



58 dB Gain, 15 Watt Psat, 7.2 GHz to 7.5 GHz,  
High Power High Gain Amplifier, GaN, SMA

## TECHNICAL DATA SHEET

PE15A5019

PE15A5019 is a wideband GaN amplifier operating in the 7.2 GHz to 7.5 GHz Frequency Range, the module is ideal for linear applications including COFDM video and UAV/UGV data links. The module can also provide over 20 Watts typical of analog FM power. This amplifier has several proprietary protection circuits including Load VSWR protection, low or high bias protection, 1 reverse bias protection and thermal protection. One of the smallest in the industry, its rugged construction guarantees fault-free operation in the most extreme environments. The connectorized SMA module is unconditionally stable.

### Features

- 7.2 GHz to 7.5 GHz Frequency Range
- Psat 15 Watt Typical
- Linear COFDM Power Output 5 Watt Typical
- Small Signal Gain: 58 dB typical
- Gain Flatness:  $\pm 2.0$  typical
- 50 Ohms Input and Output Matched
- Unconditionally Stable
- Regulated Supply & Bias Sequencing
- Overvoltage Protection

### Applications

- COFDM video
- UAV/UGV data links
- High Gain Linear Driver Power Amplifier
- High Gain Linear Output Power Amplifier

### Electrical Specifications (TA = +25°C, DC Voltage = 33Volts)

Description	Minimum	Typical	Maximum	Units
Frequency Range	7.2		7.5	GHz
Small Signal Gain		58		dB
Gain Flatness		$\pm 2$		dB
Psat		+41.76		dBm
Linear COFDM Power Output		+37		dBm
Input Return Loss		-15	-14	dB
TTL Control	"1": On, "0": Off, Enable: 5V, Disable: 0V			
Rise/Fall Time		<0.2		usec
Operating DC Voltage	9		33	Volts
Quiescent Current		750		mA
Operating Current at		2,300		mA
Operating Temperature Range	-10		+85	°C

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [58 dB Gain, 15 Watt Psat, 7.2 GHz to 7.5 GHz, High Power High Gain Amplifier, GaN, SMA PE15A5019](#)



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### Protections

Protections	
Description	Value
Max RF Input	+10 dBm
Load VSWR @ 20 Watts	$\infty$ at all amplitudes / phase angles
Thermal Shutdown	Unit will shut down if case temperature exceeds +85°C, will automatically turn back on when case temperature falls ~ 10°C from shutdown.
Over Voltage	Unit will shut down if input voltage exceeds +33 VDC
Under Voltage	Unit requires a minimum of +9 VDC to enable. Unit will also shut down if VDC falls below +9 V during operation.
True Reverse	Unit will not enable and the unit will not draw current if +VDC and Ground are reversed <sup>3</sup>

### Mechanical Specifications

#### Size

Length	6 in [152.4 mm]
Width	2.5 in [63.5 mm]
Height	1.06 in [26.92 mm]

#### Weight

1 lbs [453.59 g]

#### Input Connector

SMA Female

#### Output Connector

SMA Female

#### Cooling

HEATSINK REQUIRED use PE15G5011 OR PE15G5011F

### Environmental Specifications

#### Temperature

Operating Range	-10 to +85 deg C
Storage Range	-55 to +100 deg C

#### Humidity

95% Non-Condensing

#### Shock

MIL-STD-810F Method 516.5

#### Vibration

MIL-STD-810F Method 516.5

#### Altitude

MIL-STD-810F Method 500.4 feet Above Sea Level

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**Compliance Certifications** (visit [www.Pasternack.com](http://www.Pasternack.com) for current document)  
Not 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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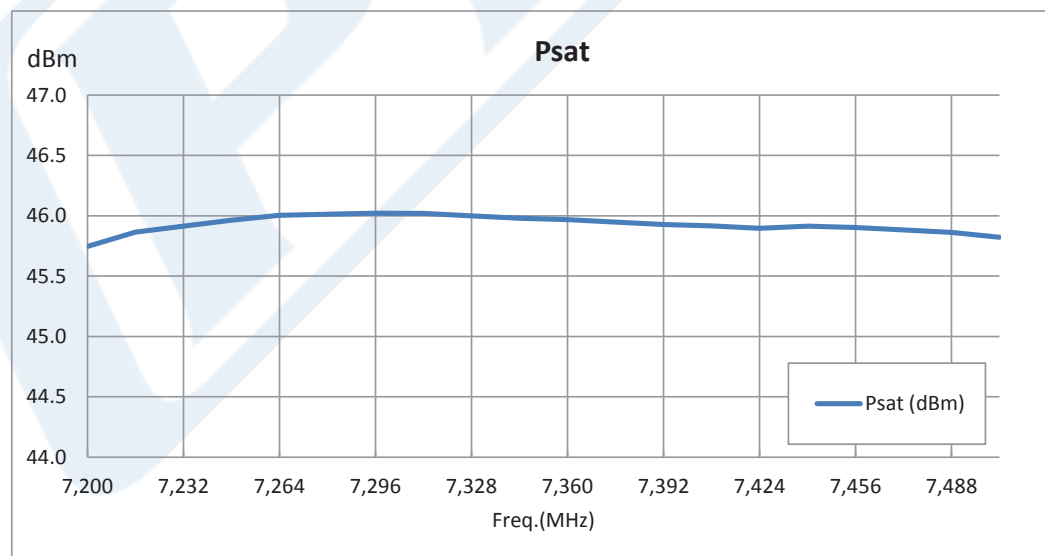
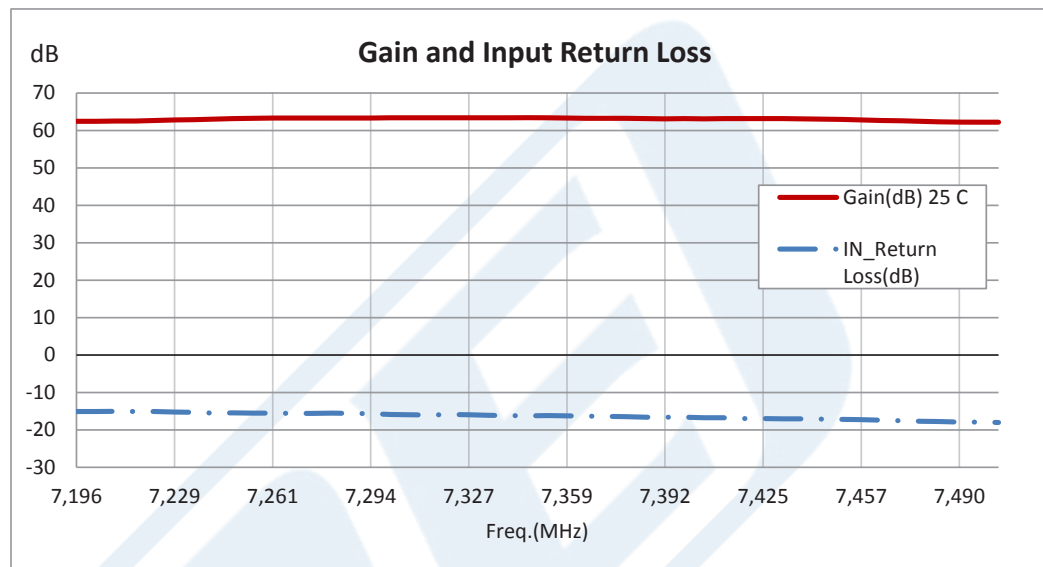


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### Typical Performance Data



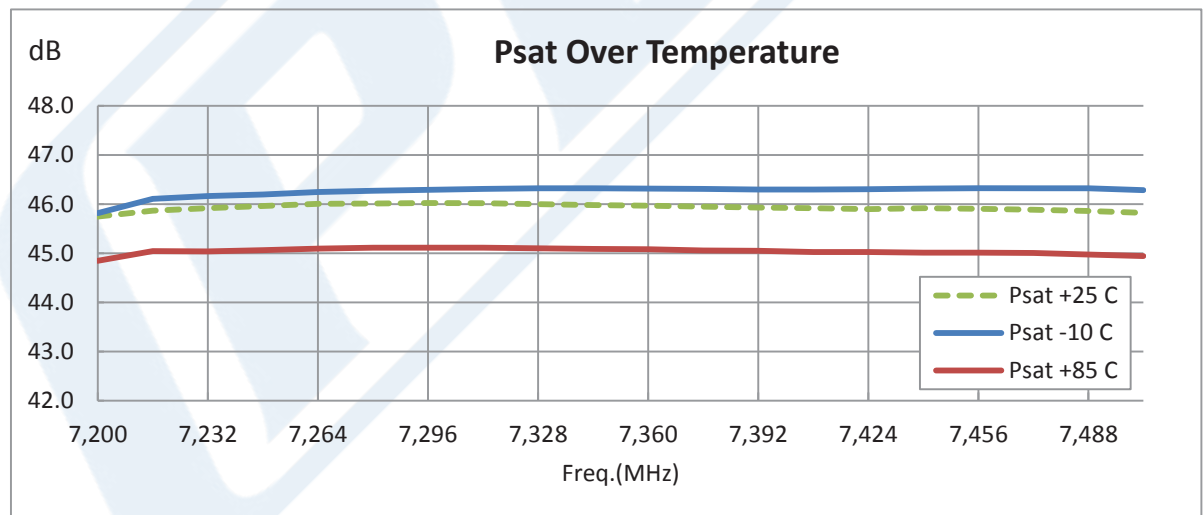
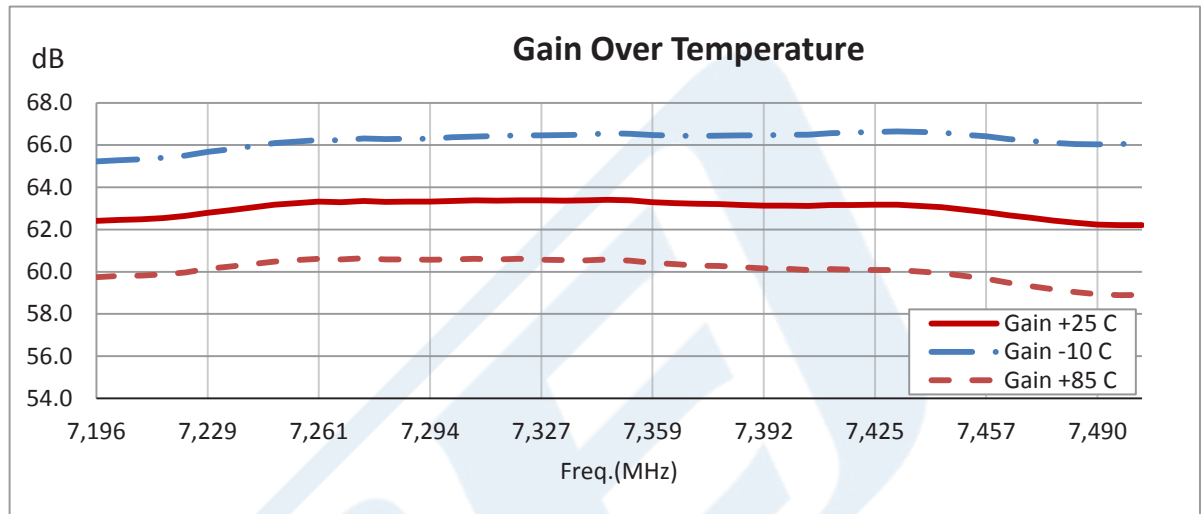
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58 dB Gain, 15 Watt Psat, 7.2 GHz to 7.5 GHz, High Power High Gain Amplifier, GaN, SMA from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99% availability and are part of the broadest selection in the industry.

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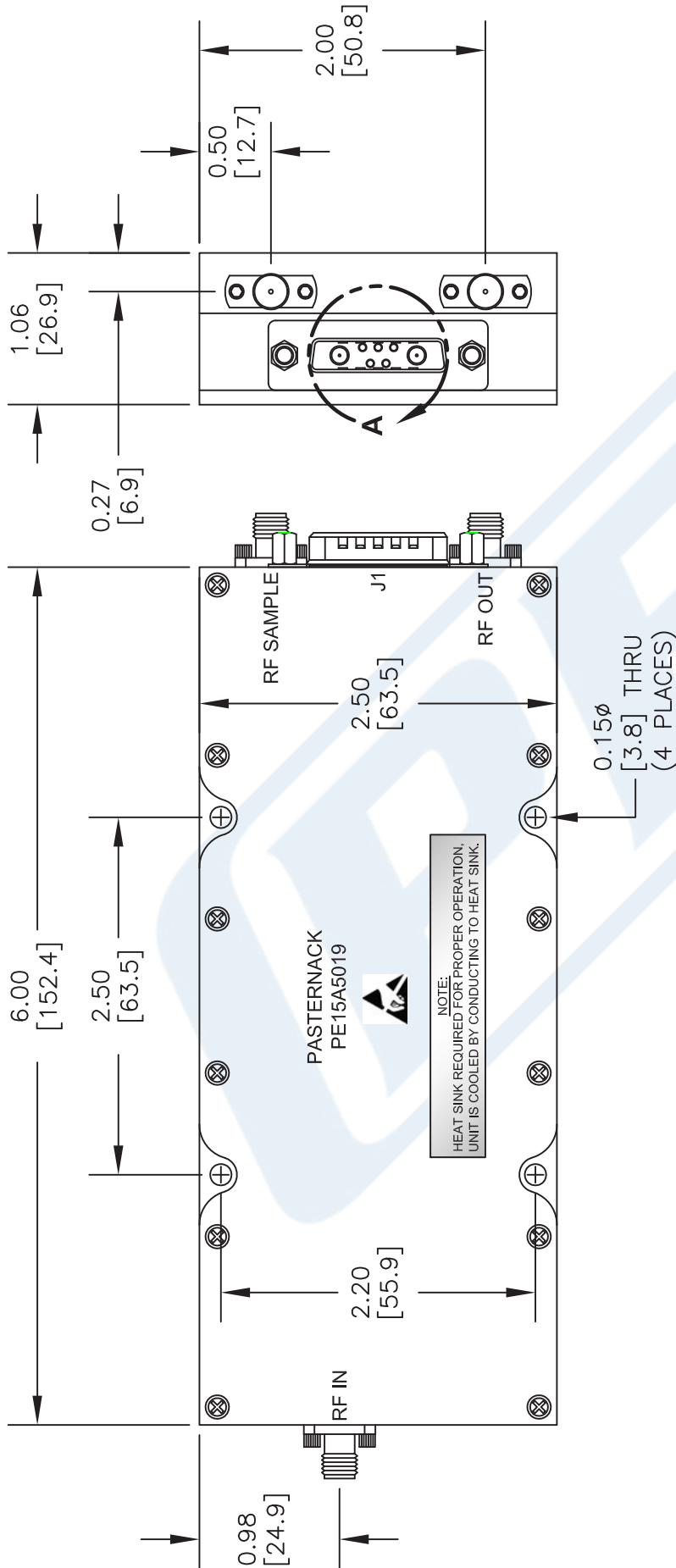
URL: <http://www.pasternack.com/58-db-gain-7.5-ghz-medium-power-high-gain-amplifier-sma-pe15a5019-p.aspx>

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# PE15A5019 CAD Drawing

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PIN	DESCRIPTION	SPECIFICATION
A1	Ground	VDC Ground
A2	+VDC	+9 to +33VDC
1	Temperature Sensor	.75V at +25°C, 1V at +50°C, 1.25V at +75°C (±0.05V)
2	Amplifier Enable	Enable: +5V TTL High, Disable: 0V TTL Low (+5.5V Max.)
3	Reverse Power Detention	+2.5V @ +35 dBm in Open Condition
4	Ground	VDC Ground
5	Forward Power Detention	+2.5V @ +35 dBm

**View A**

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

DWG TITLE

**PE15A5019**

**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 | E-Mail: sales@pasternack.com

FSCM NO. 53919

CAD FILE 050714

SCALE N/A

SIZE A

150