



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

TECHNICAL DATA SHEET

PE15A3021

PE15A3021 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 of P1dB and 37 dB small signal gain, with the gain flatness of ± 2 dB along with an outstanding 42 dBm 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 , and characterized by a light weight (36 g) and small size (1.9"x1.5"x0.5").

Features

- 0.3 to 18 GHz Frequency Range
- P1dB: 30.5 dBm
- Small Signal Gain: 37 dB
- Gain Flatness: ± 2.0 dB
- Gain Variation Over the Temperature Range: ± 2 dB
- Output IP3: 42 dBm
- Noise Figure Range: 2.5-3.5 dB
- 50 Ohm Input and Output Matched
- -40 to $+75^{\circ}\text{C}$ 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, VDC1 = 15 Vdc)

Description	Minimum	Typical	Maximum	Units
Frequency Range	0.3		18	GHz
Gain	34	37	41	dB
Gain Flatness		± 2	± 2.5	dB
Gain Variation over OTR*		± 2		dB
Output at 1 dB Compression Point	+29.5	+30.5		dBm
Output 3 rd Intercept Point		+42		dBm
Reverse Isolation		60		dB
Spurious			-60	dBc
Noise Figure at 300 to 1,000 MHz		3	4	dB
Noise Figure at 1 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 1	14.5	15	18	Volts
Operating DC Current	600	750	1200	mA

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, SMA PE15A3021](#)



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Operating Temperature Range (OTR) -40 +75 °C

*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]
Weight	0.136 lbs [61.69 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:

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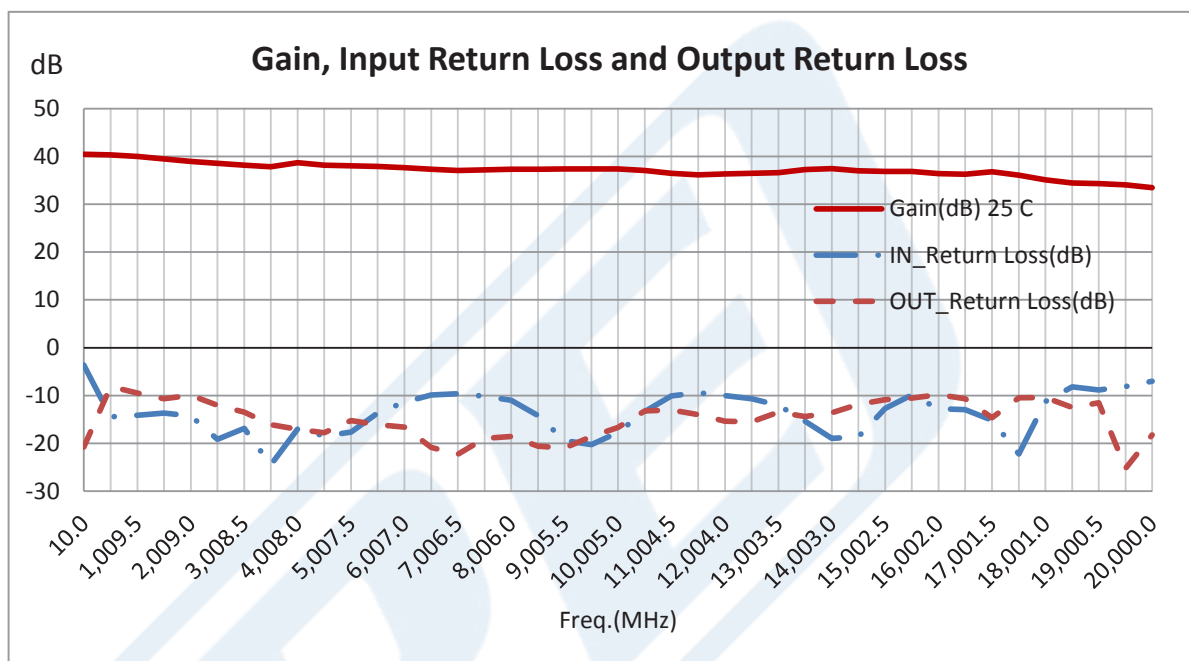


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Typical Performance Data



1 Watt P1dB, 300 MHz 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.

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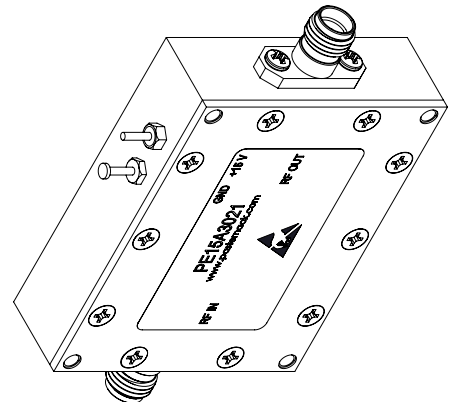
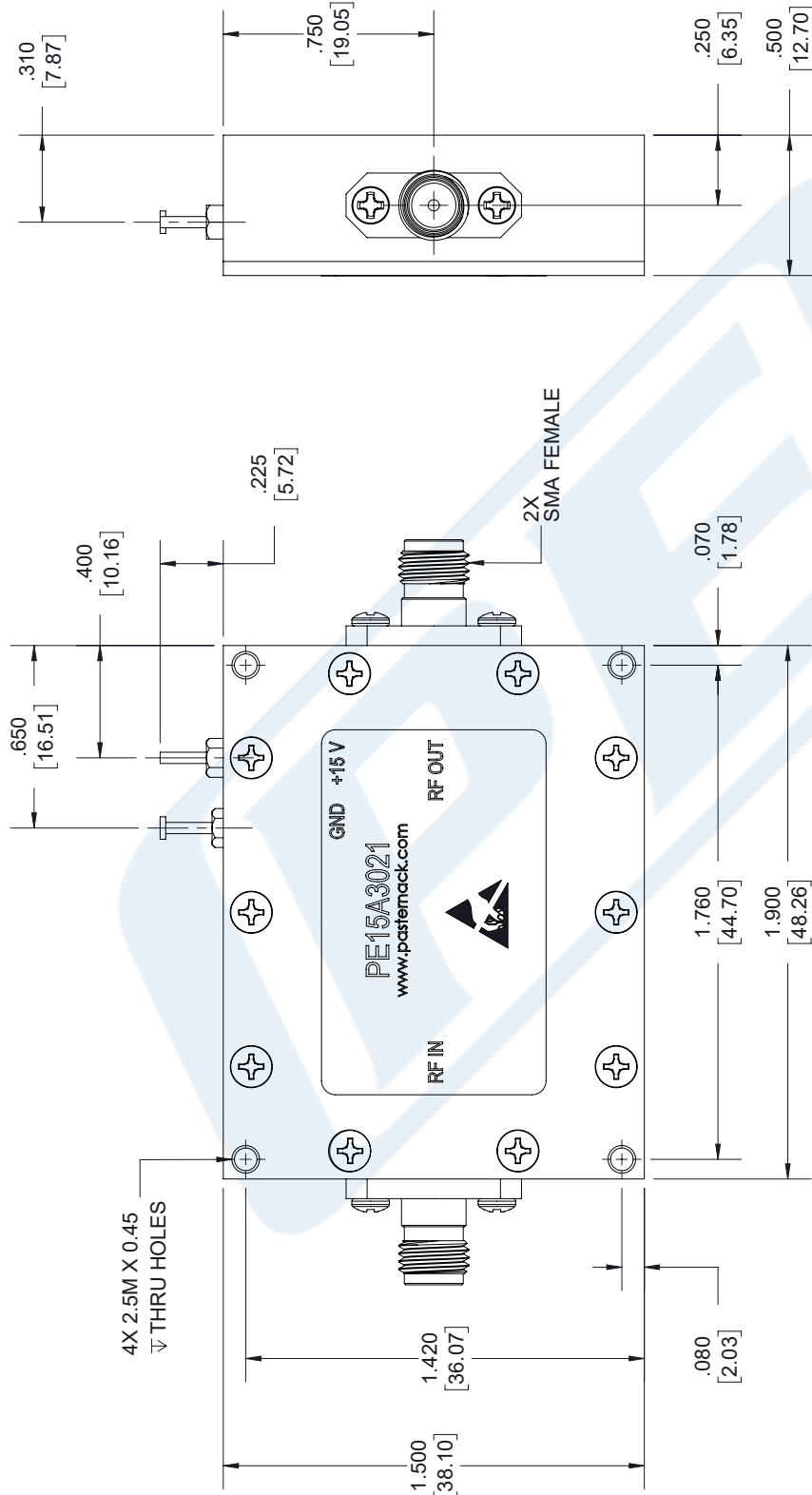
URL: <https://www.pasternack.com/18-ghz-medium-power-broadband-amplifier-37-db-gain-3.5-db-sma-pe15a3021-p.aspx>

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PE15A3021 CAD Drawing

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Amplifier, 37 dB Gain, 42 dBm IP3, SMA

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	09/30/19	J.GARCIA



UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE IN INCHES DIMENSIONS IN [] ARE MILLIMETERS			
TOLERANCES:			
X±.2 [5.08]	FRACTIONS		
XX±.01 [0.25]	±.132		
XXX±.005 [0.13]	ANGLES ± 1°		
ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.			
THIRD-ANGLE PROJECTION			

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Pasternack Enterprises, Inc. P.O. Box 16759, Irvine, CA 92623. Phone: 1.949.261.1920 1.866.727.8376 Fax: 1.949.261.7451 www.pasternack.com e-mail: sales@pasternack.com			
SIZE	CAGE CODE	DRAWN BY	PART NUMBER
A	53919	K.DANG	PE15A3021
			REV
			A

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