



50 dB Gain, 14 Watt P1dB, 2.3 GHz to 2.7 GHz, High Power High Gain Amplifier, 53 dBm IP3, SMA

TECHNICAL DATA SHEET

PE15A5018

PE15A5018 is a 4W Linear wideband GaAs amplifier module for Wideband communications, pulsed applications including radar and medical and laboratory applications. The amplifier operating in the 2.3 to 2.7 GHz frequency range. The amplifier offers 14 Watts typ of P1dB power and high 50 dB typical small signal gain with the gain flatness of  $\pm 0.5$  dB typical. The amplifier requires typically a +12V DC power supply. The connectorized SMA module is unconditionally stable and includes built-in voltage regulation, bias sequencing, and reverse bias protection, and thermal protection for added reliability. The amplifier operates over the temperature range of -20°C and +85°C.

**Features**

- 2.3 GHz to 2.7 GHz Frequency Range
- P1dB 20 Watts typ
- Small Signal Gain: 50 dB typ
- Gain Flatness:  $\pm 0.5$  typical
- 50 Ohms Input and Output Matched
- Unconditionally Stable
- Regulated Supply & Bias Sequencing
- Overvoltage Protection
- Thermal Protection

**Applications**

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

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

Description	Minimum	Typical	Maximum	Units
Frequency Range	2.3		2.7	GHz
Small Signal Gain		50		dB
Gain Flatness		$\pm 0.5$		dB
Output Power at 1 dB Compression Point		+41.5		dBm
RF Sample Port	+29	+30	+31	dB
Output 3rd Order Intercept Point		+53		dBm
Input Return Loss	-15	-20		dB
Rise/Fall Time		<1		usec
Operating DC Voltage		12		Volts
Standby DC Current		400		mA
Operating Current at 14 W CW		5,500		mA
Operating Temperature Range	-20		+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, 14 Watt P1dB, 2.3 GHz to 2.7 GHz, High Power High Gain Amplifier, 53 dBm IP3, SMA PE15A5018](#)



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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 +14 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>

3. Current may be drawn if the +VDC is tied to chassis ground. Current will not go through the unit.

### Mechanical Specifications

#### Size

Length	6 in [152.4 mm]
Width	3.5 in [88.9 mm]
Height	0.69 in [17.53 mm]
Weight	0.812 lbs [368.32 g]
Input Connector	SMA Female
Output Connector	SMA Female

### Environmental Specifications

#### Temperature

Operating Range	-20 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

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## Plotted and Other Data

- Values at +25 °C, sea level

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**ISO 9001 : 2008 Registered**



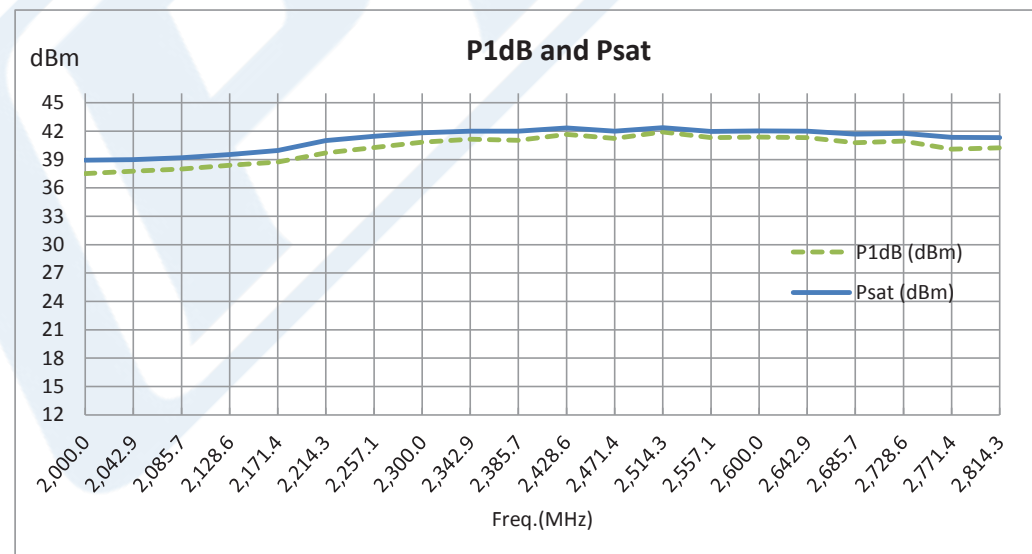
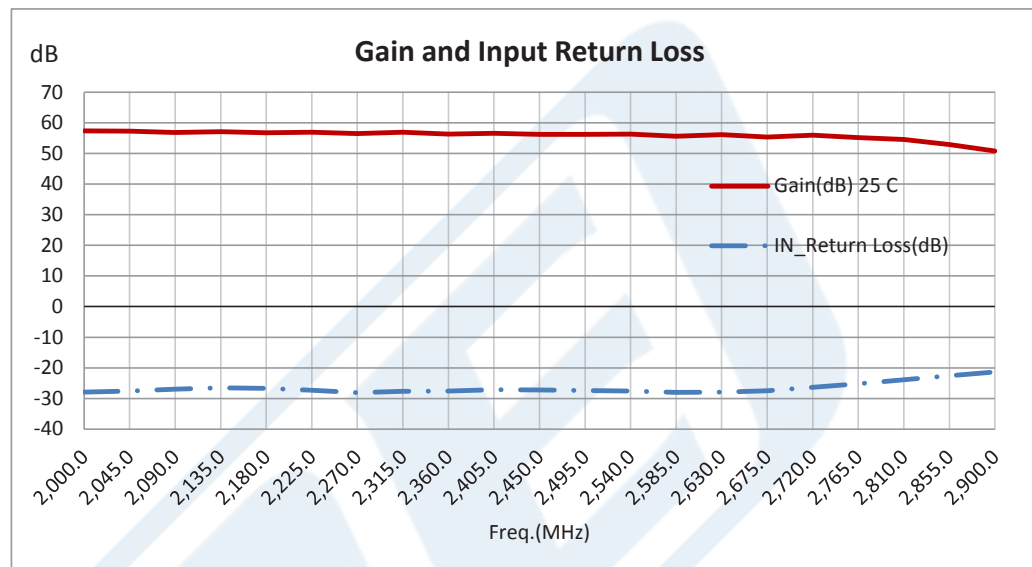


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### Typical Performance Data



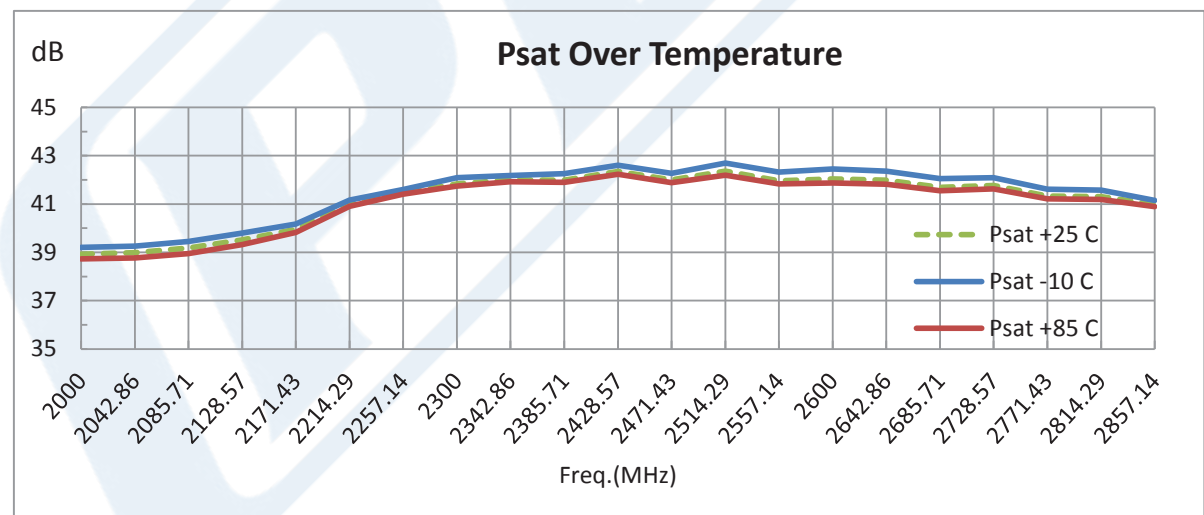
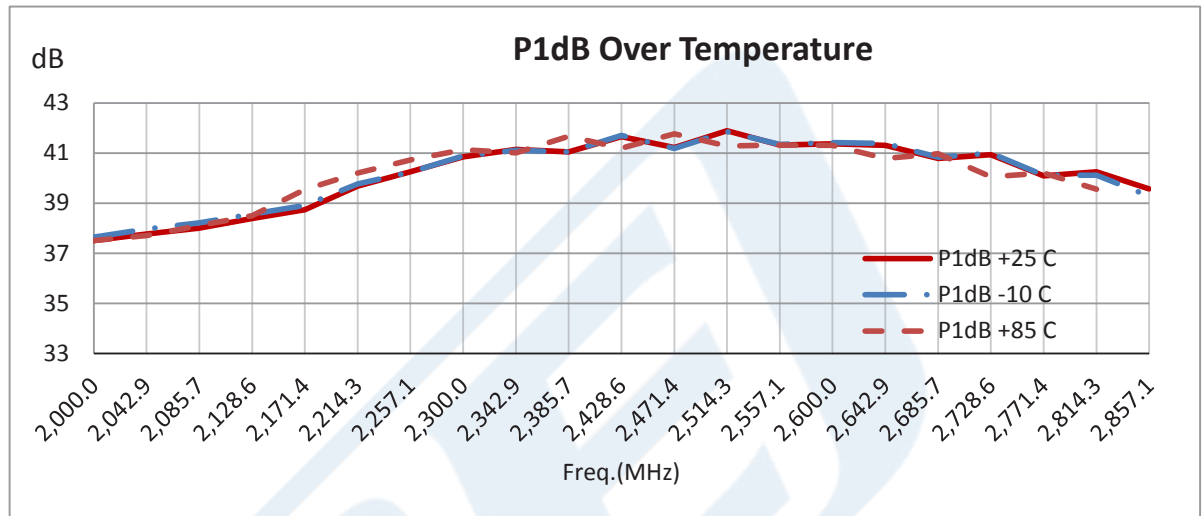
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50 dB Gain, 14 Watt P1dB, 2.3 GHz to 2.7 GHz, High Power High Gain Amplifier, 53 dBm IP3, SMA from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99% availability and are part of the broadest selection in the industry.

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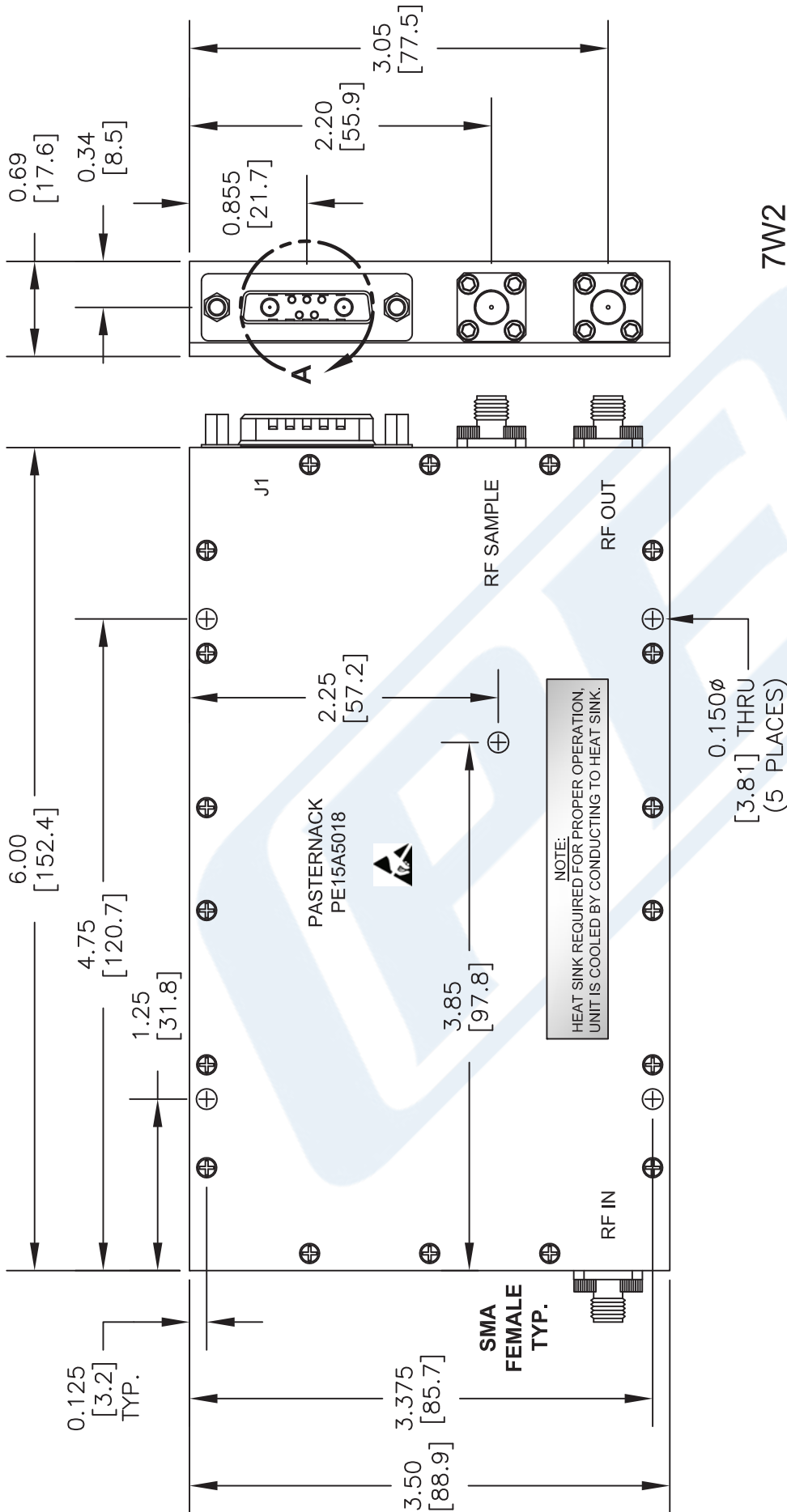
URL: <http://www.pasternack.com/50-db-gain-2.7-ghz-high-power-high-gain-amplifier-sma-pe15a5018-p.aspx>

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.



# PE15A5018 CAD Drawing

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7W2



View A

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

PIN	DESCRIPTION	SPECIFICATION
A1	Ground	VDC Ground
A2	+VDC	+12VDC, $\pm 5V$ *
1	Temperature Sensor	.75V at +25°C, 1V at +50°C, 1.25V at +75°C ( $\pm 0.05V$ )
2	Amplifier Enable	Enable: +5V TTL High, Disable: 0V TTL Low (+5.5V Max.)
3	Current Sense	Output of MAX4372T
4	Ground	VDC Ground
5	Forward Power Detention	Based on ADL5902

\* SPECIFIED OPERATION AT +12V, HOWEVER, UNIT CAN BE RUN FROM +10 VDC TO +14 VDC.

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

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DWG TITLE

**PE15A5018**

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 092614

SCALE N/A

SIZE A

2233