



1 Watt P1dB, 2 GHz to 18 GHz, Medium Power
Broadband Amplifier, 37 dB Gain, 42 dBm IP3, SMA

TECHNICAL DATA SHEET

PE15A3022

PE15A3022 is a broadband GaAs PHEMT MMIC-based coaxial power amplifier, operating in the 2 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 $+75^{\circ}\text{C}$.

Features

- 2 to 18 GHz Frequency Range
- P1dB: 30.5 dBm typ
- Small Signal Gain: 37 dB typ
- Gain Flatness: ± 1.5 dB typ
- Output IP3: 42 dBm typ
- Noise Figure Range: 2.5-3.5 dB typ
- 50 Ohm Input and Output Matched
- Unconditionally Stable
- Single DC Positive Supply with built-in DC Voltage Regulator
- Small Size & Light Weight

Applications

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

Electrical Specifications (TA= 25°C)

Description	Minimum	Typical	Maximum	Units
Frequency Range	2		18	GHz
Gain	34	37	41	dB
Gain Flatness		± 1.5	± 2.5	dB
Gain Variation over OTR*		± 2		dB
Output at 1 dB Compression Point	+29.5	+30.5		dBm
Input Power			+15	dBm
Output 3 rd Intercept Point		+42		dBm
Reverse Isolation		60		dB
Spurious		-60		dBc
Noise Figure at		3	4.5	dB
Input VSWR		1.8:1	2.2:1	
Output VSWR		1.8:1	2.2:1	
Operating DC Voltage 1	12		15	Volts
Operating DC Current	600	800	1.2	mA
Operating Temperature Range (OTR)	-40		+75	$^{\circ}\text{C}$

*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: [1 Watt P1dB, 2 GHz to 18 GHz, Medium Power Broadband Amplifier, 37 dB Gain, 42 dBm IP3, SMA PE15A3022](#)



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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]
Weight	0.14 lbs [63.5 g]
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 (see [product page](#) for current document)

Plotted and Other Data

Notes:

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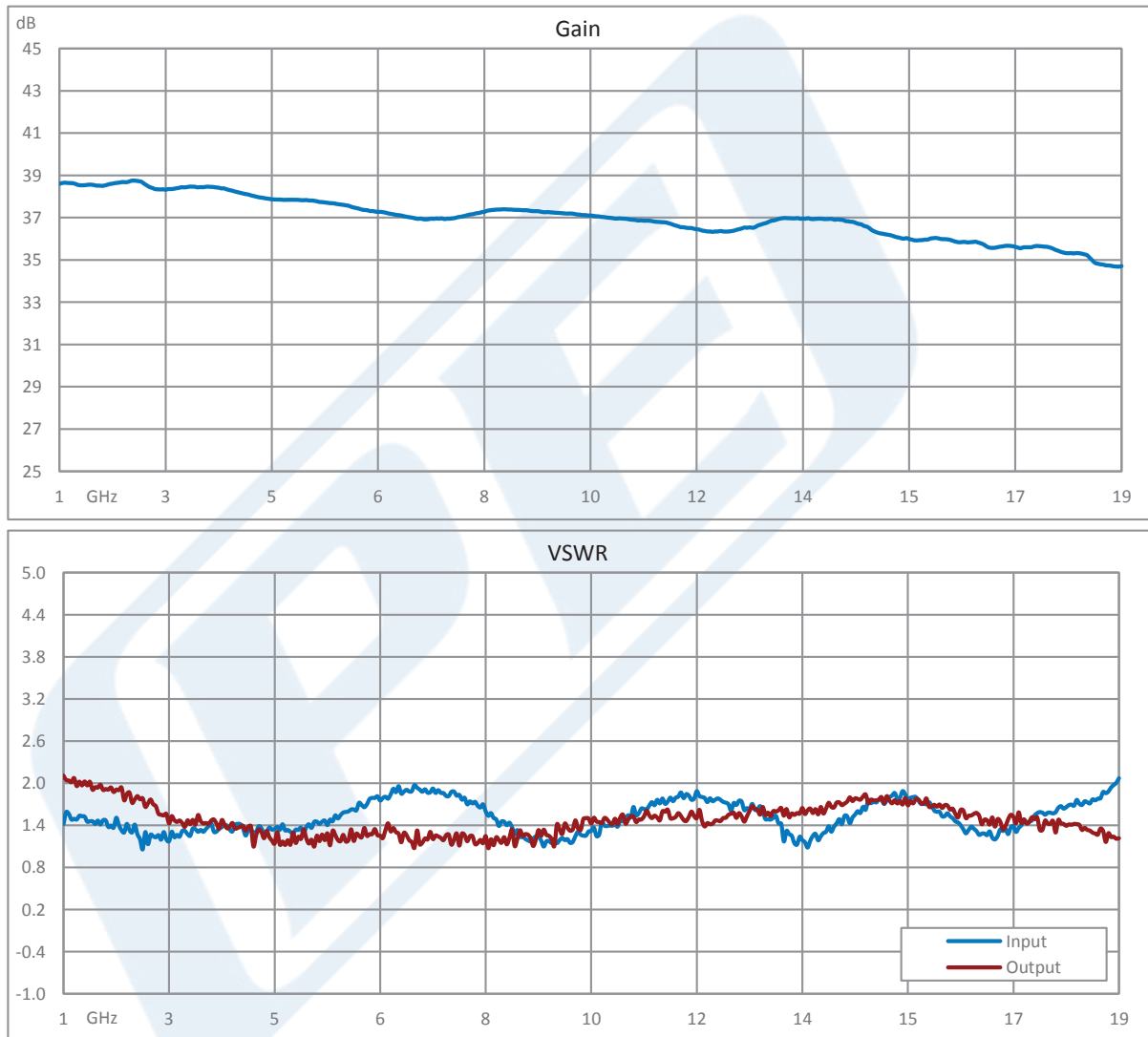


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Typical Performance Data



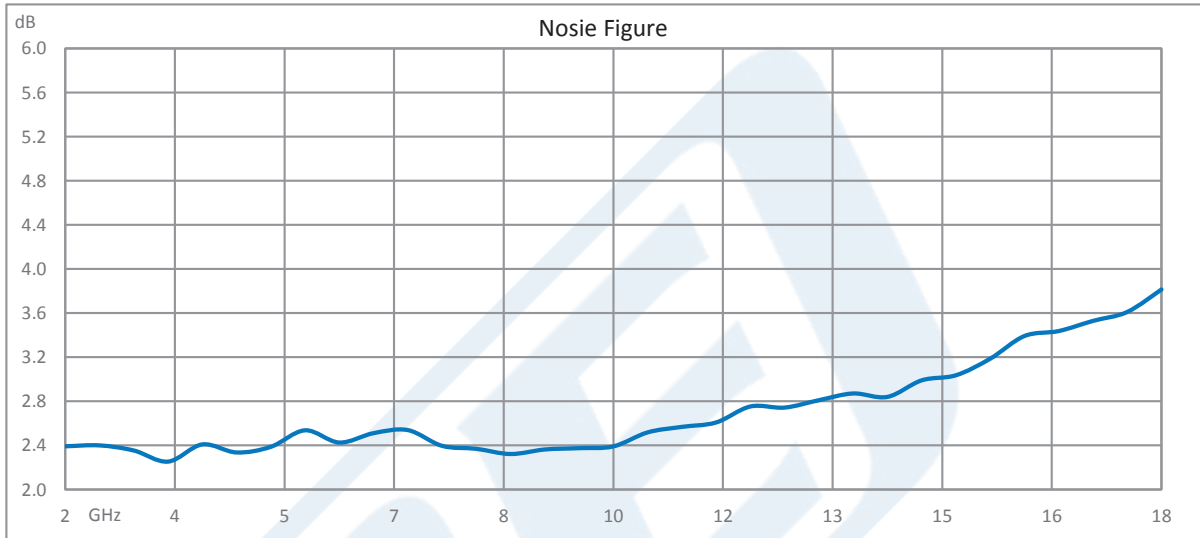
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1 Watt P1dB, 2 GHz to 18 GHz, Medium Power Broadband Amplifier, 37 dB Gain, 42 dBm IP3, SMA from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

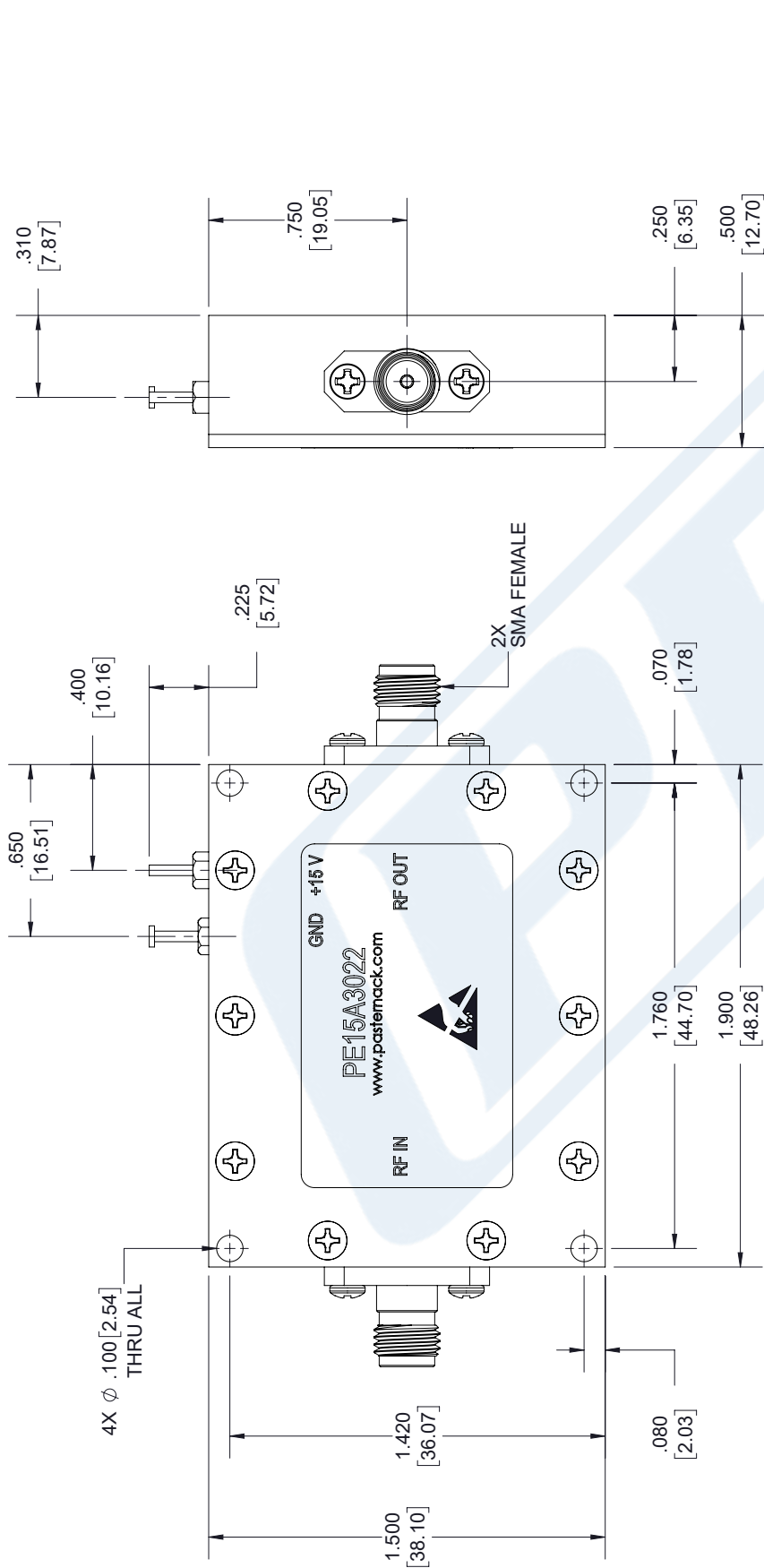
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [1 Watt P1dB, 2 GHz to 18 GHz, Medium Power Broadband Amplifier, 37 dB Gain, 42 dBm IP3, SMA PE15A3022](https://www.pasternack.com/18-ghz-medium-power-broadband-amplifier-37-db-gain-42-dbm-ip3-sma-pe15a3022-p.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.

PE15A3022 CAD Drawing

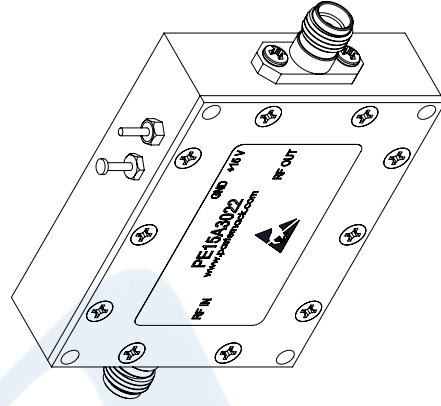
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STANDARD TOLERANCES

.X ±0.2
.XX ±0.01
.XXX ±0.005

*STANDARD TOLERANCES APPLY
ONLY TO DIMENSIONS IN INCHES



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

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CAD FILE 10/10/18

SCALE N/A

SIZE A

7361