



1 Watt Psat, 110 MHz to 6 GHz, Medium Power Broadband Amplifier, 10.5 dB Gain, 38 dBm IP3, 6.5 dB NF, SMA

TECHNICAL DATA SHEET

PE15A3004

PE15A3004 is a broadband multi-octave GaAs PHEMT MMIC-based coaxial power amplifier, operating in the .11 to 6 GHz frequency range. The amplifier offers 30 dBm of saturated output power, 27 dBm of minimum P1dB and 10.5 dB of minimum small signal gain, along with the excellent gain flatness of ± 1.25 dB max and the outstanding IP3 performance of 38 dBm. This performance is achieved through the use of advanced GaAs PHEMT circuitry. This power amplifier requires only a single positive DC supply, is unconditionally stable, and operates over the temperature range of -40°C to 85°C , and characterized by a light weight (21 g) and small size (1.55"x1.37"x0.55").

Features

- .11 to 6 GHz Frequency Range
- Psat: 30 dBm min
- P1dB: 27 dBm min
- Small Signal Gain: 10.5 dB min @6GHz
- Gain Flatness: ± 1.25 dB
- High Output IP3: 38 dBm Typ
- Noise Figure: 6.5 dB
- 50 Ohm Input and Output Matched
- -40 to $+85^{\circ}\text{C}$ Operating Temperature
- Unconditionally Stable
- Single DC Positive Supply
- Built-in DC Voltage Regulator
- Small Size & Weight

Applications

- Laboratory Applications
- R&D Labs
- Radar Systems
- Telecom Infrastructure
- Test Instrumentation
- Military & Space
- Communication Systems
- Satellite Communications
- Wireless Communications
- Microwave Radio Systems
- Power Amplifier
- General Purpose Amplification
- RF Front Ends
- Fiber Optic Interface

Electrical Specifications (TA = $+25^{\circ}\text{C}$, DC Voltage = 12Volts, DC Current = 300mA)

Description	Minimum	Typical	Maximum	Units
Frequency Range	0.11		6	GHz
Gain	10.5			dB
Gain Flatness			± 1.25	dB
Output at 1 dB Compression Point	+27			dBm
Saturation Output Power	+30			dBm
Output 3 rd Intercept Point		+38		dBm
Noise Figure		6.5		dB
Input VSWR		1.29:1	1.67:1	
Output VSWR		1.67:1		
Operating DC Voltage	8		12	Volts
Operating DC Current		300		mA
Operating Temperature Range (OTR)	-40		+85	$^{\circ}\text{C}$

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [1 Watt Psat, 110 MHz to 6 GHz, Medium Power Broadband Amplifier, 10.5 dB Gain, 38 dBm IP3, 6.5 dB NF, SMA PE15A3004](#)



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Absolute Maximum Rating

Parameter	Rating	Units
Source Voltage	+14	Volts
RF input Power	+20	dBm
Operating Temperature (base-plate)	-40 to +85	°C
Storage Temperature	-55 to +100	°C



ESD Sensitive Material,
Transport material in
Approved ESD bags.
Handle only in approved
ESD Workstation.

Mechanical Specifications

Size

Length	1.55 in [39.37 mm]
Width	1.37 in [34.8 mm]
Height	0.55 in [13.97 mm]
Weight	0.047 lbs [21.32 g]
Input Connector	SMA Female
Output Connector	SMA Female

Environmental Specifications

Temperature

Operating Range	-40 to +85 deg C
Storage Range	-55 to +100 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.



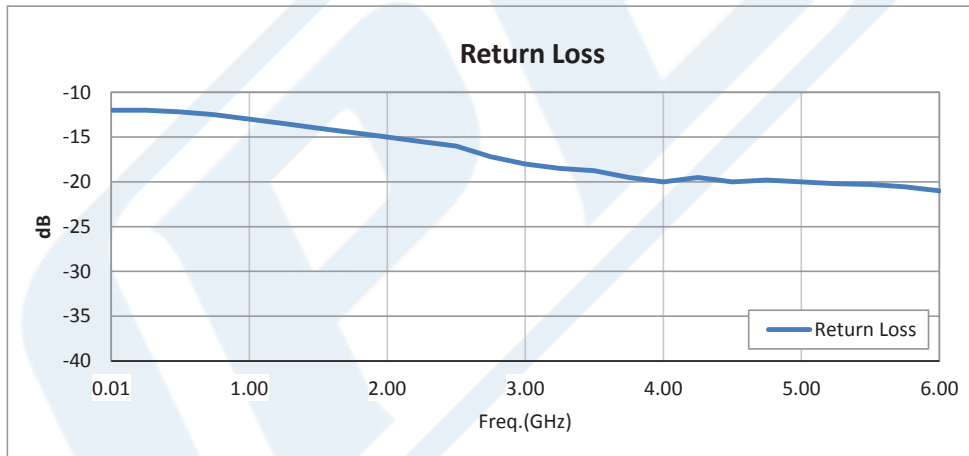
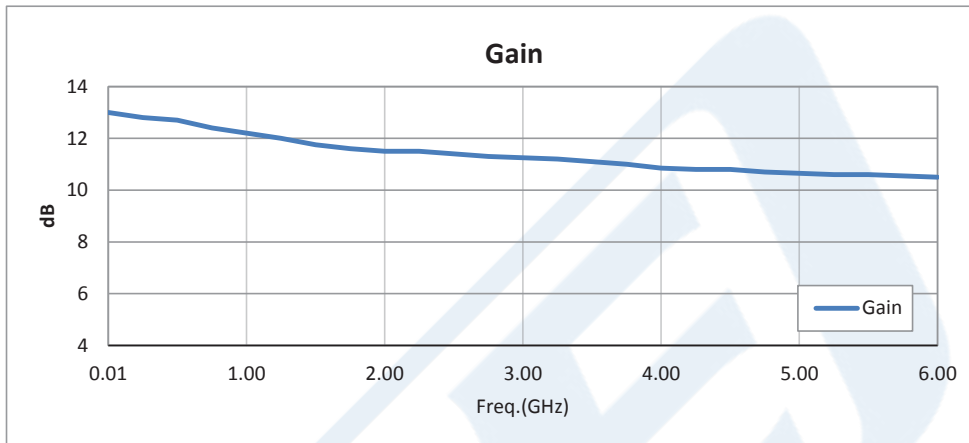
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Typical Performance Data



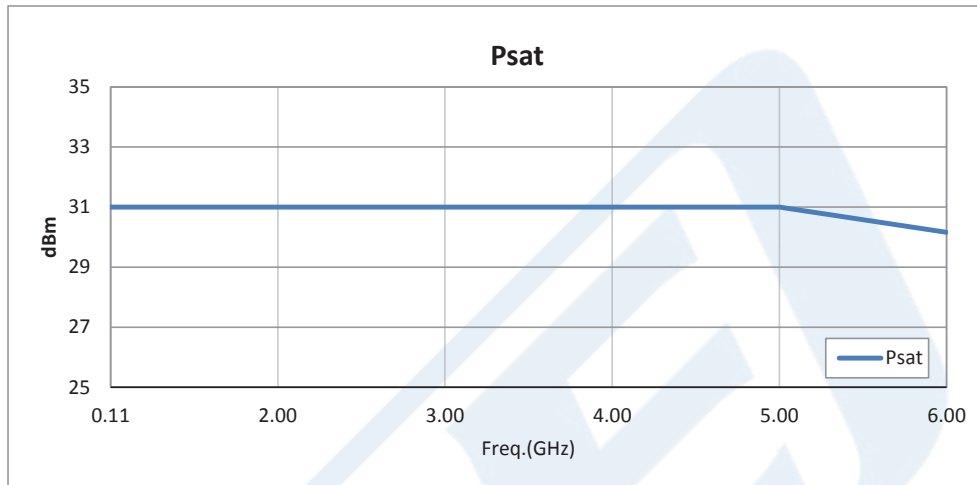
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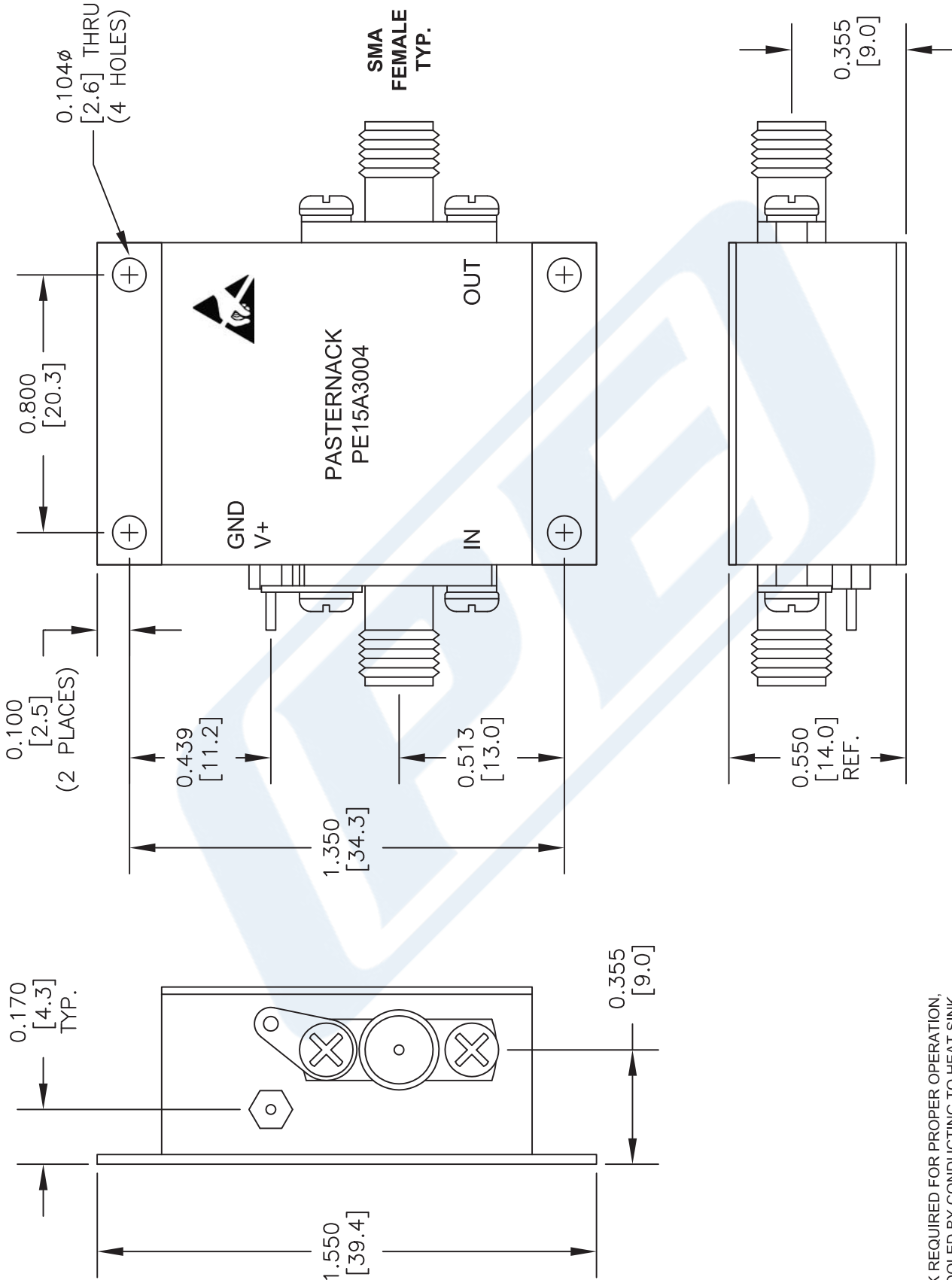
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The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. 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.

PE15A3004 CAD Drawing

1 Watt P_{sat}, 110 MHz to 6 GHz, Medium Power Broadband Amplifier, 10.5 dB Gain, 38 dBm IP₃, 6.5 dB NF, SMA



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



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DWG TITLE

PE15A3004

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].

FSCM NO. 53919

CAD FILE 032614

SCALE N/A

SIZE A

2233