



39 dBm IP3, 1.4 dB NF, 22 dBm P1dB, 10 MHz to 250 MHz, Low Noise Amplifier, 17 dB Gain, SMA

TECHNICAL DATA SHEET

PE15A1043

The PE15A1043 is a low noise coaxial amplifier operating in the 10 MHz to 250 MHz frequency range. Impressive broadband typical performance includes 1.4 dB noise figure, 17 dB small signal gain, +21 dBm P1dB, and an output 3rd order intercept point of +39 dBm. This exceptional technical performance is achieved through the use of a hybrid MIC design and advanced E-pHEMT devices. The low noise amplifier requires a +5V DC power supply, and operates over a temperature range of -40°C to +75°C. The rugged and compact package supports SMA Female connectors and RFI and Ground pins. And for highly reliable operation, the model is guaranteed to meet MIL-STD-202 environmental test conditions for Humidity, Shock, Vibration, and Altitude.

Features

- 10 MHz to 250 MHz Frequency Range
- Low Noise Figure: 1.4 dB
- High Dynamic Range
- Efficient GaAs pHEMT Design
- Small Signal Gain: 17 dB
- Output P1dB: +21 dBm
- Output IP3: +39 dBm
- Operating Temperature: -40°C to +75°C
- 50 Ohm Input and Output Matched
- DC Power Supply: +5V / 160 mA
- SMA Female Connectors
- Designed to meet MIL-STD-202 Test Conditions

Applications

- Test & Measurement
- R&D Labs
- General Purpose Amplification
- Aerospace & Defense
- Wireless Infrastructure
- Communication Systems

Electrical Specifications (TA = +25°C, DC Voltage = 5Vdc, DC Current = 160mA)

| Description | Minimum | Typical | Maximum | Units |
|----------------------------------|---------|---------|---------|-------|
| Frequency Range | 10 | | 250 | MHz |
| Small Signal Gain | 14 | 17 | | dB |
| Gain Flatness | | ±0.5 | ±0.8 | dB |
| Output at 1 dB Compression Point | +21 | +22 | | dBm |
| Output 3rd Intercept Point | +37 | +39 | | dBm |
| Noise Figure | | 1.4 | 1.8 | dB |
| Input VSWR | | 1.4:1 | 1.8:1 | |
| Output VSWR | | 1.1:1 | 1.5:1 | |
| Reverse Isolation | | -20 | | dB |
| Operating DC Voltage | 4.75 | 5 | 5.25 | Volts |
| Operating DC Current | 140 | 160 | 180 | mA |
| Operating Temperature Range | -40 | | +75 | °C |

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, 1.4 dB NF, 22 dBm P1dB, 10 MHz to 250 MHz, Low Noise Amplifier, 17 dB Gain, SMA PE15A1043](#)



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Absolute Maximum Rating

| Parameter | Rating | Units |
|-----------------------|-------------|-------|
| Supply Voltage | +6 | V |
| RF Input Power | +20 | dBm |
| Operating Temperature | -40 to +85 | °C |
| Storage Temperature | -55 to +125 | °C |



ESD Sensitive Material,
Transport material in
Approved ESD bags.
Handle only in approved
ESD Workstation.

Mechanical Specifications

Size

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

Humidity MIL-STD-202F, Method 103B, Condition B
Shock MIL-STD-202F, Method 213B, Condition B
Vibration MIL-STD-202F, Method 204D, Condition B
Altitude MIL-STD-202F, Method 105C, Condition B

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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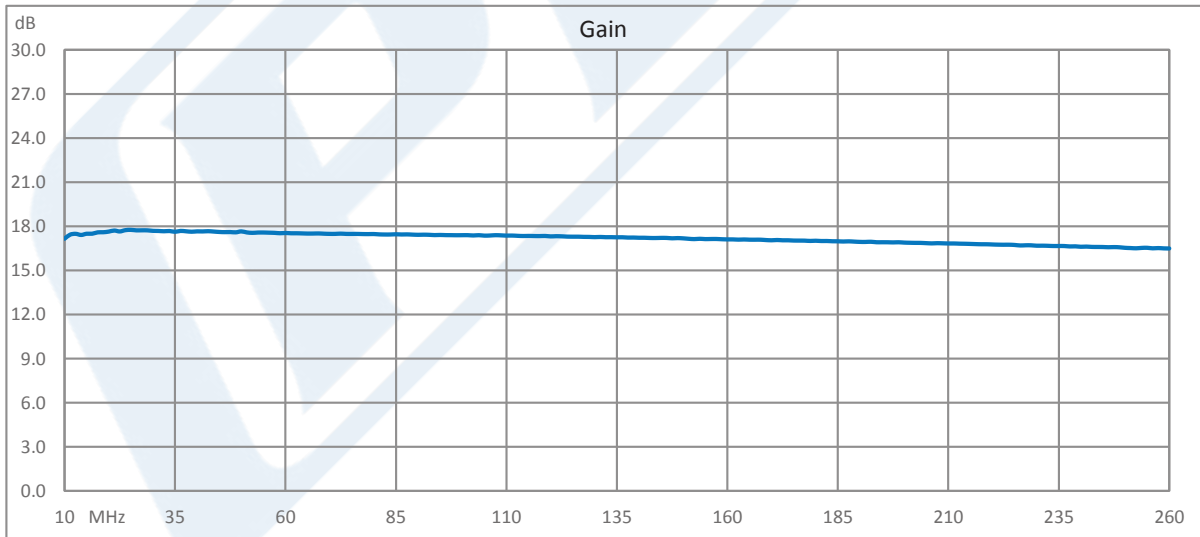
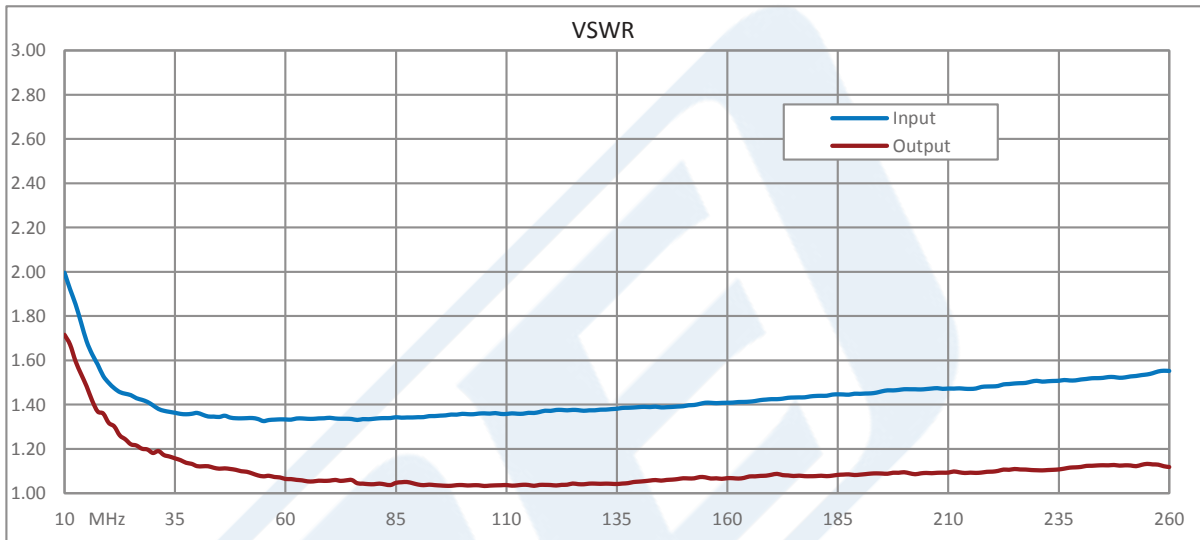


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Typical Performance Data



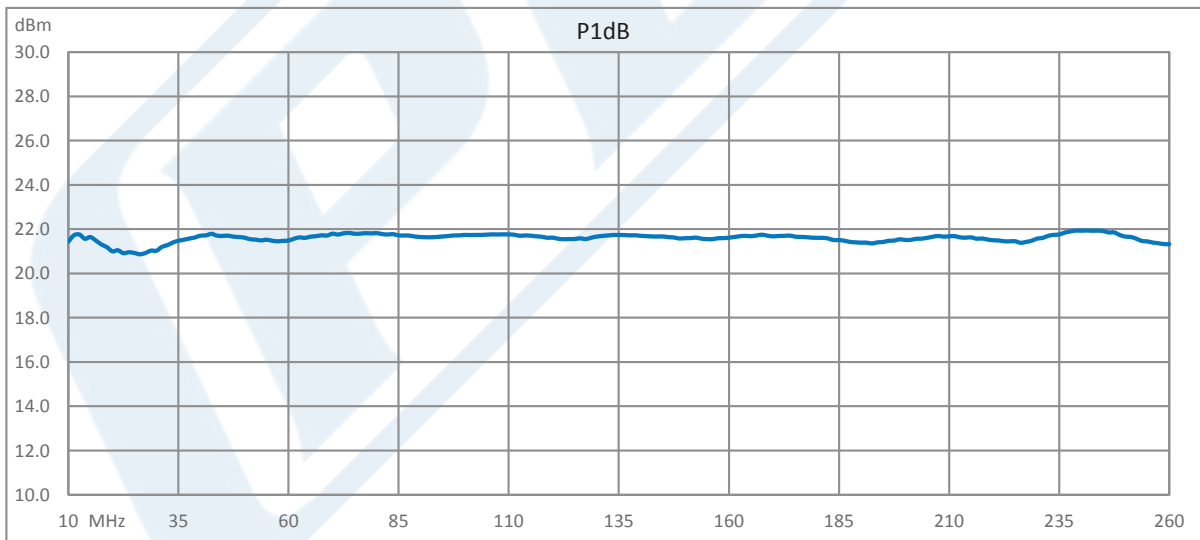
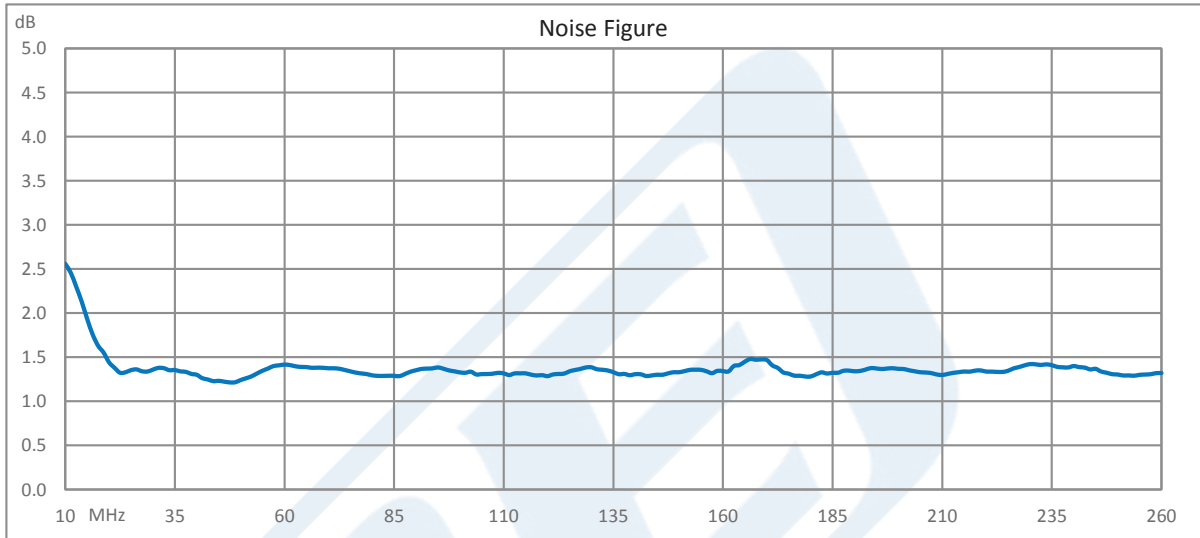
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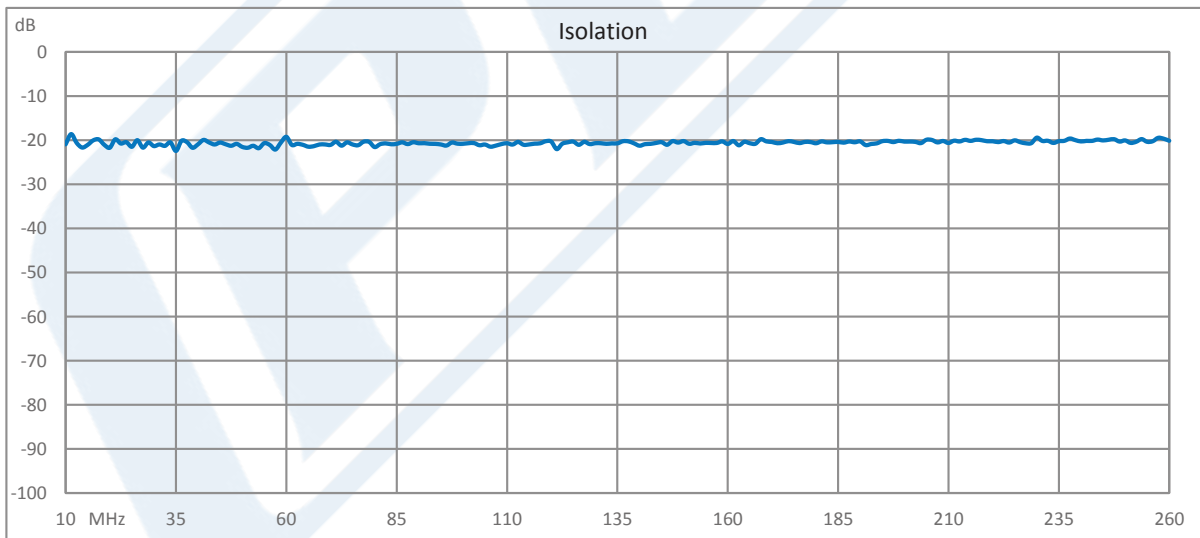
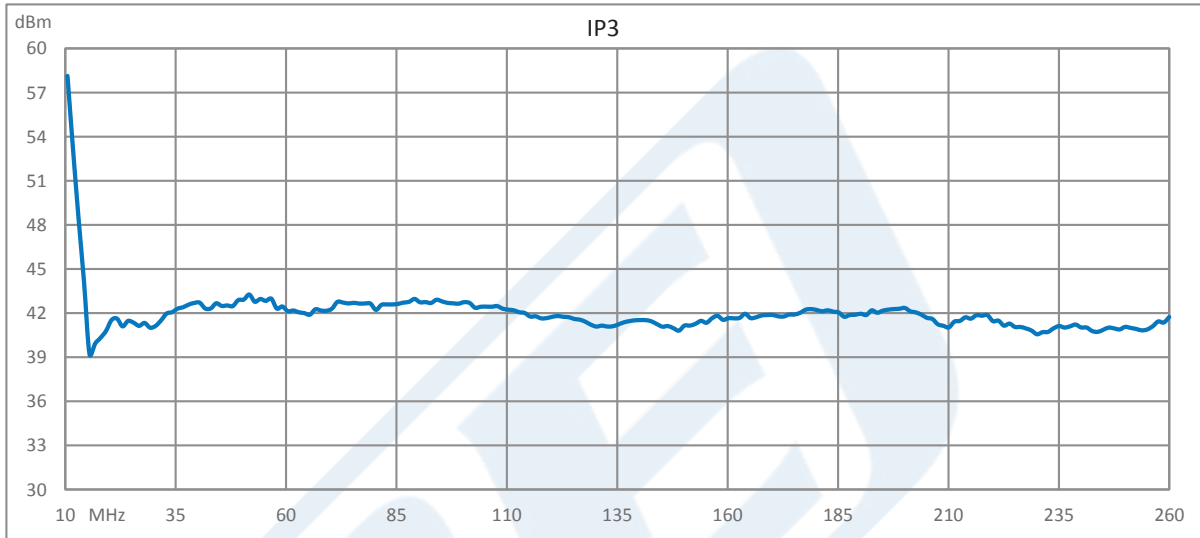
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39 dBm IP3, 1.4 dB NF, 22 dBm P1dB, 10 MHz to 250 MHz, Low Noise Amplifier, 17 dB Gain, SMA from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

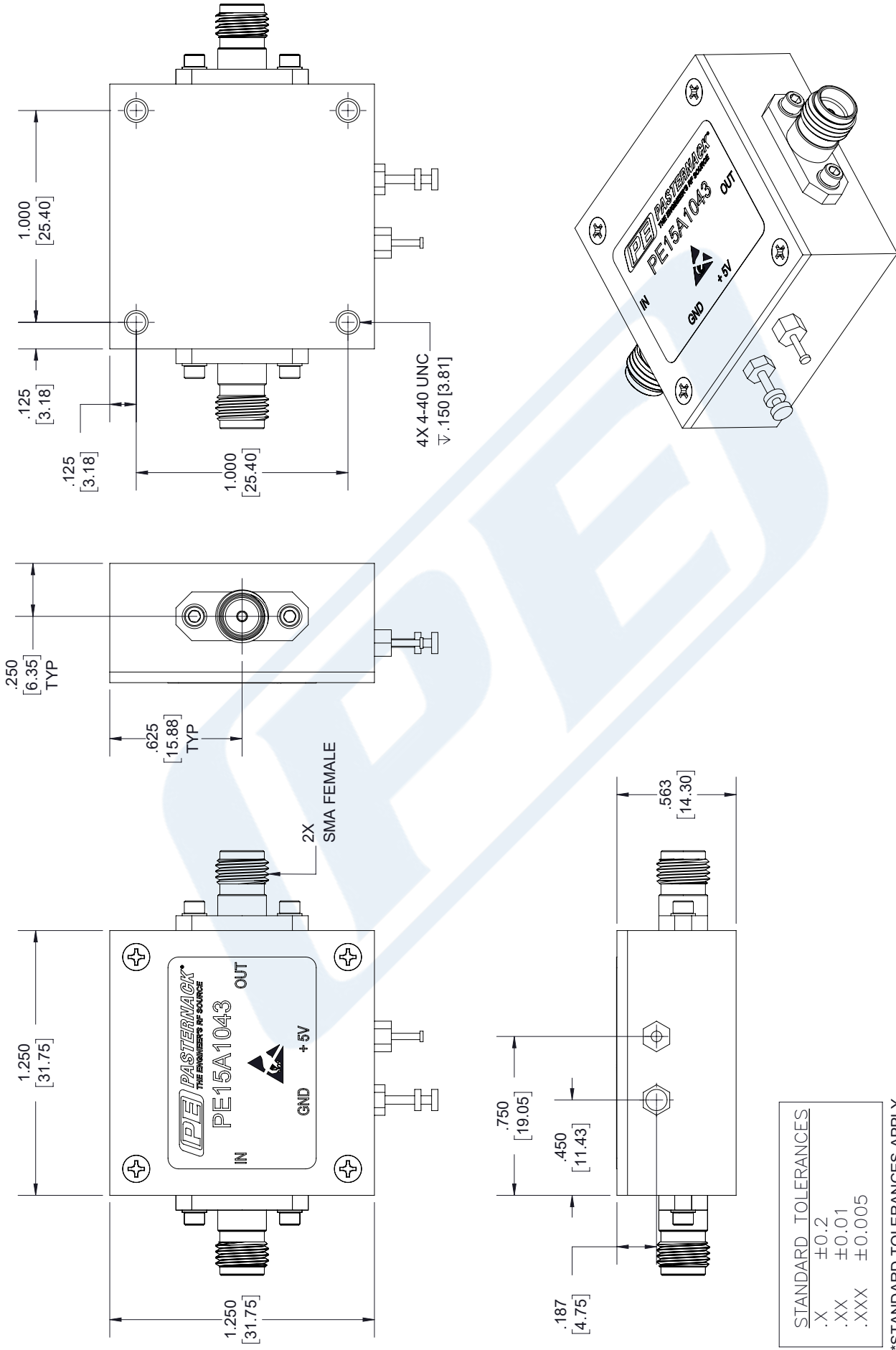
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The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. 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.

PE15A1043 CAD Drawing

39 dBm IP3, 1.4 dB NF, 22 dBm P1dB, 10 MHz to 250 MHz,
Low Noise Amplifier, 17 dB Gain, SMA



| STANDARD TOLERANCES | |
|---------------------|-------------|
| .X | ± 0.2 |
| .XX | ± 0.01 |
| .XXX | ± 0.005 |

*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES

| | | |
|---|---|-----------|
| <p>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</p> | DWG TITLE | PE15A1043 |
| | CAGE CODE | 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 | 04/23/18 | SCALE N/A |
| SIZE | A | 7361 |