PASTERNACK®
THE ENGINEER'S RF SOURCE

1 Watt P1dB, 300 MHz to 18 GHz, Medium Power Broadband Amplifier, 37 dB Gain, 42 dBm IP3, 3.5 dB NF, SMA

TECHNICAL DATA SHEET PE15A3022

PE15A3022 is a broadband GaAs PHEMT MMIC-based coaxial power amplifier, operating in the 0.3 to 18 GHz frequency range. The amplifier offers 30.5 dBm typ of P1dB and 37 dB typ small signal gain, with the gain flatness of ±1.5 typ dB along with an outstanding 42 dBm typ of IP3 performance. This power amplifier requires only a single positive DC supply, is unconditionally stable, operates over the temperature range of -40°C to +75°C.

Features

- 0.3 to 18 GHz Frequency Range
- P1dB: 30.5 dBm typ
- Small Signal Gain: 37 dB typ
- Gain Flatness: ±1.5 dB typ
- Gain Variation Over the Temperature Range: ±2 dB typ
- Output IP3: 42 dBm typ
- Noise Figure Range: 2.5-3.5 dB typ
- 50 Ohm Input and Output Matched
- -40 to +75°C Operating Temperature
- Unconditionally Stable
- Single DC Positive Supply
- Built-in DC Voltage Regulator
- Small Size & Light Weight

Applications

- Laboratory Applications
- R&D Labs
- Radar Systems
- Electronic Warfare
- Telecom Infrastructure
- Test Instrumentation
- Communication Systems
- Satellite Communications
- Wireless Communications
- Unmanned Systems
- Microwave Radio Systems
- Power Amplifier
- Low Noise Amplifier
- General Purpose Amplification
- RF Front Ends

Electrical Specifications (TA = +25°C, DC Voltage = 15Volts, DC Current = 850mA)

Description	Minimum	Typical	Maximum	Units
Frequency Range	0.3		18	GHz
Gain	34	37	40	dB
Gain Flatness		±1.5	±2.5	dB
Gain Variance at OTR*		±2	±2	dB
Output at 1 dB Compression Point	+30.5	+30.5		dBm
Output 3rd Intercept Point		+42		dBm
Reverse Isolation		60		dB
Spurious		-60		dBc
Noise Figure			3.5	dB
Noise Figure at 2 to 15 GHz		2.5	3	dB
Noise Figure at 15 to 18 GHz		3	3.5	dB
Input VSWR		1.8:1	2.2:1	
Output VSWR		1.8:1	2.2:1	
Operating DC Voltage	12		15	Volts
Operating DC Current	700	850	1,200	mA
Operating Temperature Range (OTR)	-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: 1 Watt P1dB, 300 MHz to 18 GHz, Medium Power Broadband Amplifier, 37 dB Gain, 42 dBm IP3, 3.5 dB NF, SMA PE15A3022

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	+18	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	1.9 in [48.26 mm]
Width	1.5 in [38.1 mm]
Height	0.5 in [12.7 mm]
Input Connector	SMA Female
Output Connector	SMA Female

Environmental Specifications

Temperature

Operating Range	-40 to +75 deg C
Storage Range	-45 to +125 deg C

Compliance Certifications (visit 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.
- Heat Sink Required for Proper Operation, Unit is cooled by conduction to heat sink.

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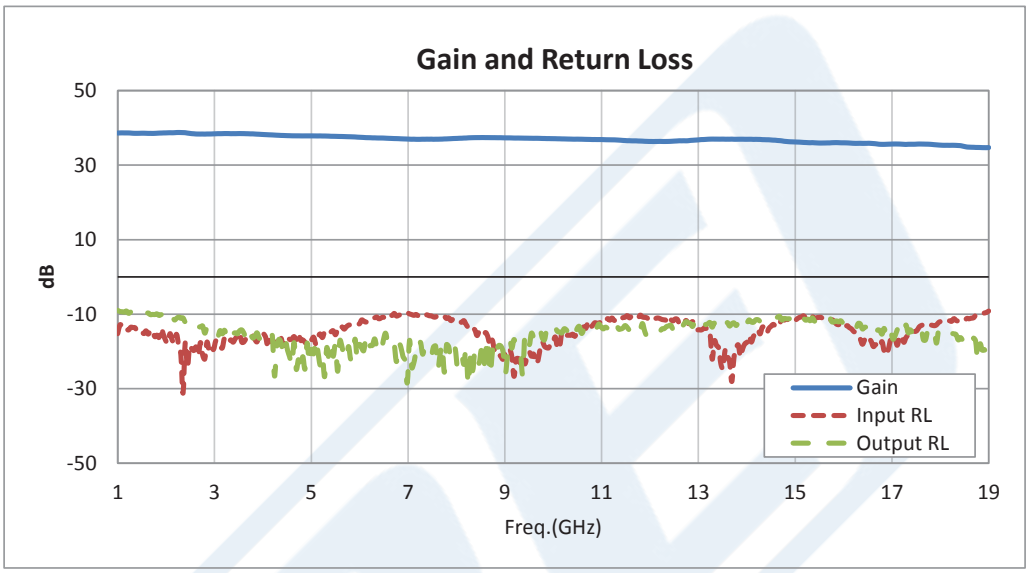
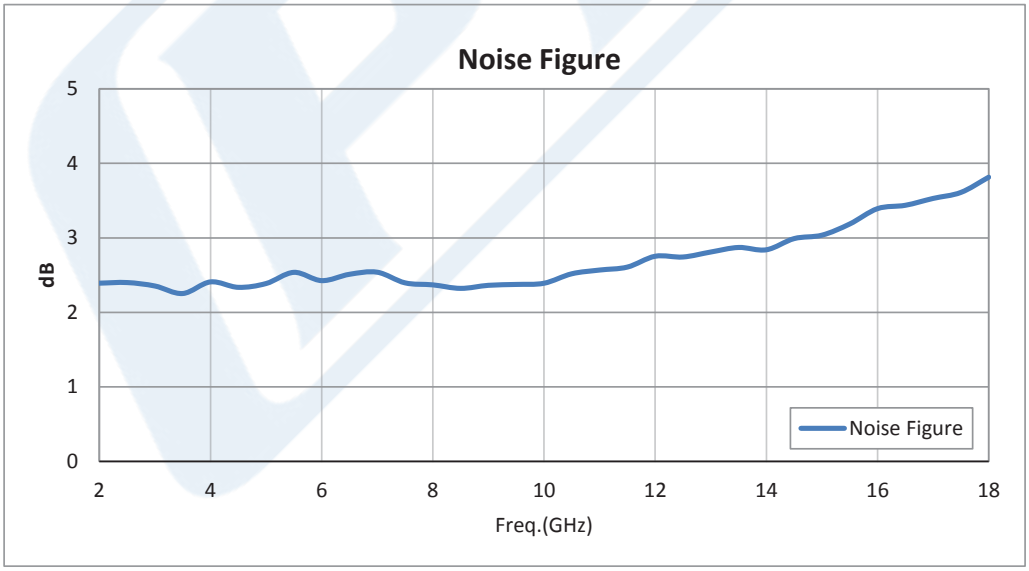
Typical Performance Data





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1 Watt P1dB, 300 MHz to 18 GHz, Medium Power Broadband Amplifier, 37 dB Gain, 42 dBm IP3, 3.5 dB NF, 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.

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URL: http://www.pasternack.com/18-ghz-medium-power-broadband-amplifier-37-db-gain-3.5-db-sma-pe15a3022-p.aspx

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.

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PE15A3022 CAD Drawing

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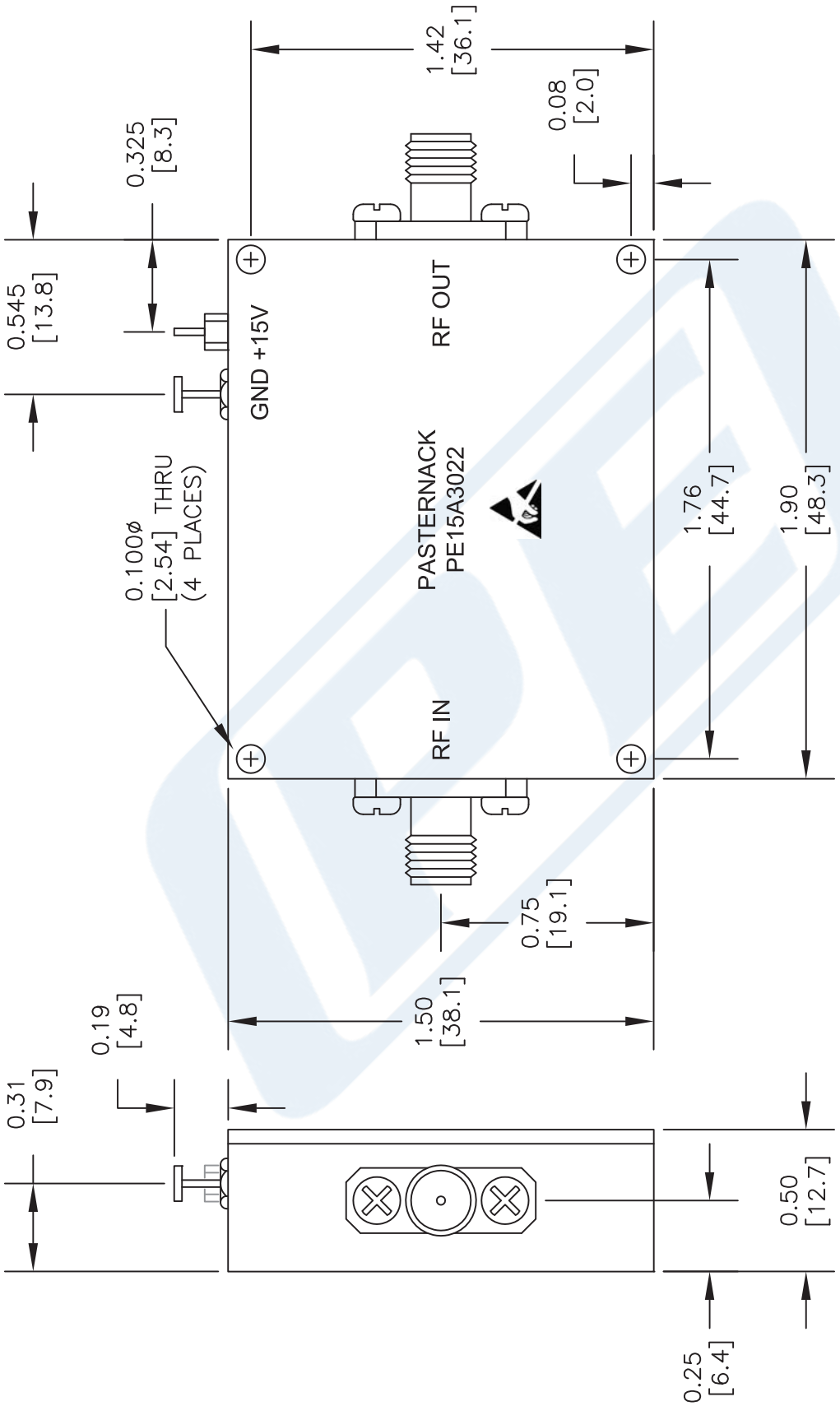

NOTE:
HEAT SINK REQUIRED FOR PROPER OPERATION, UNIT IS COOLED BY CONDUCTING TO HEAT SINK.

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: PE15A3022

FSCM NO. 53919 | CAD FILE 070214 | SCALE N/A | SIZE A | 150

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