



39 dBm IP3, 1.6 dB NF, 23 dBm P1dB, 30 MHz to 1.5 GHz, Low Noise Amplifier, 29 dB Gain, SMA

## TECHNICAL DATA SHEET

PE15A63003

The PE15A63003 is a Input Protected Low Noise RF coaxial amplifier operating in the 30 MHz to 1.5 GHz frequency range. The amplifier offers 1 Watt input protection, 1.6 dB typical noise figure, 23 dBm typical P1dB and high 29 dB small signal gain with gain flatness of  $\pm 0.5$  dB typical. 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  $-55^{\circ}\text{C}$  and  $125^{\circ}\text{C}$ .

### Features

- 30 MHz to 1500 MHz Frequency Range
- 1 Watt input protection
- P1dB: 23 dBm
- High Small Signal Gain: 29 dB typical
- Gain Flatness:  $\pm 0.5$  dB
- Gain Variance:  $\pm 1$  dB
- Noise Figure: 1.6 dB typ
- 50 Ohm Input and Output Matched
- $-55$  to  $125^{\circ}\text{C}$  Operating Temperature
- Unconditionally Stable
- Single DC Positive Supply
- Built-in Voltage Regulator

### Applications

- Laboratory Applications
- R&D Labs
- Radar Systems
- Test Instrumentation
- Communication Systems
- Low Noise Amplifier
- General Purpose Amplification
- Wideband Gain Block
- IF Amplifier/RF Driver Amplifier
- RF Wideband Front Ends
- Fixed and Land Mobile

**Electrical Specifications** (TA =  $+25^{\circ}\text{C}$ , DC Voltage = 12Vdc, DC Current = 160mA)

| Description                      | Minimum | Typical   | Maximum    | Units              |
|----------------------------------|---------|-----------|------------|--------------------|
| Frequency Range                  | 0.03    |           | 1.5        | GHz                |
| Small Signal Gain                | 27.5    | 29        | 30.5       | dB                 |
| Gain Flatness                    |         | $\pm 0.5$ | $\pm 0.75$ | dB                 |
| Gain Variance at OTR*            |         | $\pm 1$   |            | dB                 |
| Output at 1 dB Compression Point | +21.5   | +23       |            | dBm                |
| Output 3rd Intercept Point       | +36     | +39       |            | dBm                |
| Noise Figure                     |         | 1.6       | 2          | dB                 |
| Input VSWR                       |         | 1.35:1    | 1.5:1      |                    |
| Output VSWR                      |         | 1.35:1    | 1.5:1      |                    |
| Reverse Isolation                |         | 45        |            | dB                 |
| Spurious                         |         |           | -70        | dBc                |
| Input Power (CW)                 |         |           | +30        | dBm                |
| Operating DC Voltage             | 10      | 12        | 15         | Volts              |
| Operating DC Current             | 140     | 160       | 190        | mA                 |
| Operating Temperature Range      | -40     |           | +85        | $^{\circ}\text{C}$ |

\*OTR= Base Plate Operating Temperature Range

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [39 dBm IP3, 1.6 dB NF, 23 dBm P1dB, 30 MHz to 1.5 GHz, Low Noise Amplifier, 29 dB Gain, SMA PE15A63003](#)



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### Mechanical Specifications

#### Size

|                  |                     |
|------------------|---------------------|
| Length           | 1.2 in [30.48 mm]   |
| Width            | 0.85 in [21.59 mm]  |
| Height           | 0.375 in [9.53 mm]  |
| Weight           | 0.046 lbs [20.87 g] |
| Input Connector  | SMA Female          |
| Output Connector | SMA Female          |

### Environmental Specifications

#### Temperature

|                 |                   |
|-----------------|-------------------|
| Operating Range | -40 to +85 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.

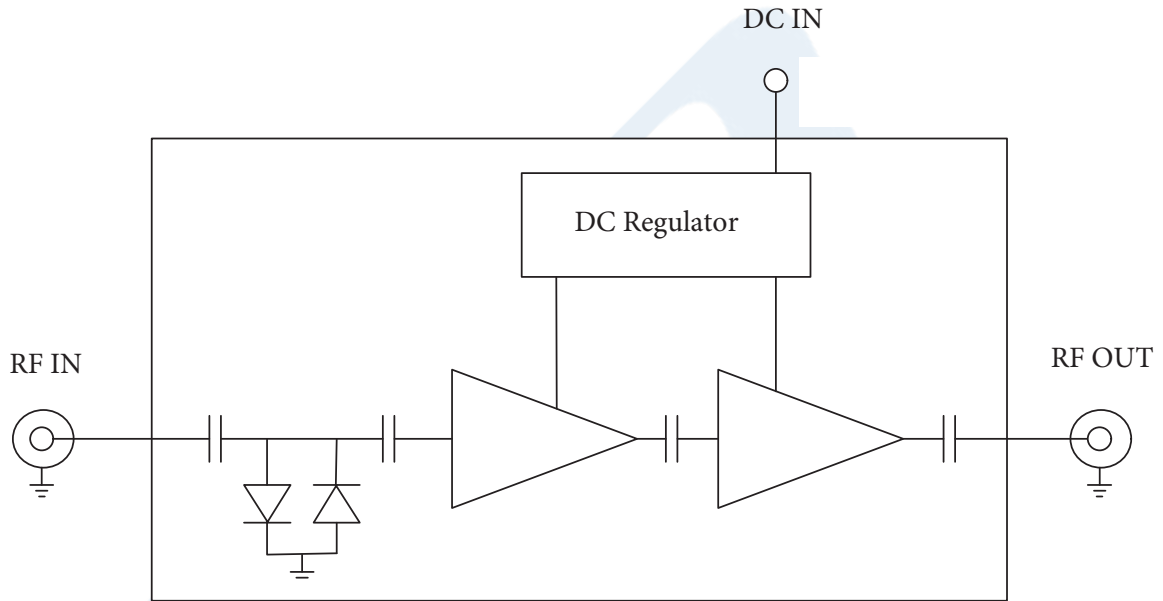
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [39 dBm IP3, 1.6 dB NF, 23 dBm P1dB, 30 MHz to 1.5 GHz, Low Noise Amplifier, 29 dB Gain, SMA PE15A63003](#)



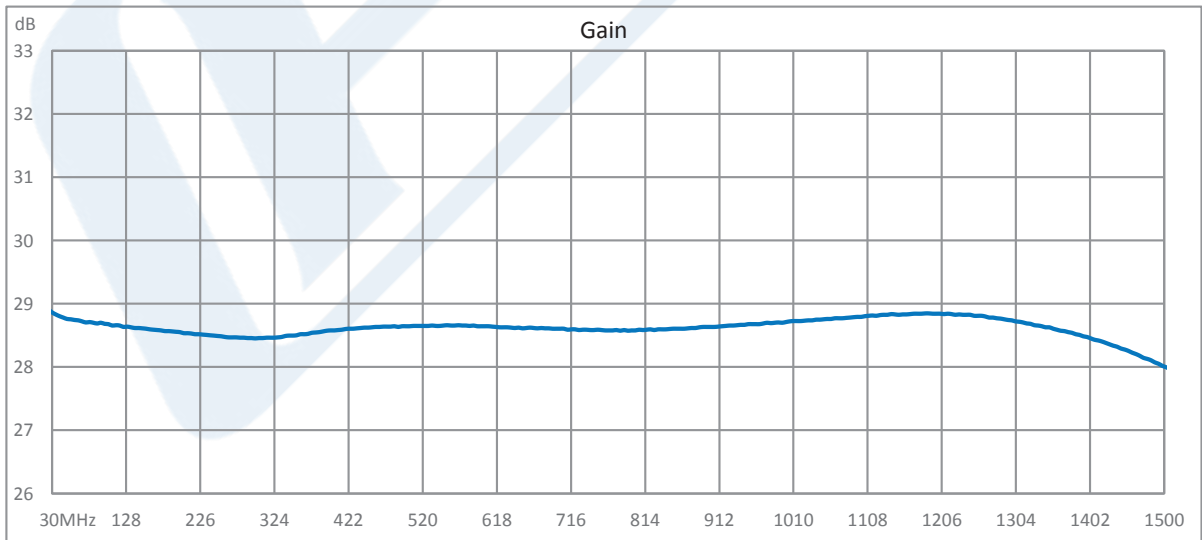
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**Functional Block Diagram**



**Typical Performance Data**



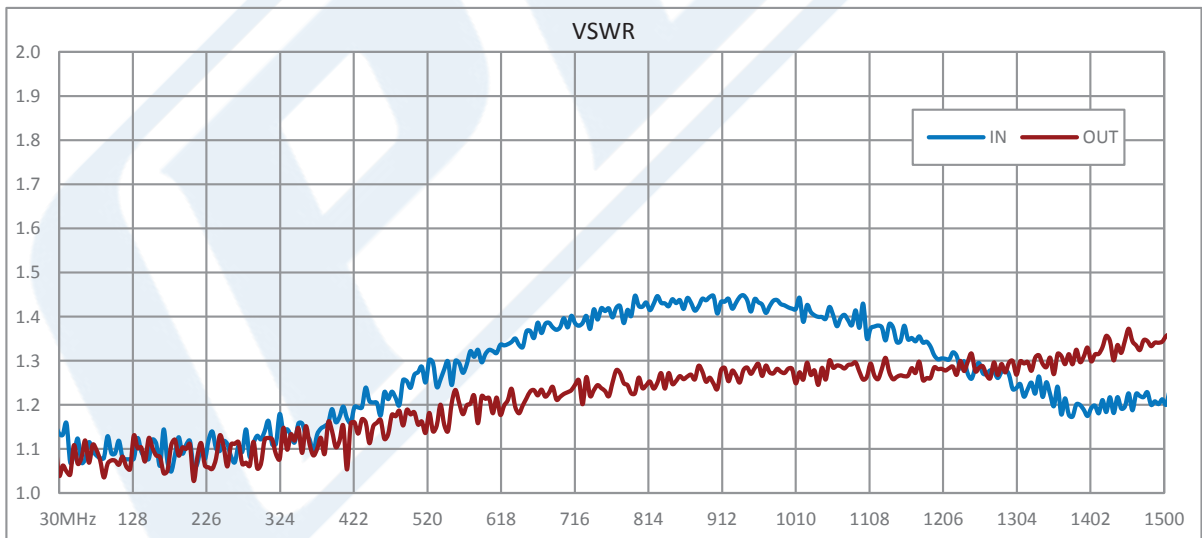
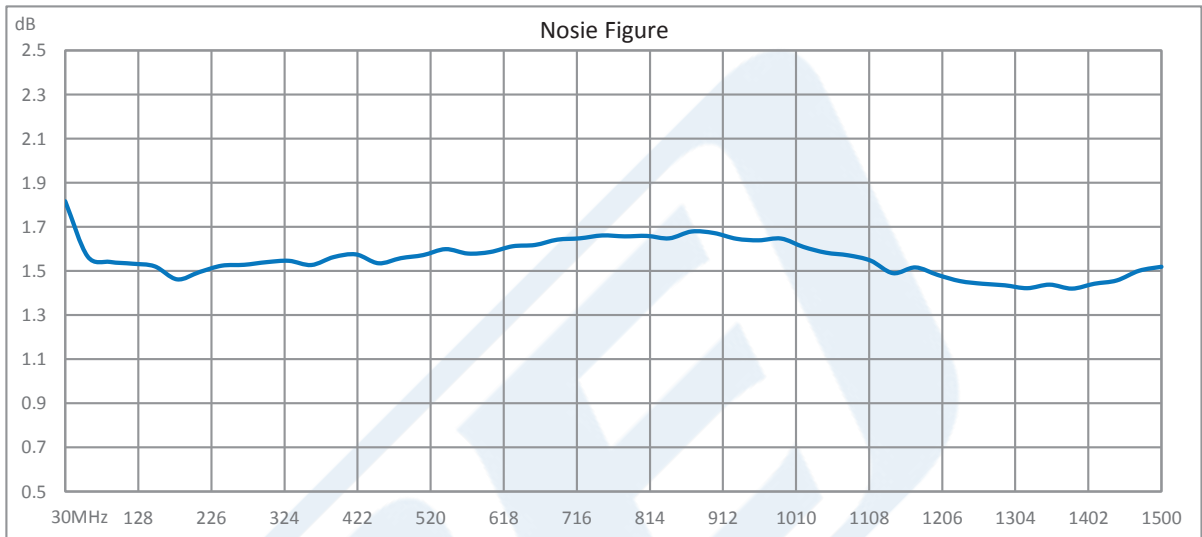
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39 dBm IP3, 1.6 dB NF, 23 dBm P1dB, 30 MHz to 1.5 GHz, Low Noise Amplifier, 29 dB Gain, SMA from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

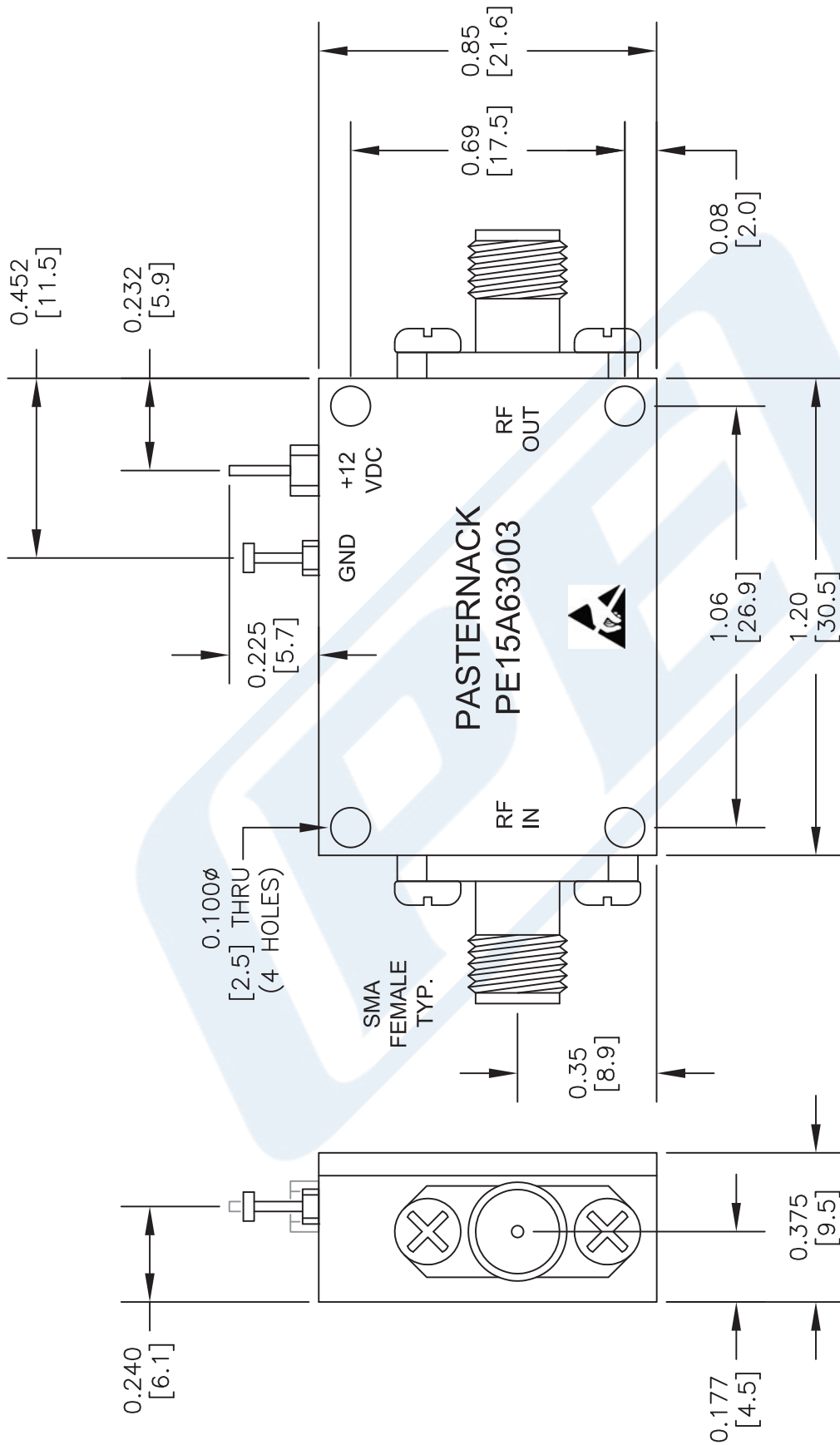
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# PE15A63003 CAD Drawing

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DWG TITLE

**PE15A63003**

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].

CAGE CODE 53919

CAD FILE 011217

SCALE N/A

SIZE A

2233



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