

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



PE15A3021

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: 3-5 dB
- 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

Description

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").

Electrical Specifications (TA= 25°C, VDC = 15 Vdc)

Description	Min	Typ	Max	Unit
Frequency Range	0.3		18	GHz
Gain	34	37	41	dB
Gain Flatness		± 2	± 2.5	dB
Gain Variation over OTR*		± 2		dB
P1dB	+29.5	+30.5		dBm
IP3		+42		dBm
Reverse Isolation		60		dB
Spurious			-60	dBc
Noise Figure at 0.3 to 2.5 GHz		3.5	5	dB
Noise Figure at 2.5 to 14 GHz		3	3.5	dB
Noise Figure at 14 to 18 GHz		3.5	4	dB
Input VSWR		1.8:1	2.2:1	
Output VSWR		1.8:1	2.2:1	
Operating DC Voltage	14.5	15	18	Vdc

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

PE15A3021



Electrical Specifications (TA= 25°C, VDC = 15 Vdc)

Description	Min	Typ	Max	Unit
Operating DC Current	600	750	1000	mA
Operating Temperature Range (OTR)	-40		+75	°C

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	0.15 lbs [68.04 g]
Input Connector	SMA Female
Output Connector	SMA Female
Cooling	ADEQUATE HEATSINK REQUIRED

Mechanical Specification Notes:
External Heatsink required for proper operation

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)

CE Certification

Plotted and Other Data

Notes:

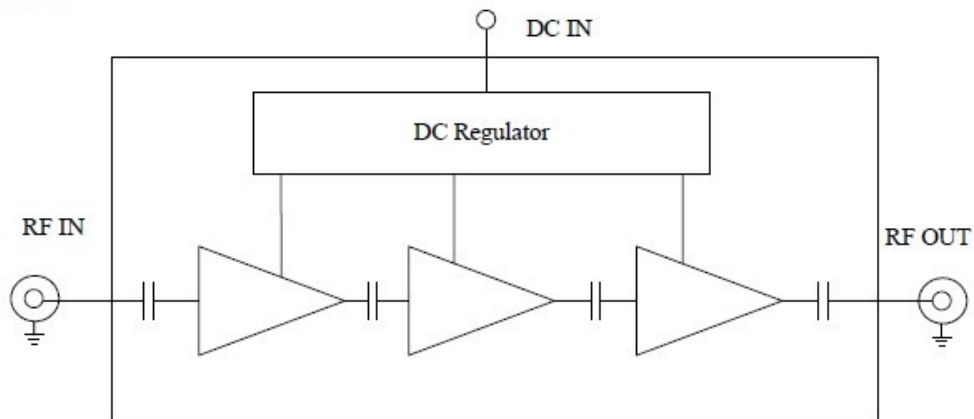
1 Watt P1dB, 300 MHz to 18 GHz, Medium Power
Broadband Amplifier, 37 dB Gain, 42 dBm IP3, SMA



PE15A3021

Functional Block Diagram

Functional Diagram

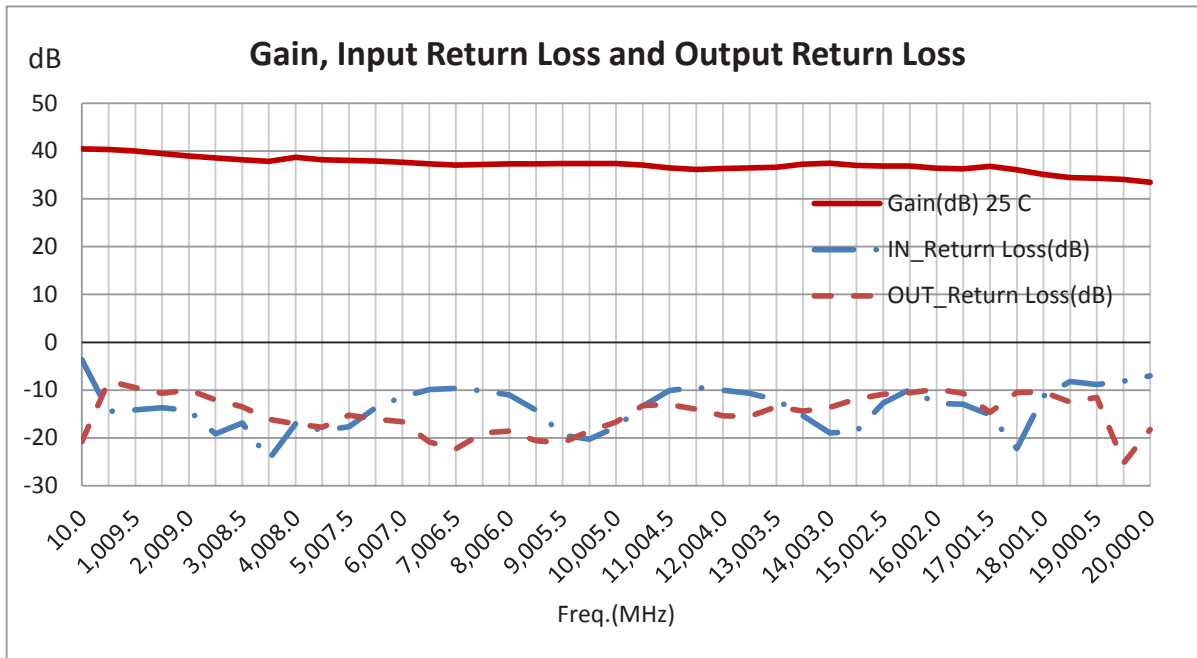


1 Watt P1dB, 300 MHz to 18 GHz, Medium Power
Broadband Amplifier, 37 dB Gain, 42 dBm IP3, SMA

PE15A3021



Typical Performance Data Parameter, Typ Performance



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.

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](https://www.pasternack.com/18-ghz-medium-power-broadband-amplifier-37-db-gain-42-dbm-ip3-sma-pe15a3021-p.aspx)

URL: <https://www.pasternack.com/18-ghz-medium-power-broadband-amplifier-37-db-gain-42-dbm-ip3-sma-pe15a3021-p.aspx>

The information contained within 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 Enterprises reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Pasternack Enterprises does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Pasternack Enterprises does not assume liability arising out of the use of any part or document.

PE15A3021 CAD Drawing

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

