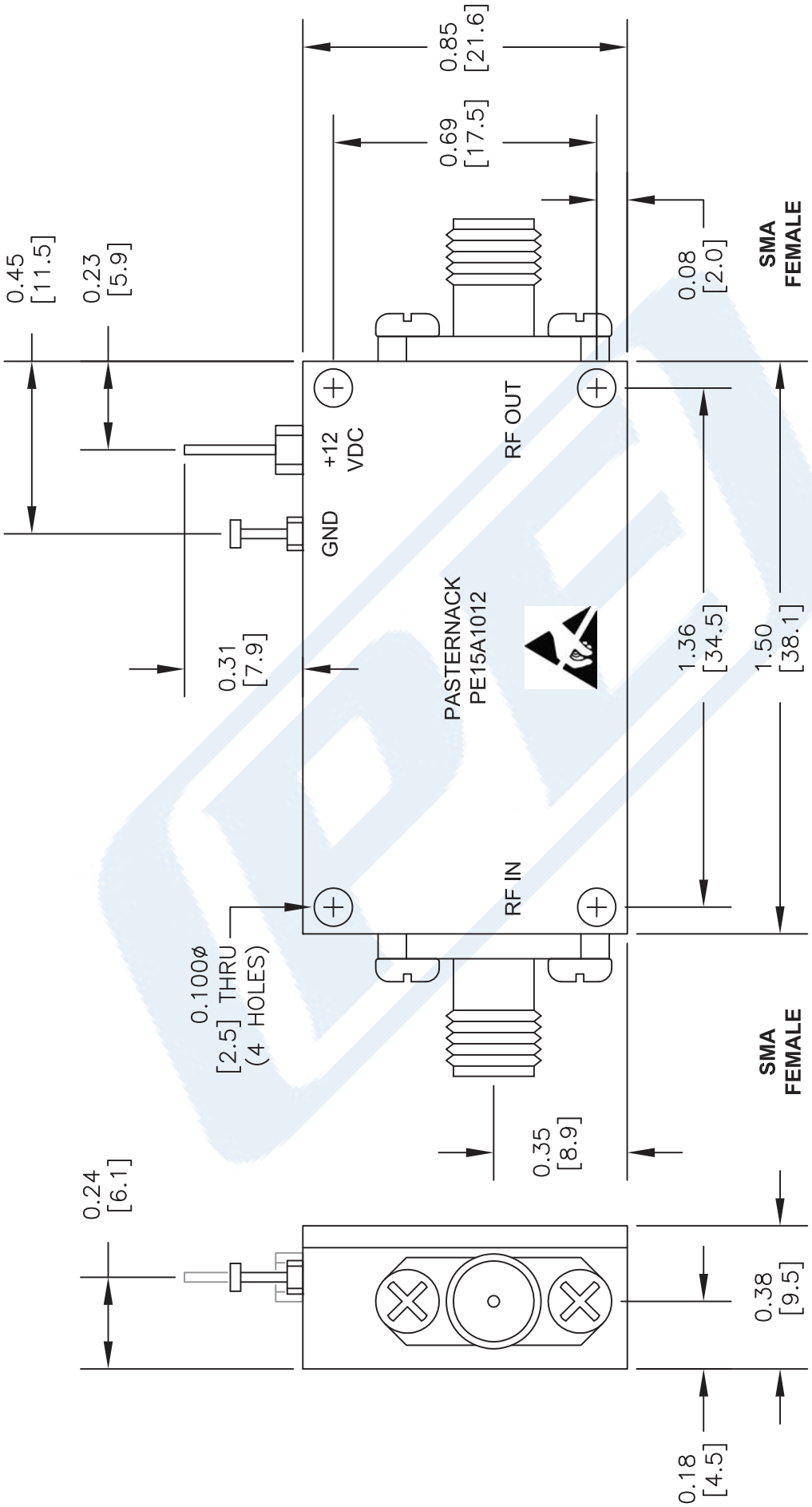

NOTES:
1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.
2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.
3. DIMENSIONS ARE IN INCHES [mm].

CAD FILE	SCALE	SIZE	
021714	N/A	A	2233

DWG TITLE: **PE15A1012**

FSCM NO. 53919

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