



50 dB Gain, 50 Watt Psat, 2 GHz to 6 GHz, High Power High Gain Amplifier, GaN, 7 dB NF, SMA

TECHNICAL DATA SHEET

PE15A5025

The PE15A5025 is a 50W high gain power coaxial amplifier operating in the 2 to 6 GHz frequency range. The amplifier offers 46 dBm min of saturated power and a high 50 dB typical small signal gain with the gain flatness over temperature of -0.05 dB/°C typical. This excellent technical performance is achieved through the use of advanced GaN devices. The amplifier requires typically a +28V DC power supply. The connectorized SMA module is unconditionally stable and includes built-in voltage regulation, bias sequencing, DC On/Off TTL Logic control, current monitoring and over temp shutdown at +90°C for added reliability. The amplifier operates over the temperature range of -40°C and +85°C. The RF Input/Output Connectors are SMA Female. Along with a 15 Pin Micro-D Female Control Socket.

**Features**

- 2 GHz to 6 GHz Frequency Range
- Psat 46 dBm min
- Small Signal Gain: 50 dB min
- Gain Flatness  $\pm 1.25$  dB typical
- CW Operation
- 50 Ohms Input and Output Matched
- Unconditionally Stable
- Regulated Supply & Bias Sequencing
- Hermetically Sealed Module
- Current Monitoring
- Mismatch Handling 5.0:1 max
- Over Temp Shutdown

**Applications**

- Military Radio
- Communication Systems
- High Gain Driver Power Amplifier
- High Gain Output Power Amplifier

**Electrical Specifications** (TA = +25°C, DC Voltage = 28Volts, DC Current = 6,000mA)

Description	Minimum	Typical	Maximum	Units
Frequency Range	2		6	GHz
Small Signal Gain	50			dB
Gain Flatness		$\pm 1.25$		dB
Psat	+46	+47		dBm
Efficiency (PAE)		30		%
Harmonics @50 Watts		-15		dBc
Noise Figure			7	dB
Spurious @50 Watts		-70		dBc
Input VSWR		2:1		
Output VSWR		2:1		
TTL Control	"1": Off, "0": On (Blanking), Enable: 0V, Disable: 5V			
Operating DC Voltage		28		Volts
Operating DC Current		6,000		mA
Operating Temperature Range	-40		+85	°C

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [50 dB Gain, 50 Watt Psat, 2 GHz to 6 GHz, High Power High Gain Amplifier, GaN, 7 dB NF, SMA PE15A5025](#)



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### Mechanical Specifications

#### Size

Length	2.5 in [63.5 mm]
Width	2.75 in [69.85 mm]
Height	0.45 in [11.43 mm]

Input Connector	SMA Female
Output Connector	SMA Female
Cooling	HEATSINK REQUIRED use PE15A5990

### Environmental Specifications

#### Temperature

Operating Range	-40 to +85 deg C
Storage Range	-54 to +85 deg C

Humidity	IAW MIL-STD-810F, up to 95% Non-Condensing
Shock	IAW MIL-STD-202G method 214, condition C
Vibration	IAW MIL-STD-810F, Method 514.5, Table
Altitude	up to 30,000 ft feet Above Sea Level
Salt Fog	5%, +35°C 96 hrs IAW MIL-STD- 810G method
Fungus	IAW MIL-STD-810G method 508.6

### Compliance Certifications (visit [www.Pasternack.com](http://www.Pasternack.com) for current document)

Not RoHS Compliant	
REACH Compliant	12/17/2014

### 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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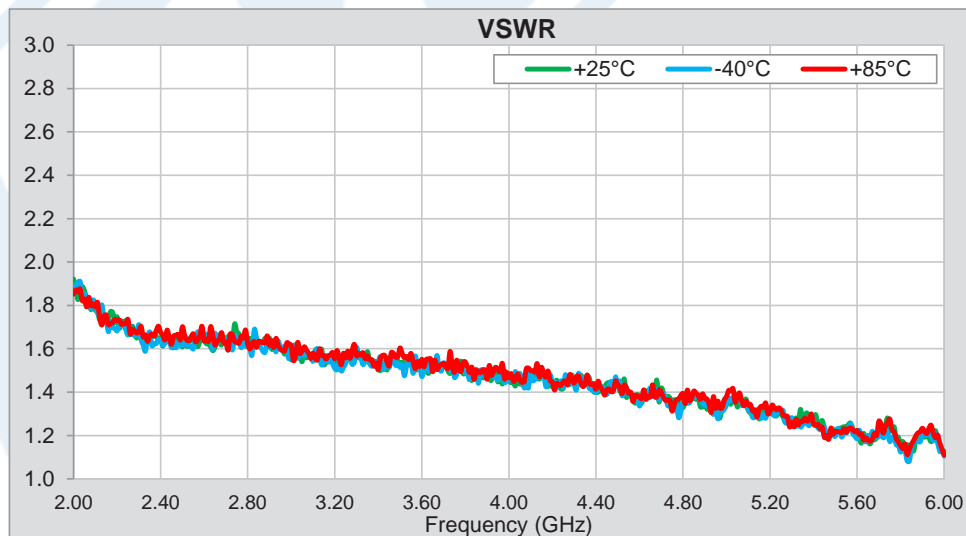
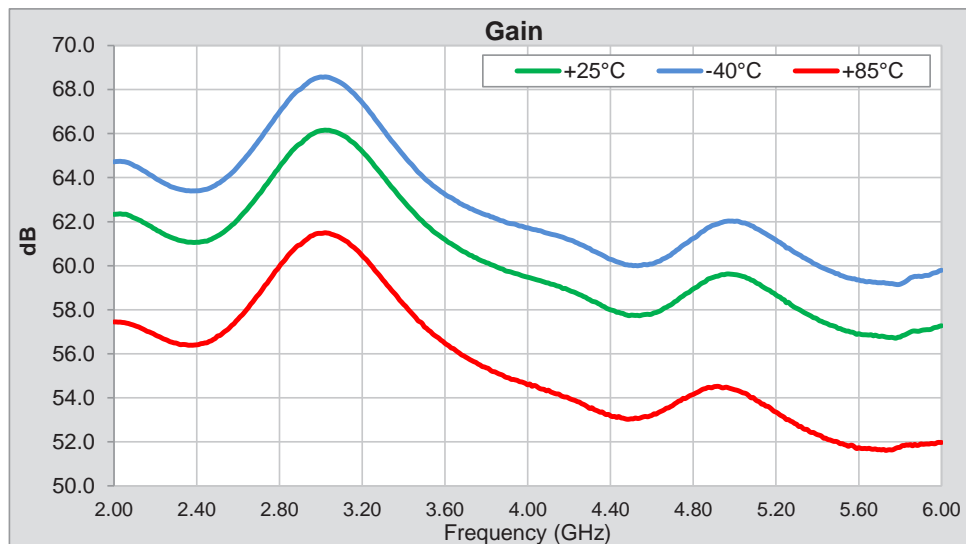


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### Typical Performance Data



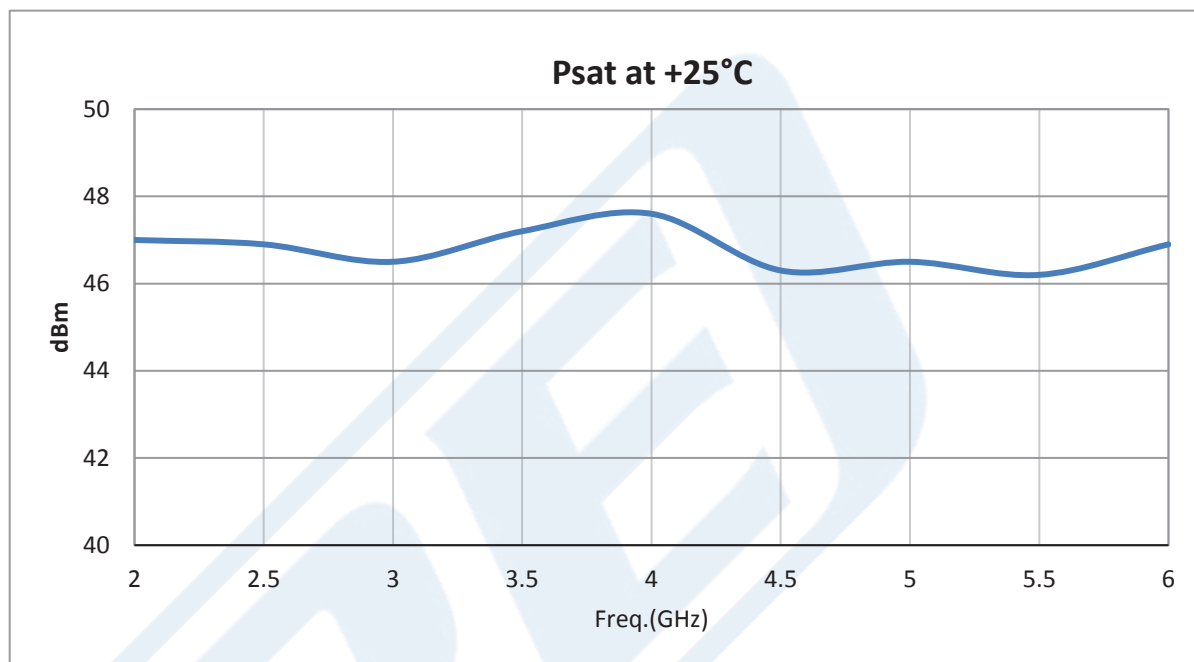
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50 dB Gain, 50 Watt Psat, 2 GHz to 6 GHz, High Power High Gain Amplifier, GaN, 7 dB NF, SMA from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99% availability and are part of the broadest selection in the industry.

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [50 dB Gain, 50 Watt Psat, 2 GHz to 6 GHz, High Power High Gain Amplifier, GaN, 7 dB NF, SMA PE15A5025](http://www.pasternack.com/6-ghz-medium-power-amplifier-sma-pe15a5025-p.aspx)

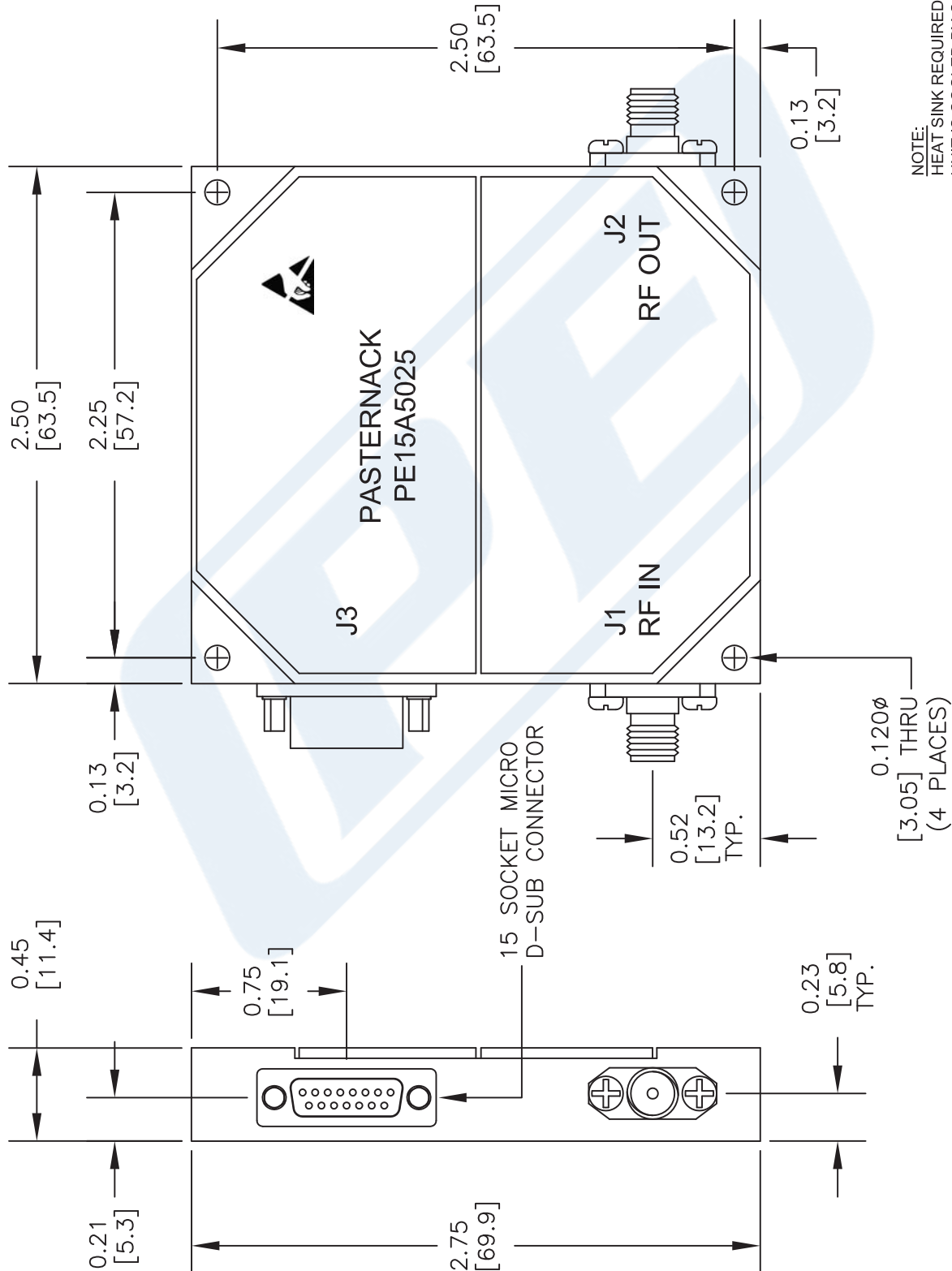
URL: <http://www.pasternack.com/6-ghz-medium-power-amplifier-sma-pe15a5025-p.aspx>

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.

# PE15A5025 CAD Drawing

50 dB Gain, 50 Watt Psat, 2 GHz to 6 GHz, High Power  
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PIN	DESCRIPTION
1	+28V
2	+28V
3	GND
4	GND
5	N/C
6	N/C
7	OVER-CURRENT BIT
8	BLANKING TTL
9	+28V
10	+28V
11	GND
12	GND
13	N/C
14	N/C
15	OVER-TEMP BIT



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

**PE15A5025**

**PE PASTERNAK**  
THE ENGINEER'S RF SOURCE

Pasternack Enterprises, Inc.

P.O. Box 16759 | Irvine | CA | 92623

Phone: (949) 261-1920 | Fax: (949) 261-7451

Website: [www.pasternack.com](http://www.pasternack.com) | E-Mail: [sales@pasternack.com](mailto:sales@pasternack.com)

FSCM NO. 53919

CAD FILE 080614

SCALE N/A

SIZE A

150