



0.5 dB NF, 16 dBm P1dB, 1.215 GHz to 1.4 GHz,  
Low Noise Amplifier, 25 dB Gain, SMA

## TECHNICAL DATA SHEET

PE15A1039

The PE15A1039 is a low noise RF coaxial amplifier operating in the 1215MHz to 1400 MHz frequency range. The design incorporates an integrated Band Pass Filter that rejects out-of-band interference which is ideal for 1.4 GHz WMTS (Wireless Medical Telemetry Band) applications such as Hospital Patient Monitoring Systems. The amplifier offers 0.5 dB typical noise figure, 16 dBm typical P1dB and high 25 dB minimum small signal gain with gain flatness of  $\pm 0.75$  dB typical. This exceptional technical performance is achieved through the use of hybrid MIC design and advanced SiGe Bipolar devices. The low noise amplifier requires typically a +12V DC power supply. The connectorized SMA module is unconditionally stable and includes built-in voltage regulation. This low noise amplifier requires only a single positive supply, is unconditionally stable and operates over the temperature range of  $-40^{\circ}\text{C}$  and  $+75^{\circ}\text{C}$ .

### Features

- 1215 MHz to 1400 MHz Frequency Range
- P1dB: 16 dBm
- High Small Signal Gain: 25 dB typical
- Gain Flatness:  $\pm 0.75$  dB
- Gain Variance:  $\pm 1$  dB
- Noise Figure: 0.5dB typ
- Integrated Band Pass Filter rejects out of band interference
- Reverse Isolation: 45 dB typical
- 50 Ohm Input and Output Matched
- $-40$  to  $75^{\circ}\text{C}$  Operating Temperature
- Unconditionally Stable
- Single DC Positive Supply
- Built-in Voltage Regulator

### Applications

- Laboratory Applications
- R&D Labs
- Radar Systems
- Telecom Infrastructure
- Test Instrumentation
- Military & Space
- Communication Systems
- Wireless Communication
- Microwave Radio Systems
- Cellular Base Stations
- Low Noise Amplifier
- General Purpose Amplification
- General Purpose Wireless
- Wideband Gain Block
- IF Amplifier/RF Driver Amplifier
- RF Wideband Front Ends
- RF Pre-amplification
- Fixed and Land Mobile

### Electrical Specifications (TA = $+25^{\circ}\text{C}$ , DC Voltage = 12Vdc, DC Current = 130mA)

Description	Minimum	Typical	Maximum	Units
Frequency Range	1.215		1.4	GHz
Small Signal Gain	23	25	27	dB
Gain Flatness		$\pm 0.75$	$\pm 1$	dB
Gain Variance at OTR*		$\pm 1$		dB
Output at 1 dB Compression Point	+16	+16		dBm
Noise Figure		0.5	0.6	dB
Input VSWR		1.5:1	1.8:1	
Output VSWR		1.5:1	1.8:1	
Reverse Isolation	40	45		dB
Rejection at 1000 MHz and 1.825 GHz	18	25		dBc
Operating DC Voltage		12		Volts

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [0.5 dB NF, 16 dBm P1dB, 1.215 GHz to 1.4 GHz, Low Noise Amplifier, 25 dB Gain, SMA PE15A1039](#)



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Operating DC Current	100	130	160	mA
Operating Temperature Range	-40		+75	°C

\*OTR= Base Plate Operating Temperature Range

### Mechanical Specifications

#### Size

Length	2.32 in [58.93 mm]
Width	2.32 in [58.93 mm]
Height	0.71 in [18.03 mm]
Weight	0.154 lbs [69.85 g]
Input Connector	SMA Female
Output Connector	SMA Female

### Environmental Specifications

#### Temperature

Operating Range	-40 to +75 deg C
Storage Range	-55 to +125 deg C

**Compliance Certifications** (see [product page](#) for current document)

### 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.

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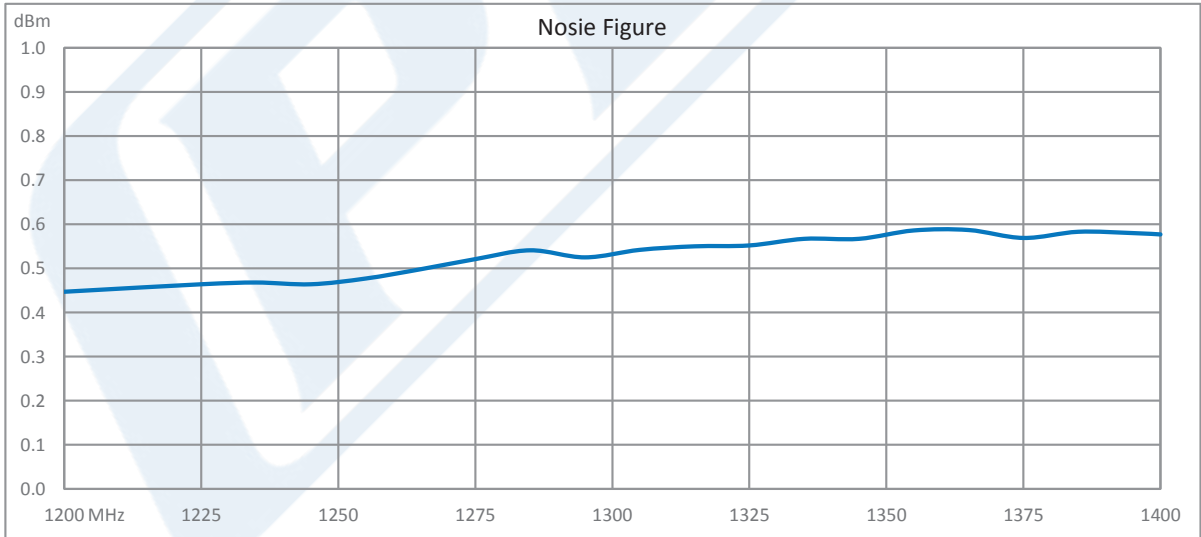
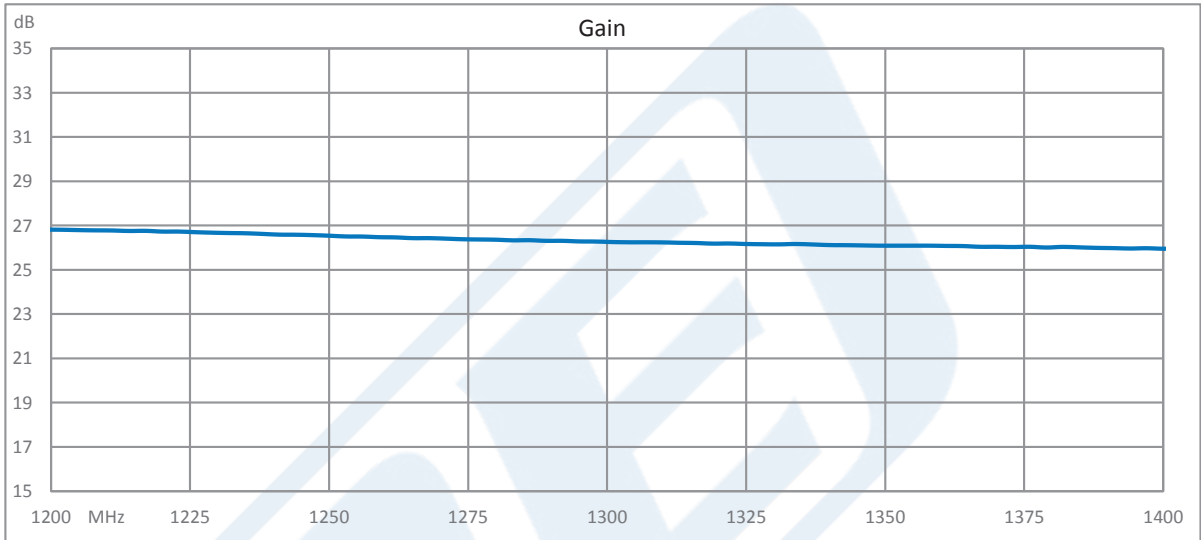


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Typical Performance Data



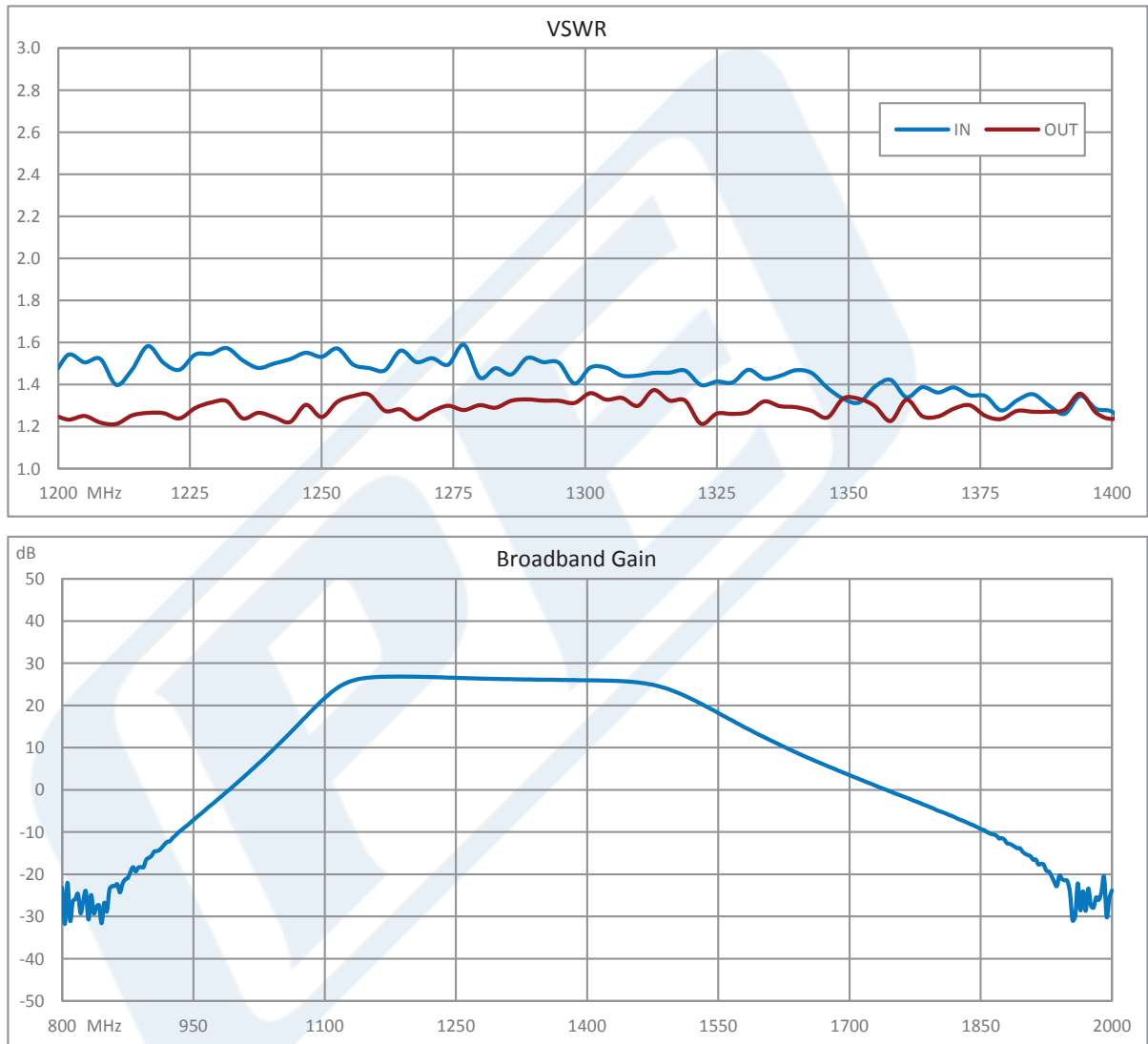
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0.5 dB NF, 16 dBm P1dB, 1.215 GHz to 1.4 GHz, Low Noise Amplifier, 25 dB Gain, SMA from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

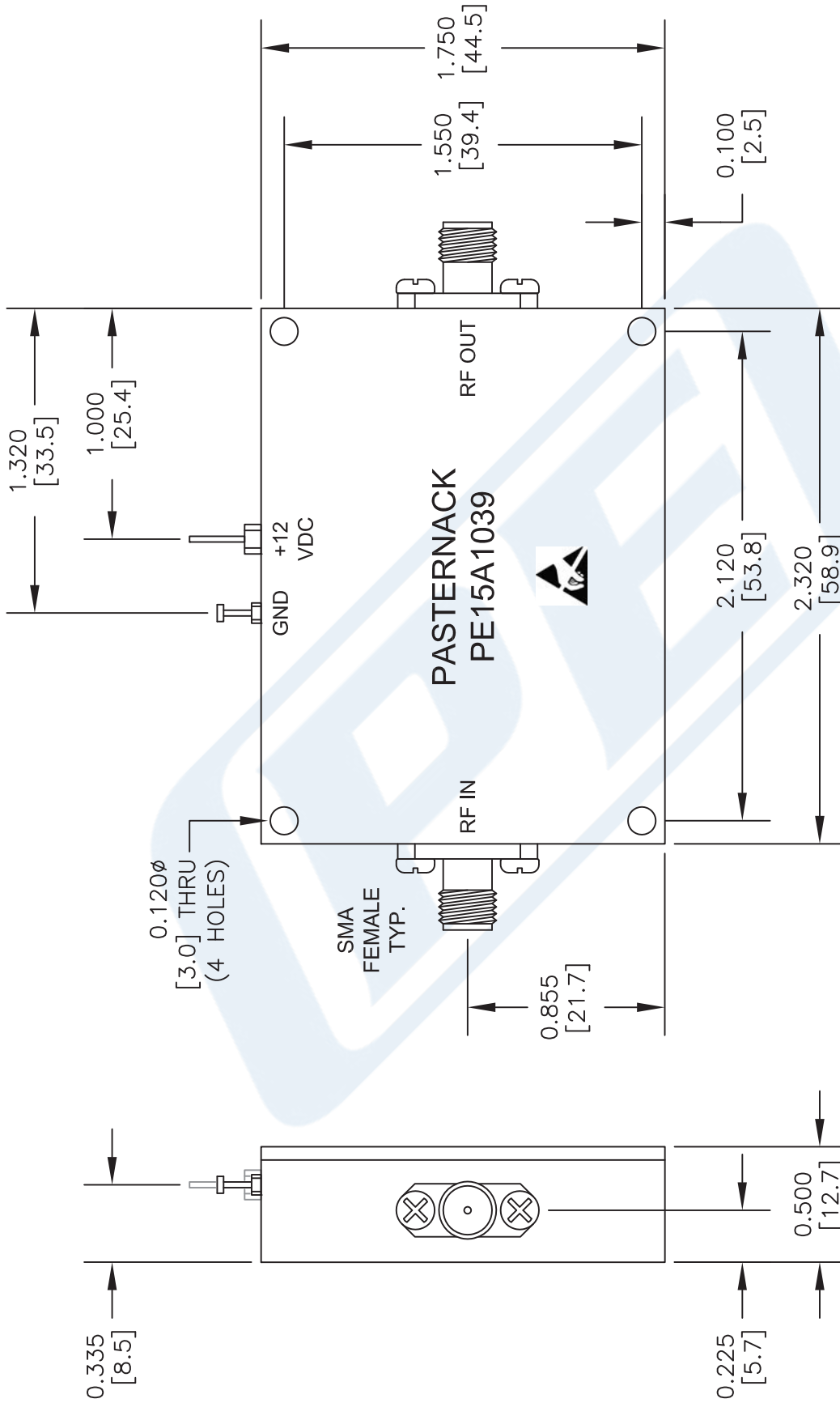
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# PE15A1039 CAD Drawing

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



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DWG TITLE

**PE15A1039**

FSCM NO. 53919

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].

CAD FILE 060916

SCALE N/A

SIZE A

2233