



60 dB Gain, 10 Watt Psat, 100 MHz to 6 GHz, High Power High Gain Amplifier, GaN, 10 dB NF, SMA

TECHNICAL DATA SHEET

PE15A5027

The PE15A5027 is a 10W high gain coaxial power amplifier operating in the 0.1 to 6 GHz frequency range. The amplifier offers 40 dBm typical of saturated power and 60 dB typical small signal gain with gain flatness of  $\pm 1.25$  dB 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 shutdown and over temp shutdown at +85°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**

- 0.1 GHz to 6 GHz Frequency Range
- Psat 40 dBm typ
- Small Signal Gain: 60 dB min
- Gain Flatness  $\pm 1.25$  dB typical
- 50 Ohms Input and Output Matched
- Unconditionally Stable
- Regulated Supply & Bias Sequencing
- Hermetically Sealed Module
- Over Current Shutdown
- Mismatch Handling 5.0:1 max
- Over Temp Shutdown
- Designed to meet MIL-STD-810 Conditions

**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 = 2,200mA)

Description	Minimum	Typical	Maximum	Units
Frequency Range	0.1		6	GHz
Small Signal Gain	60			dB
Gain Flatness		$\pm 1.25$		dB
Psat	+39	+40		dBm
Efficiency (PAE)		20		%
Harmonics @50 Watts		-15		dBc
Noise Figure			10	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		2,200		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: [60 dB Gain, 10 Watt Psat, 100 MHz to 6 GHz, High Power High Gain Amplifier, GaN, 10 dB NF, SMA PE15A5027](#)



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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	-40 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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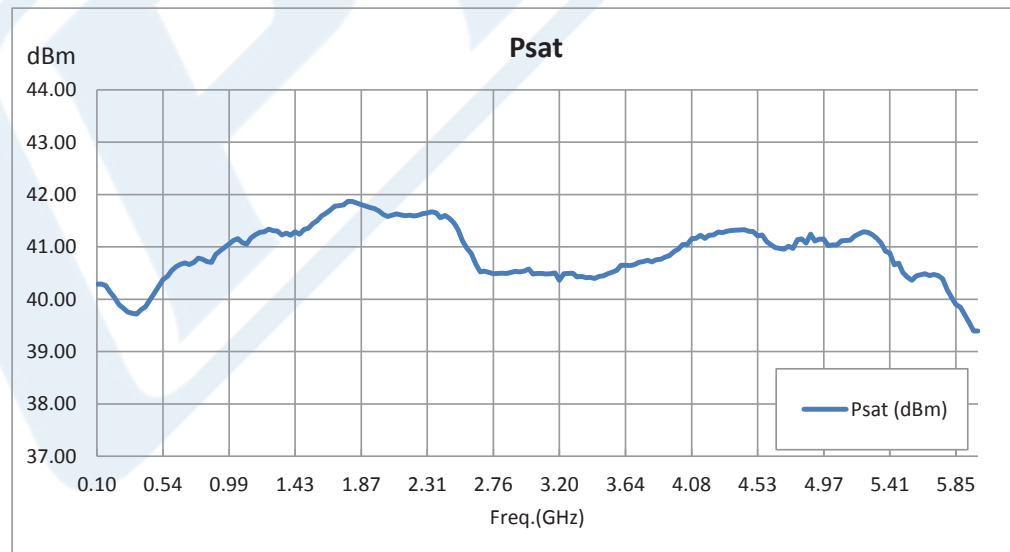
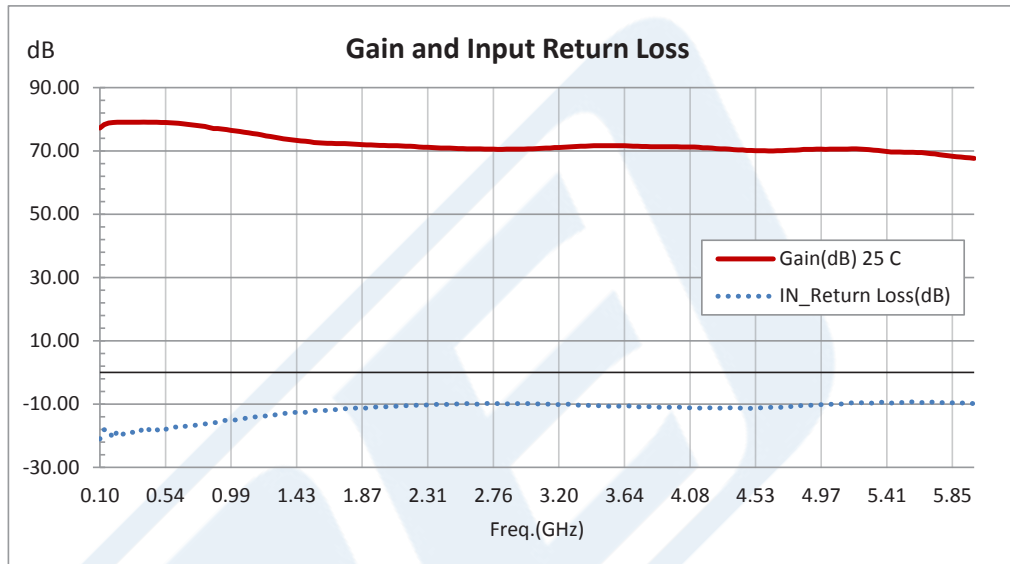


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### Typical Performance Data



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## PE15A5027

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Technical drawing of the PASTERNAK PE15A5027 component, showing top and side views with dimensions and labels.

**Top View Dimensions:**

- Overall width: 2.50 [63.5]
- Overall height: 2.50 [63.5]
- Left side mounting holes: 0.13 [3.2] (center-to-center), 0.45 [11.4] (center-to-center)
- Right side mounting holes: 0.13 [3.2] (center-to-center), 0.45 [11.4] (center-to-center)
- Internal width segments: 2.25 [57.2] (left), 2.25 [57.2] (right)
- Internal height segments: 2.25 [57.2] (top), 2.25 [57.2] (bottom)

**Labels and Features:**

- PASTERNAK PE15A5027** (Main component name)
- J3** (Left side connector)
- J1 RF IN** (Bottom right connector)
- J2 RF OUT** (Top right connector)
- 15 SOCKET MICRO D-SUB CONNECTOR** (Bottom center connector)
- 0.120 $\phi$  [3.05] THRU (4 PLACES)** (Hole size and location)
- 0.52 [13.2] TYP.** (Typical hole size)
- 0.23 [5.8] TYP.** (Typical hole size)
- 0.75 [19.1]** (Dimension for the 15-pin connector)
- 0.13 [3.2]** (Dimension for the mounting holes)
- 0.21 [5.3]** (Dimension for the mounting holes)
- 2.75 [69.9]** (Dimension for the mounting holes)

**NOTE:** HEAT SINK REQUIRED

**NOTES:**

- 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].

**PE15A5027**

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FSCM NO. 53919

CAD FILE 080614

**SIZE A**

150