



50 dB Gain, 24 dBm IP3, 2.2 dB NF, 14 dBm P1dB,  
0.03 MHz to 600 MHz, Low Noise Amplifier, SMA

## TECHNICAL DATA SHEET

PE15A1047

The PE15A1047 is a low noise coaxial amplifier operating in the 30 KHz to 600 MHz frequency range. Impressive broadband typical performance includes 2.2 dB noise figure, 50 dB small signal gain, +14 dBm P1dB, and an output 3rd order intercept point of +24 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 +15V 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

- .03 MHz to 600 MHz Frequency Range
- Low Noise Figure: 2.2 dB
- High Dynamic Range
- Efficient GaAs pHEMT Design
- Small Signal Gain: 50 dB
- Output P1dB: +14 dBm
- Output IP3: +24 dBm
- Operating Temperature: -40°C to +75°C
- 50 Ohm Input and Output Matched
- DC Power Supply: +15V / 85 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 = 15Vdc, DC Current = 85mA)

Description	Minimum	Typical	Maximum	Units
Frequency Range	30KHz		600	MHz
Small Signal Gain	47	50		dB
Gain Flatness		±1.2	±1.5	dB
Output at 1 dB Compression Point	+14	+14		dBm
Output 3rd Intercept Point	+22	+24		dBm
Noise Figure		2.2	2.5	dB
Input VSWR		1.5:1	2:1	
Output VSWR		1.2:1	1.7:1	
Reverse Isolation		-60		dB
Operating DC Voltage	14	15	18	Volts
Operating DC Current		85	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: [50 dB Gain, 24 dBm IP3, 2.2 dB NF, 14 dBm P1dB, 0.03 MHz to 600 MHz, Low Noise Amplifier, SMA PE15A1047](#)



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**Absolute Maximum Rating**

Parameter	Rating	Units
Supply Voltage	+20	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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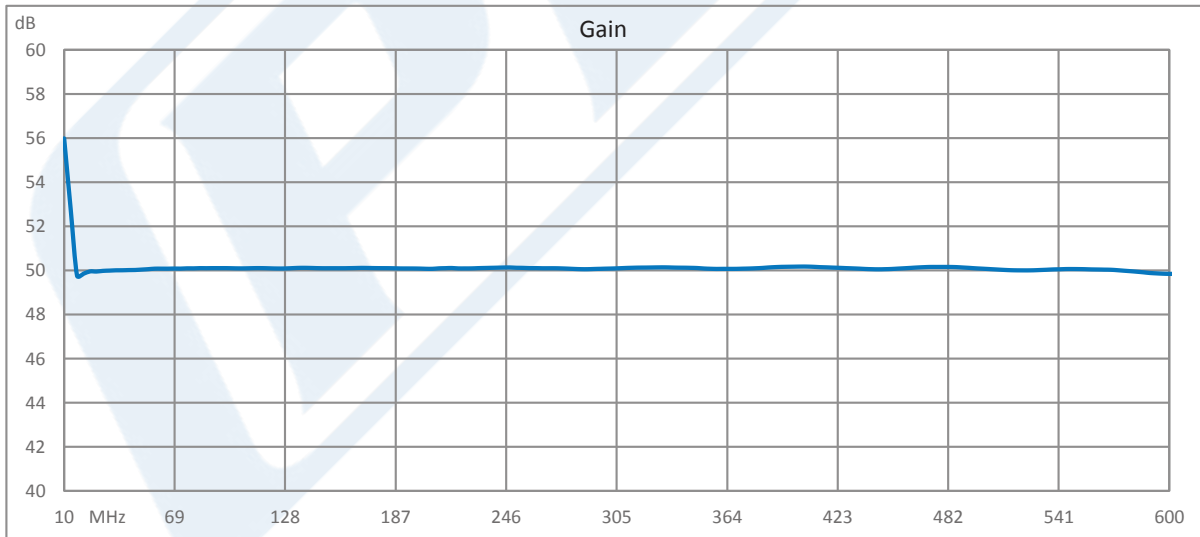
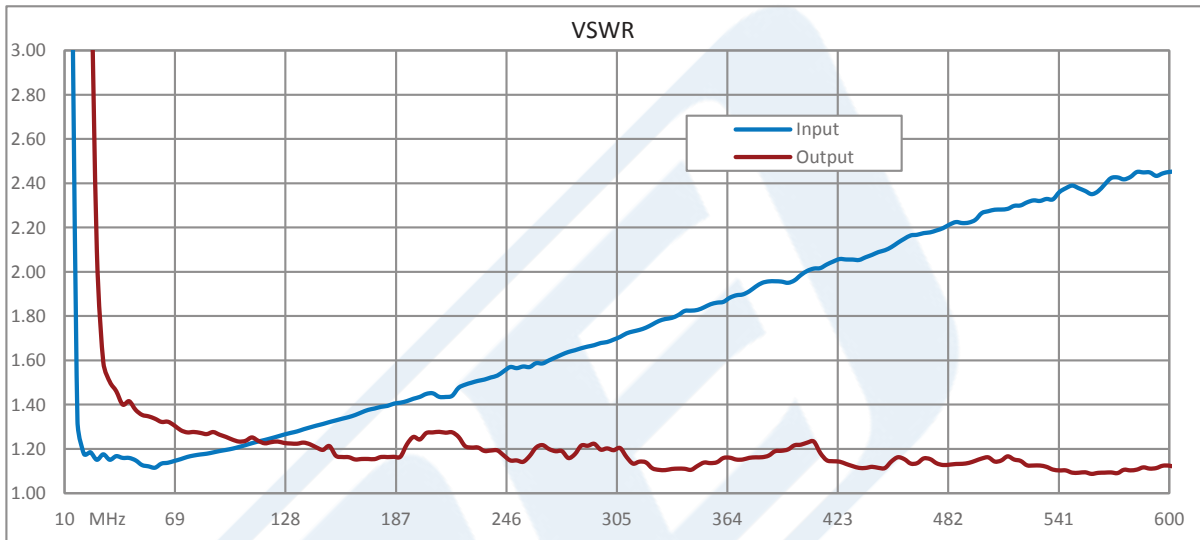


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Typical Performance Data



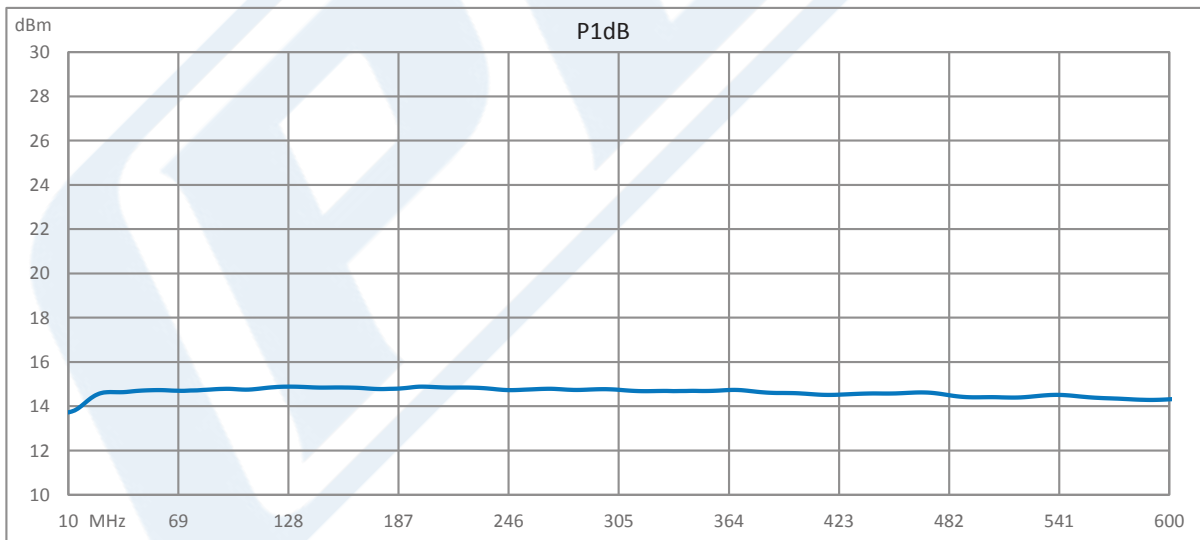
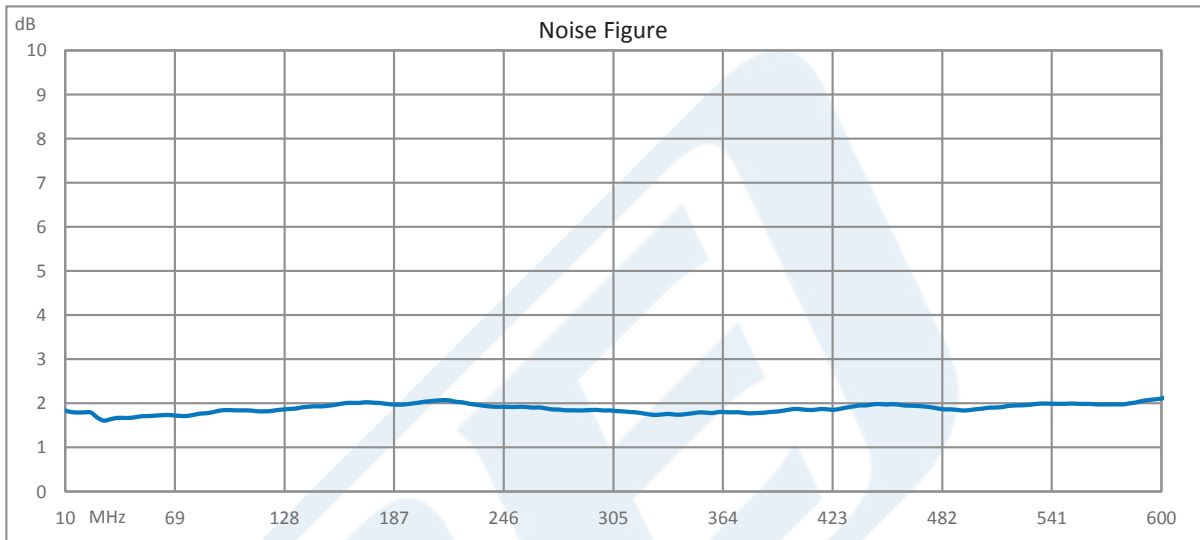
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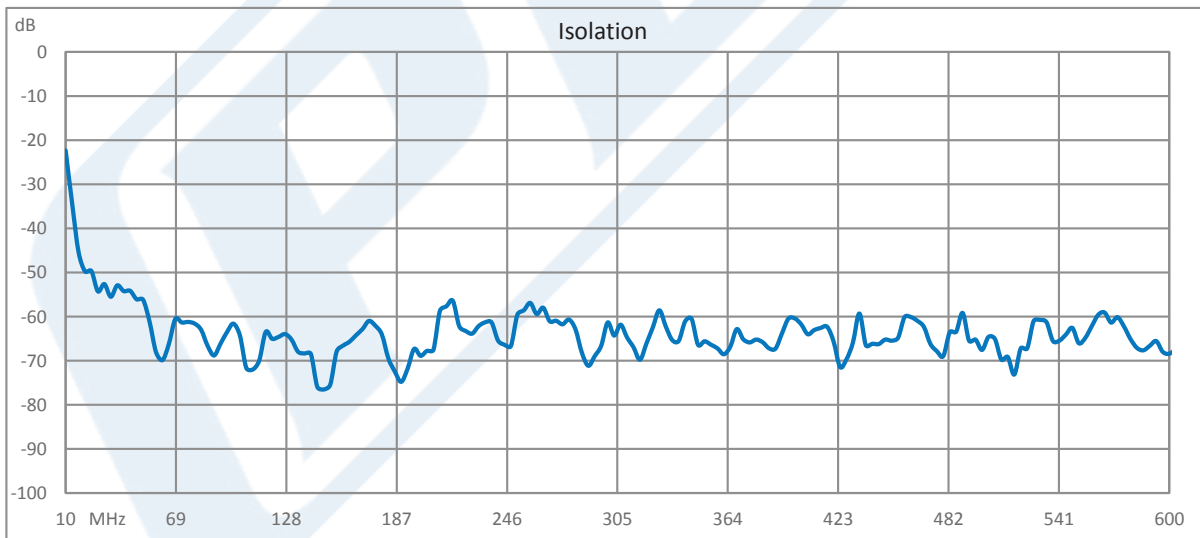
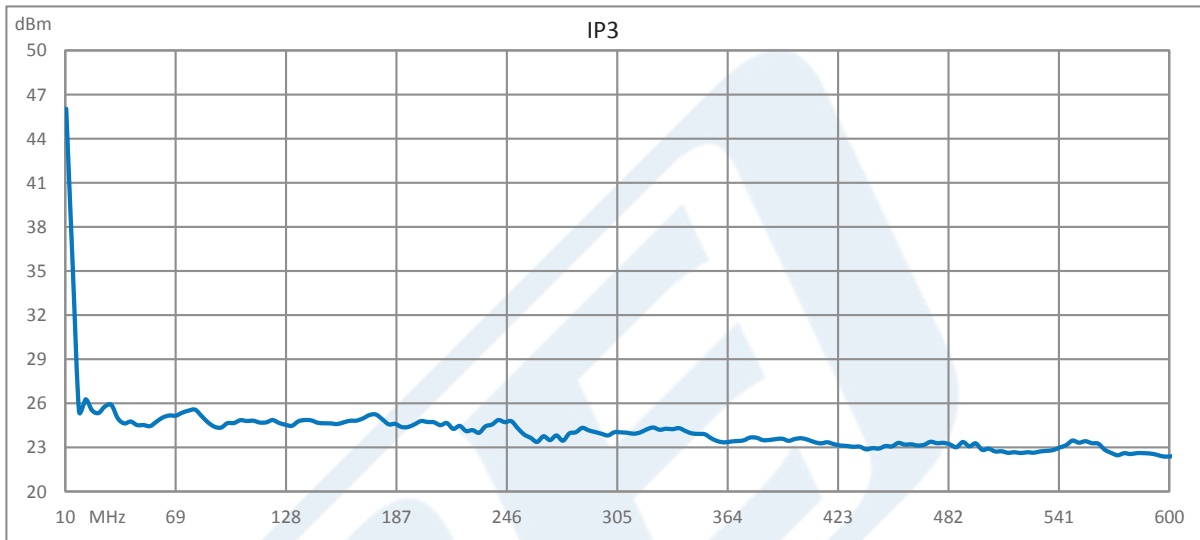
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50 dB Gain, 24 dBm IP3, 2.2 dB NF, 14 dBm P1dB, 0.03 MHz to 600 MHz, Low Noise Amplifier, SMA from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

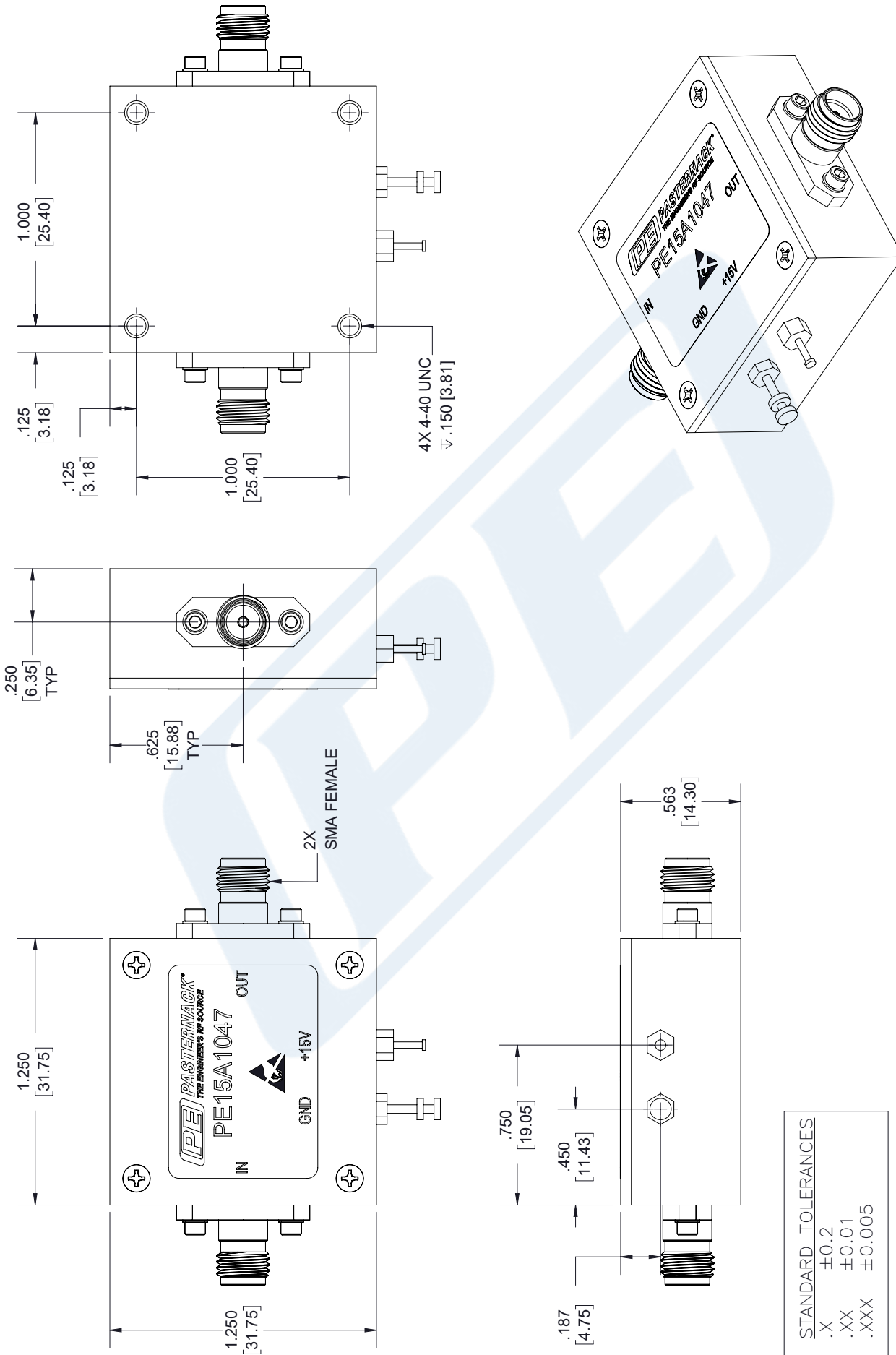
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URL: <https://www.pasternack.com/50-db-gain-2.2-db-600-mhz-low-noise-amplifier-sma-pe15a1047-p.aspx>

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# PE15A1047 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



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DWG TITLE

PE15A1047

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 04/23/18

SCALE N/A

SIZE A

7361