



51 dB Gain, 22 dBm IP3, 2.2 dB NF, 13 dBm P1dB,  
10 MHz to 1 GHz, Low Noise Amplifier, SMA

## TECHNICAL DATA SHEET

PE15A1052

The PE15A1052 is a low noise coaxial amplifier operating in the 10 MHz to 1000 MHz frequency range. Impressive broadband typical performance includes 2.2 dB noise figure, 51 dB small signal gain, +13 dBm P1dB, and an output 3rd order intercept point of +22 dBm. This exceptional technical performance is achieved through the use of a hybrid MIC design and advanced Bipolar devices. The low noise amplifier requires a +12V 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 1000 MHz Frequency Range
- Low Noise Figure: 2.2 dB
- High Dynamic Range
- Efficient GaAs pHEMT Design
- Small Signal Gain: 51 dB
- Output P1dB: +13 dBm
- Output IP3: +22 dBm
- Operating Temperature: -40°C to +75°C
- 50 Ohm Input and Output Matched
- DC Power Supply: +12V / 88 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 = 12Vdc, DC Current = 88mA)

Description	Minimum	Typical	Maximum	Units
Frequency Range	10		1,000	MHz
Small Signal Gain	47	51		dB
Gain Flatness		±0.8	±1.2	dB
Output at 1 dB Compression Point	+13	+13		dBm
Output 3rd Intercept Point	+20	+22		dBm
Noise Figure		2.2	2.7	dB
Input VSWR		2.5:1	3.5:1	
Output VSWR		1.5:1	2:1	
Reverse Isolation		-55		dB
Operating DC Voltage	11	12	15	Volts
Operating DC Current		88	100	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: [51 dB Gain, 22 dBm IP3, 2.2 dB NF, 13 dBm P1dB, 10 MHz to 1 GHz, Low Noise Amplifier, SMA PE15A1052](#)



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**Absolute Maximum Rating**

Parameter	Rating	Units
Supply Voltage	+25	V
RF Input Power	+13	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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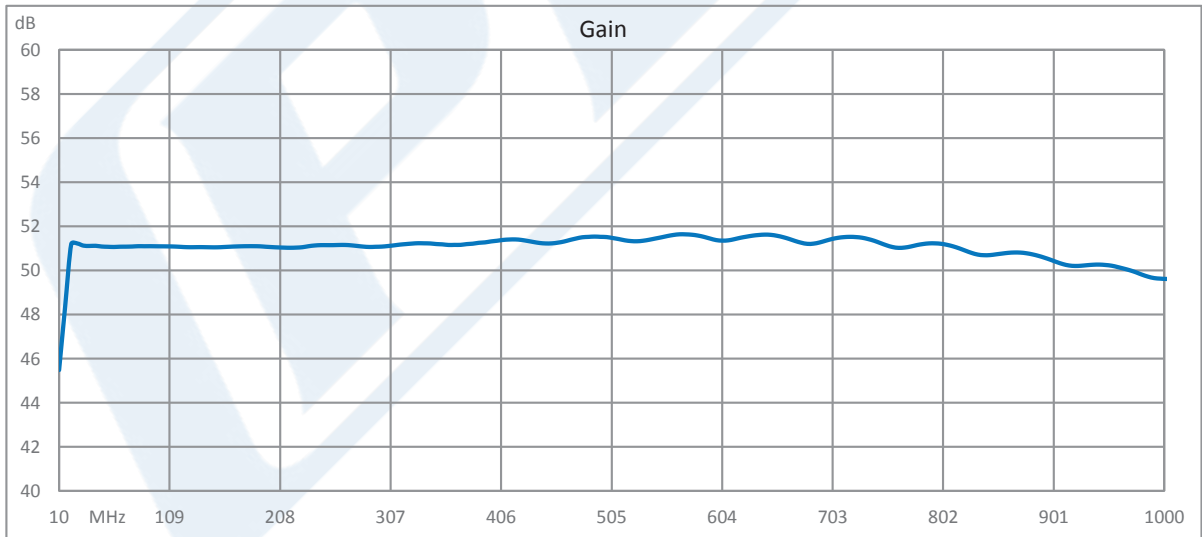
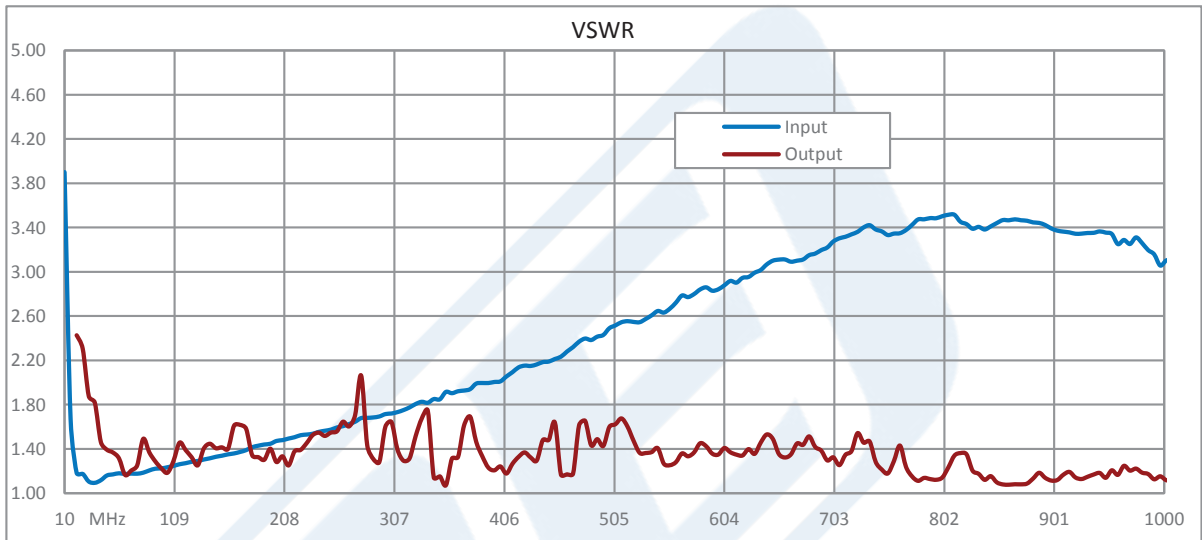


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Typical Performance Data



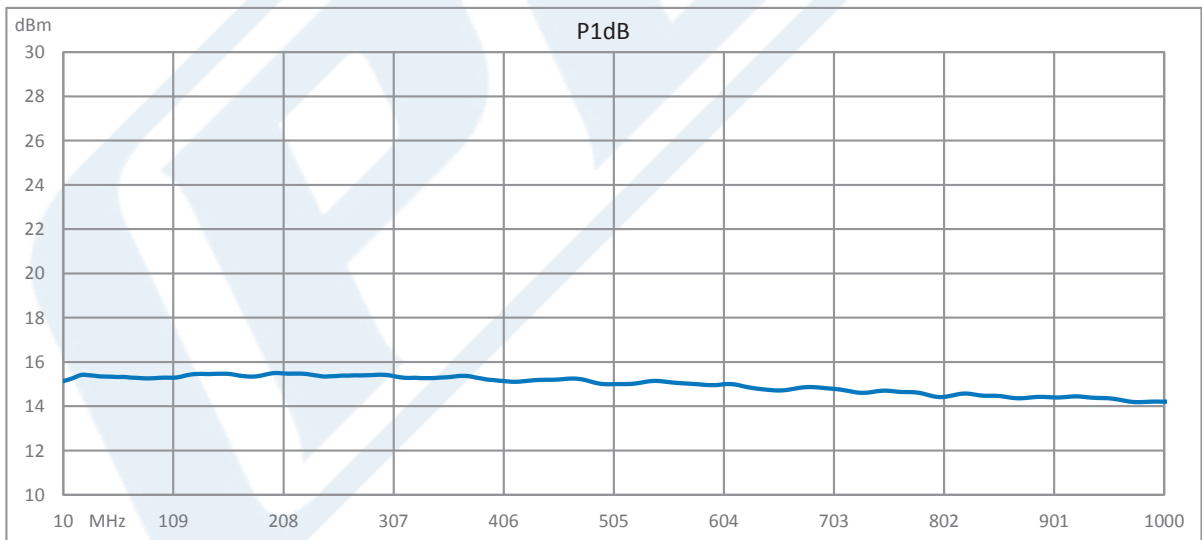
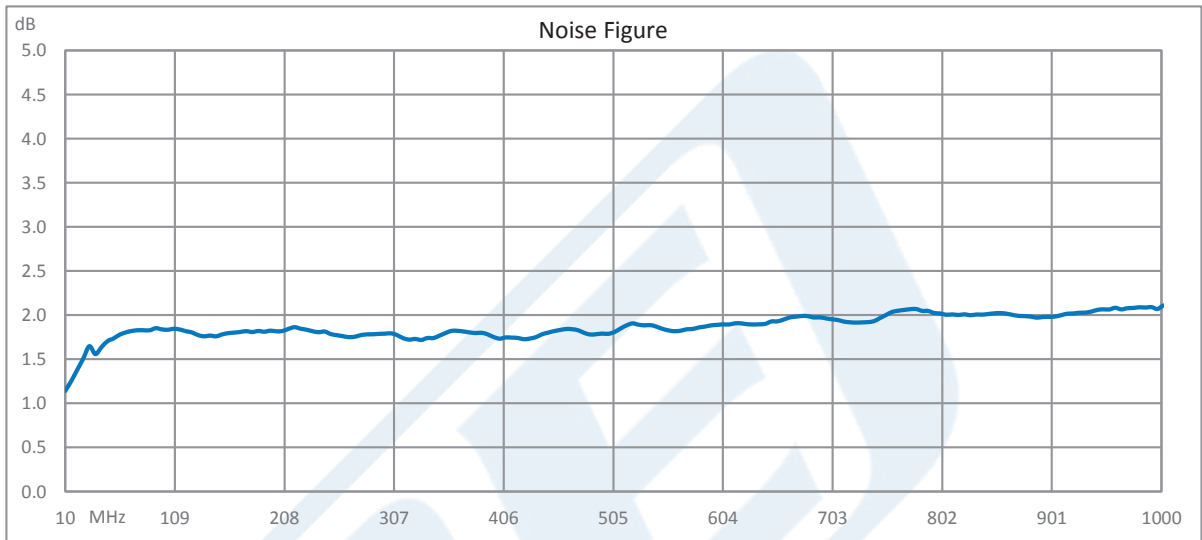
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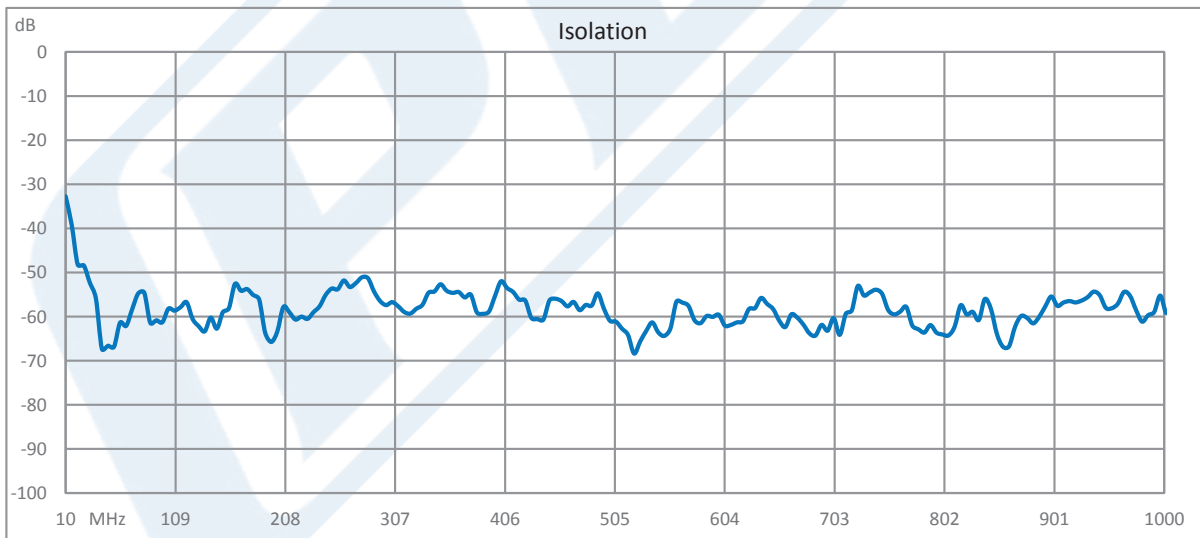
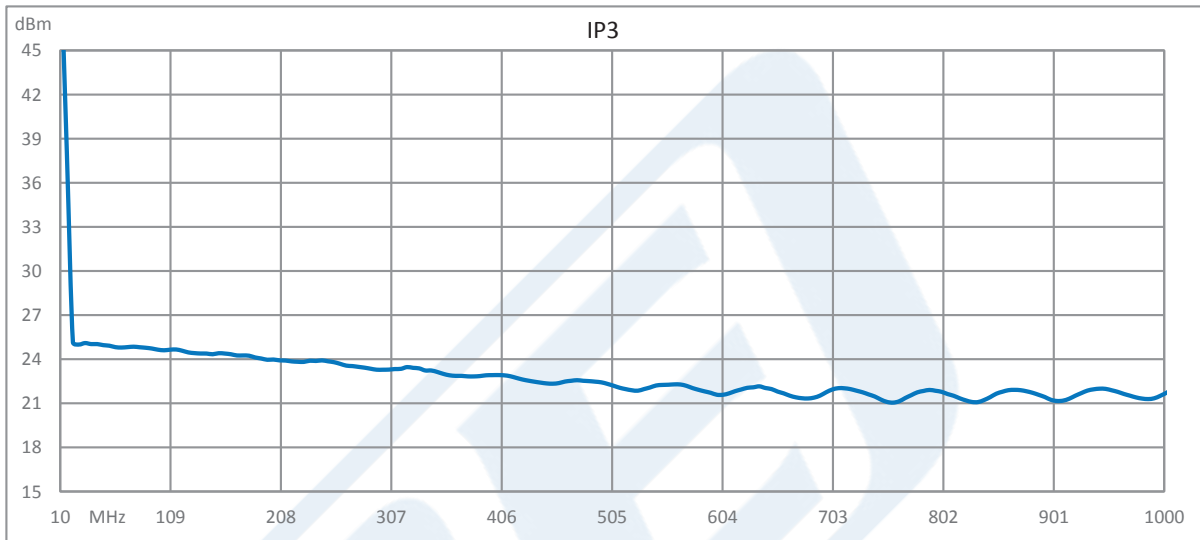
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51 dB Gain, 22 dBm IP3, 2.2 dB NF, 13 dBm P1dB, 10 MHz to 1 GHz, Low Noise Amplifier, SMA from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

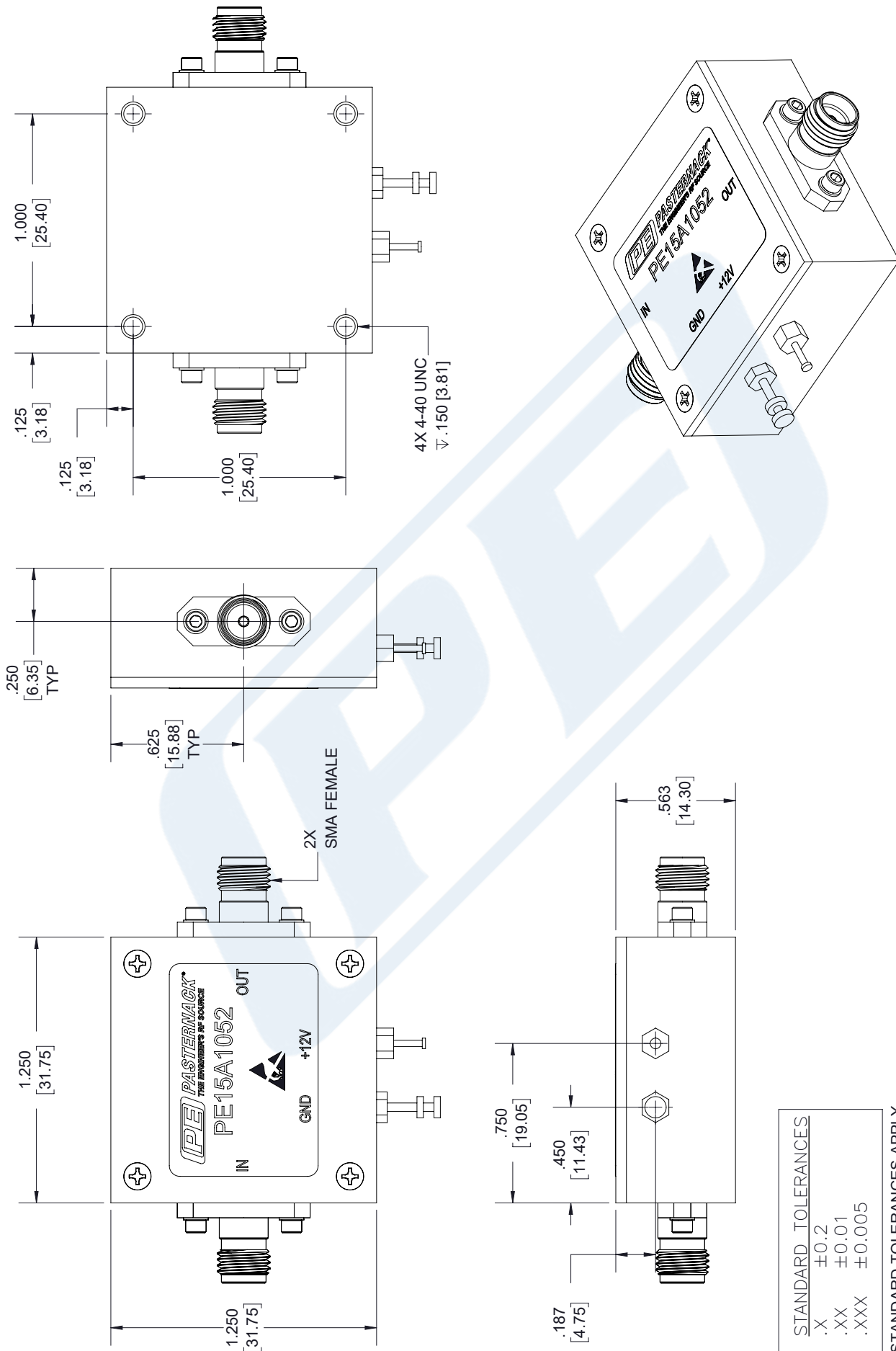
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [51 dB Gain, 22 dBm IP3, 2.2 dB NF, 13 dBm P1dB, 10 MHz to 1 GHz, Low Noise Amplifier, SMA PE15A1052](https://www.pasternack.com/51-dB-Gain-22-dBm-IP3-2.2-dB-NF-13-dBm-P1dB-10-MHz-to-1-GHz-Low-Noise-Amplifier-SMA-PE15A1052)

URL: <https://www.pasternack.com/51-dB-gain-2.2-dB-1-GHz-low-noise-amplifier-sma-pe15a1052-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.

# PE15A1052 CAD Drawing

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

\*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES

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].

DWG TITLE  
**PE15A1052**

CAGE CODE **53919**

**PE PASTERNAK**  
THE ENGINEER'S RF SOURCE  
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CAD FILE 04/26/18  
SCALE N/A  
SIZE A  
7361