



43 dB Gain, 10 Watt Psat, 30 MHz to 2.5 GHz,  
High Power High Gain Amplifier, GaN, SMA

## TECHNICAL DATA SHEET

PE15A5011

PE15A5011 is a 10W Class AB, High Gain GaN Linear Power Amplifier operating in the 0.03 to 2.5 GHz frequency range. The amplifier offers high linear transmit power with superior EVM performance and efficiency over 40%. The amplifier has a Wide Dynamic Range with 40 dBm typical saturated power, 43 dB typical small signal gain,  $\pm 2.0$  dB gain flatness maximum. The driver amplifier requires a +32V maximum DC power supply, is unconditionally stable and includes built-in voltage regulation, bias sequencing, and reverse bias protection for added reliability. The amplifier operates over the temperature range of -20°C and +80°C.

### Features

- 0.03 GHz to 2.5 GHz Frequency Range
- Psat 10 Watts typ
- Small Signal Gain: 43 dB typ
- Gain Flatness:  $\pm 2.0$  dB maximum
- Switching Speed 1 msec typical
- Superior EVM performance and Efficiency over 40%
- 50 Ohms Input and Output Matched
- Unconditionally Stable
- Regulated Supply & Bias Sequencing
- SMA Female RF Connectors
- DC/Control Connector 7W2 D Sub

### Applications

- L-band Military Radar
- Weather & Earth Observation Satellites
- Radar & Communication Systems
- High Gain Driver Power Amplifier
- High Gain Output Power Amplifier
- Commercial Air Traffic Control

**Electrical Specifications** (TA = +25°C, DC Voltage = 12Volts, DC Current = 1,200mA)

Description	Minimum	Typical	Maximum	Units
Frequency Range	0.03		2.5	GHz
Small Signal Gain		43		dB
Gain Flatness			$\pm 2$	dB
Input Power			+5	dBm
Psat	+38	+40		dBm
Input Return Loss		-13		dB
Switching Speed for On/Off Switch Gate		1,000	2,000	usec
TTL Control	"1": On, "0": Off, Enable: 5V, Disable: 0V			
Operating DC Voltage	9	12	32	Volts
Operating DC Current			1,200	mA
Operating DC Current @ 12 Volt			2,800	mA
Operating DC Current @ 28 Volt			1,200	mA
Operating Temperature Range	-20		+80	°C

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [43 dB Gain, 10 Watt Psat, 30 MHz to 2.5 GHz, High Power High Gain Amplifier, GaN, SMA PE15A5011](#)



43 dB Gain, 10 Watt Psat, 30 MHz to 2.5 GHz,  
High Power High Gain Amplifier, GaN, SMA

## TECHNICAL DATA SHEET

PE15A5011

### Mechanical Specifications

#### Size

Length	3.75 in [95.25 mm]
Width	2 in [50.8 mm]
Height	0.52 in [13.21 mm]
Weight	0.47 lbs [213.19 g]
Input Connector	SMA Female
Output Connector	SMA Female
Cooling	HEATSINK REQUIRED use PE15C5013 or PE15G5011F

### Environmental Specifications

#### Temperature

Operating Range	-20 to +80 deg C
Storage Range	-65 to +150 deg C

Humidity	95% Non-Condensing
Shock	MIL-STD-810F Method 516.5
Vibration	MIL-STD-810F Method 516.5
Altitude	30000 feet Above Sea Level

### 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.



Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [43 dB Gain, 10 Watt Psat, 30 MHz to 2.5 GHz, High Power High Gain Amplifier, GaN, SMA PE15A5011](#)

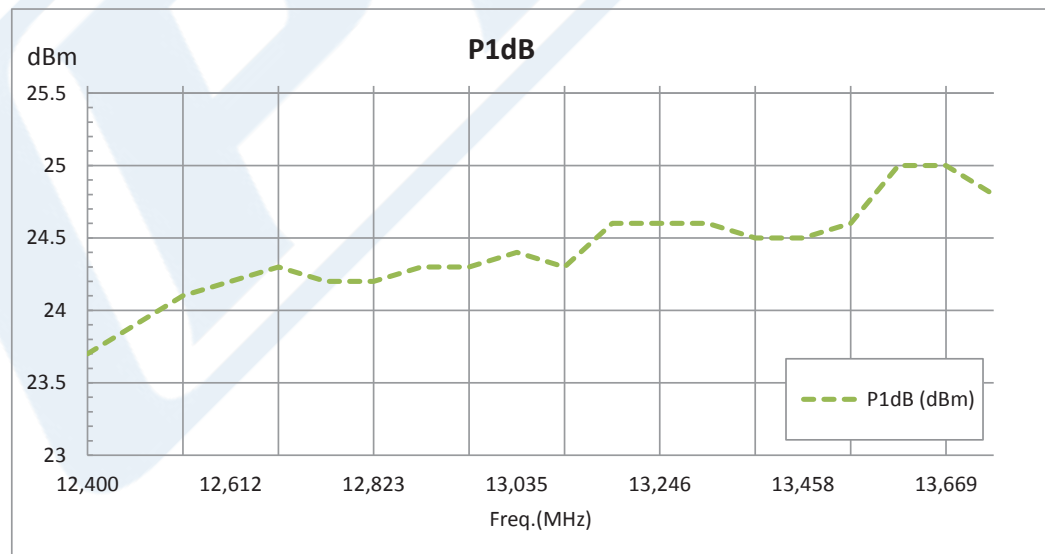
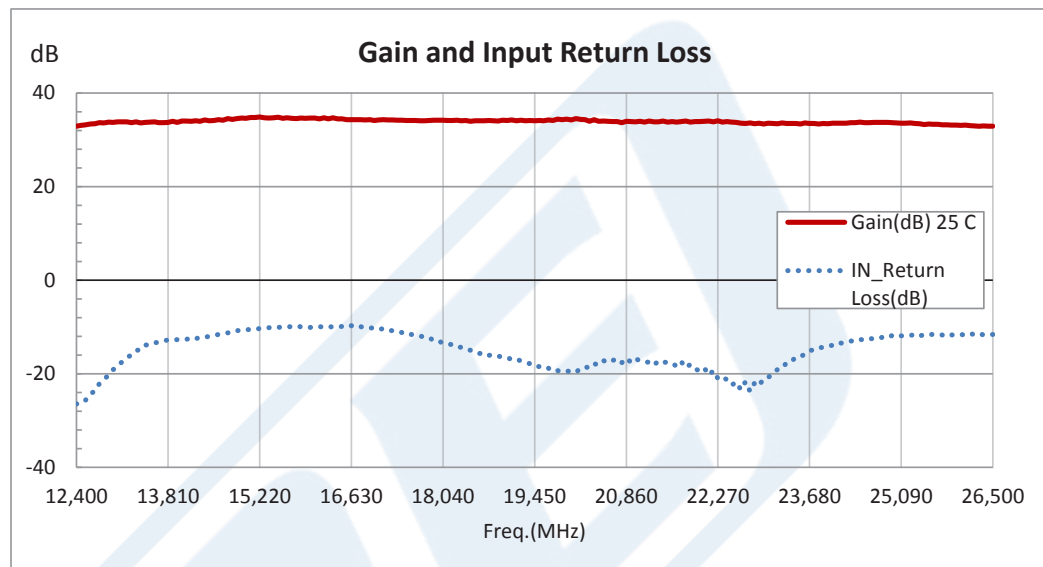


43 dB Gain, 10 Watt Psat, 30 MHz to 2.5 GHz,  
High Power High Gain Amplifier, GaN, SMA

## TECHNICAL DATA SHEET

PE15A5011

### Typical Performance Data



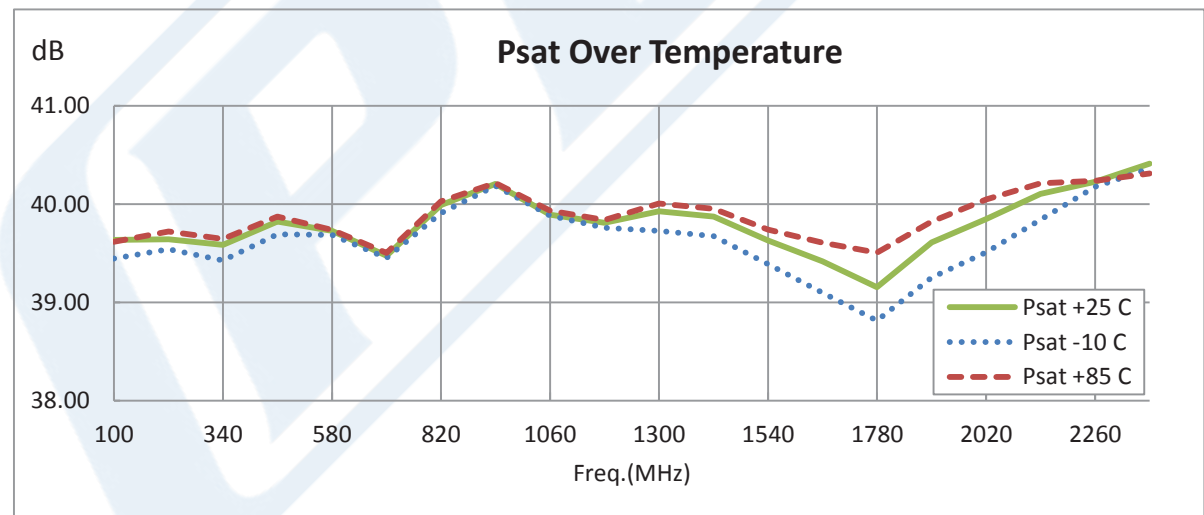
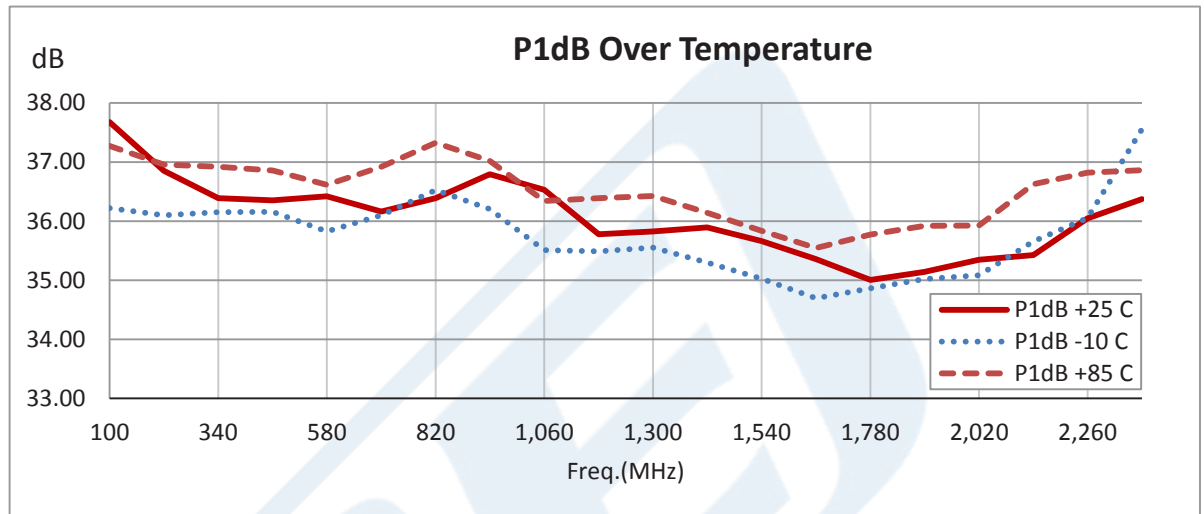
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [43 dB Gain, 10 Watt Psat, 30 MHz to 2.5 GHz, High Power High Gain Amplifier, GaN, SMA PE15A5011](#)



43 dB Gain, 10 Watt Psat, 30 MHz to 2.5 GHz,  
High Power High Gain Amplifier, GaN, SMA

## TECHNICAL DATA SHEET

PE15A5011



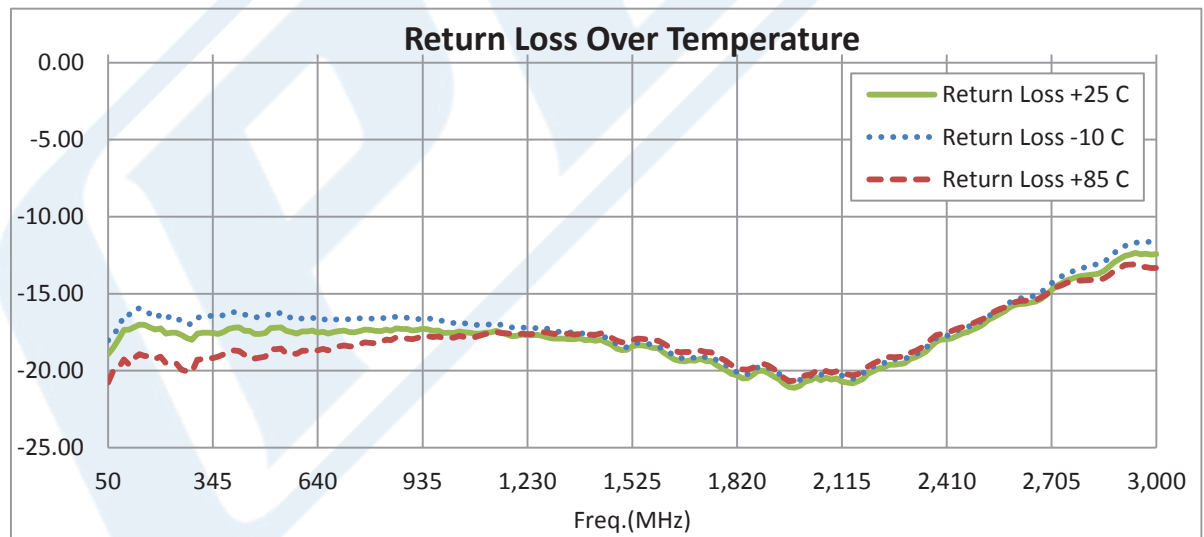
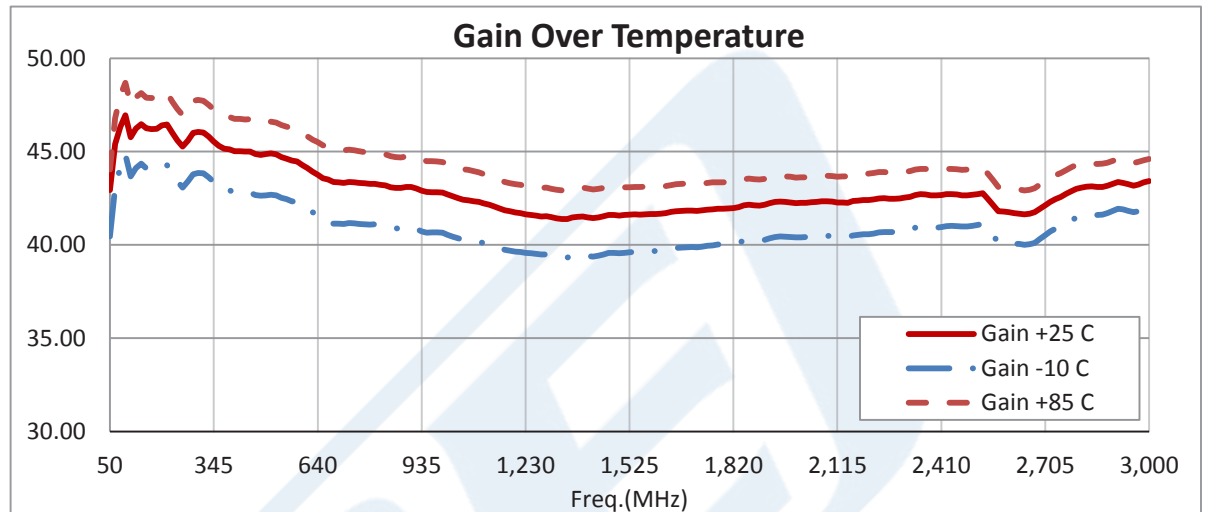
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [43 dB Gain, 10 Watt Psat, 30 MHz to 2.5 GHz, High Power High Gain Amplifier, GaN, SMA PE15A5011](#)



43 dB Gain, 10 Watt Psat, 30 MHz to 2.5 GHz,  
High Power High Gain Amplifier, GaN, SMA

## TECHNICAL DATA SHEET

PE15A5011



Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [43 dB Gain, 10 Watt Psat, 30 MHz to 2.5 GHz, High Power High Gain Amplifier, GaN, SMA PE15A5011](#)



43 dB Gain, 10 Watt Psat, 30 MHz to 2.5 GHz,  
High Power High Gain Amplifier, GaN, SMA

## TECHNICAL DATA SHEET

PE15A5011

43 dB Gain, 10 Watt Psat, 30 MHz to 2.5 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.

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [43 dB Gain, 10 Watt Psat, 30 MHz to 2.5 GHz, High Power High Gain Amplifier, GaN, SMA PE15A5011](http://www.pasternack.com/43-db-gain-2.5-ghz-high-power-high-gain-amplifier-sma-pe15a5011-p.aspx)

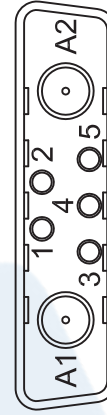
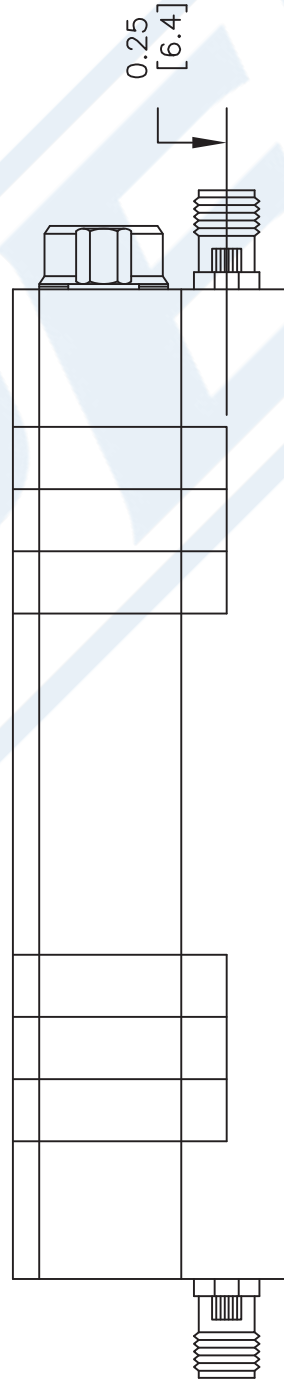
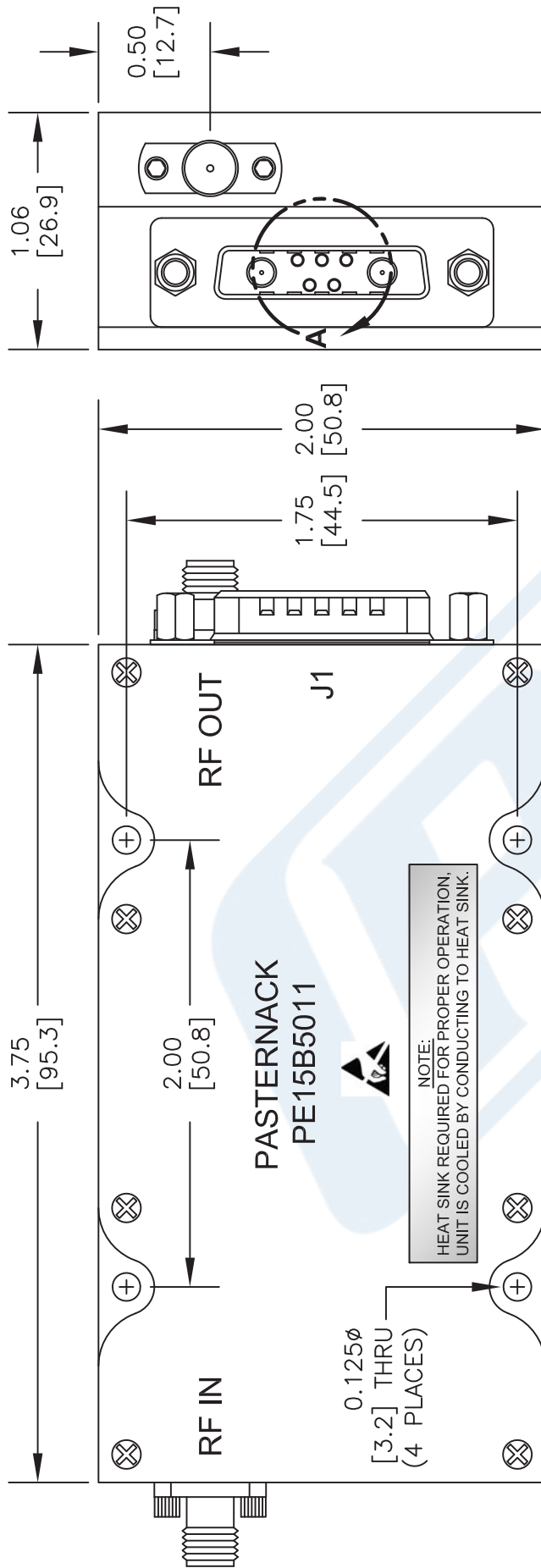
URL: <http://www.pasternack.com/43-db-gain-2.5-ghz-high-power-high-gain-amplifier-sma-pe15a5011-p.aspx>

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.



# PE15A5011 CAD Drawing

43 dB Gain, 10 Watt Psat, 30 MHz to 2.5 GHz, High Power High Gain Amplifier, GaN, SMA



View A

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].

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	No Connection	---
4	Ground	Ground
5	No Connection	---

DWG TITLE  
**PE15A5011**

**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

150