



35 dBm IP3, 4 dB NF, 22 dBm P1dB, 1 MHz to 3 GHz,  
Low Noise Broadband Amplifier, 21 dB Gain, SMA

## TECHNICAL DATA SHEET

PE15A3309

The PE15A3309 is a broadband coaxial power amplifier, operating in the 1 MHz to 3 GHz frequency range. Impressive broadband typical performance includes 4 dB noise figure, 16 dB small signal gain, +20 dBm P1dB, and an output 3rd order intercept point of +35 dBm. This exceptional technical performance is achieved through the use of hybrid MIC design and advanced InGaP GaAs HBT devices. The low noise amplifier requires a +15V DC power supply, and operates over a temperature range of -40°C to +85°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

- 1 MHz to 3 GHz Frequency Range
- P1dB: +20 dBm
- Small Signal Gain: 16 dB
- Gain Flatness:  $\pm 1.5$  dB
- 50 Ohm Input and Output Matched
- Output IP3: +35 dBm
- Advanced InGaP GaAs HBT Design
- -40 to +85°C Operating Temperature
- +15V / 110mA DC Positive Supply
- SMA Female Connectors
- Designed to meet MIL-STD-202 Test Conditions

### Applications

- Laboratory Applications
- R&D Labs
- Test Instrumentation
- Military & Space
- Communication Systems
- Satellite Communications
- Wireless Communications
- Unmanned Systems
- Microwave Radio Systems
- Low Noise Amplifier
- General Purpose Amplification
- RF Front Ends

### Electrical Specifications (TA= 25°C, VDC1 = 15 Vdc)

Description	Minimum	Typical	Maximum	Units
Frequency Range	0.001		3	GHz
Gain	16	21		dB
Gain Flatness		$\pm 1.5$	$\pm 2$	dB
Output at 1 dB Compression Point	+20	+22		dBm
Output 3 <sup>rd</sup> Intercept Point	+33	+35		dBm
Reverse Isolation	-20	-23		dB
Noise Figure		4	4.5	dB
Input VSWR		1.5:1		
Output VSWR		2:1		
Operating DC Voltage 1	14	15	16	Volts
Operating DC Current		110	130	mA
Operating Temperature Range (OTR)	0		+50	°C

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [35 dBm IP3, 4 dB NF, 22 dBm P1dB, 1 MHz to 3 GHz, Low Noise Broadband Amplifier, 21 dB Gain, SMA PE15A3309](#)



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**Absolute Maximum Rating**

Parameter	Rating	Units
Supply Voltage	+16	V
RF Input Power	+10	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**

Length	1.25 in [31.75 mm]
Width	1.25 in [31.75 mm]
Height	0.563 in [14.3 mm]
Input Connector	SMA Female
Output Connector	SMA Female

**Environmental Specifications**

**Temperature**

Operating Range	0 to +50 deg C
Storage Range	-40 to +100 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:

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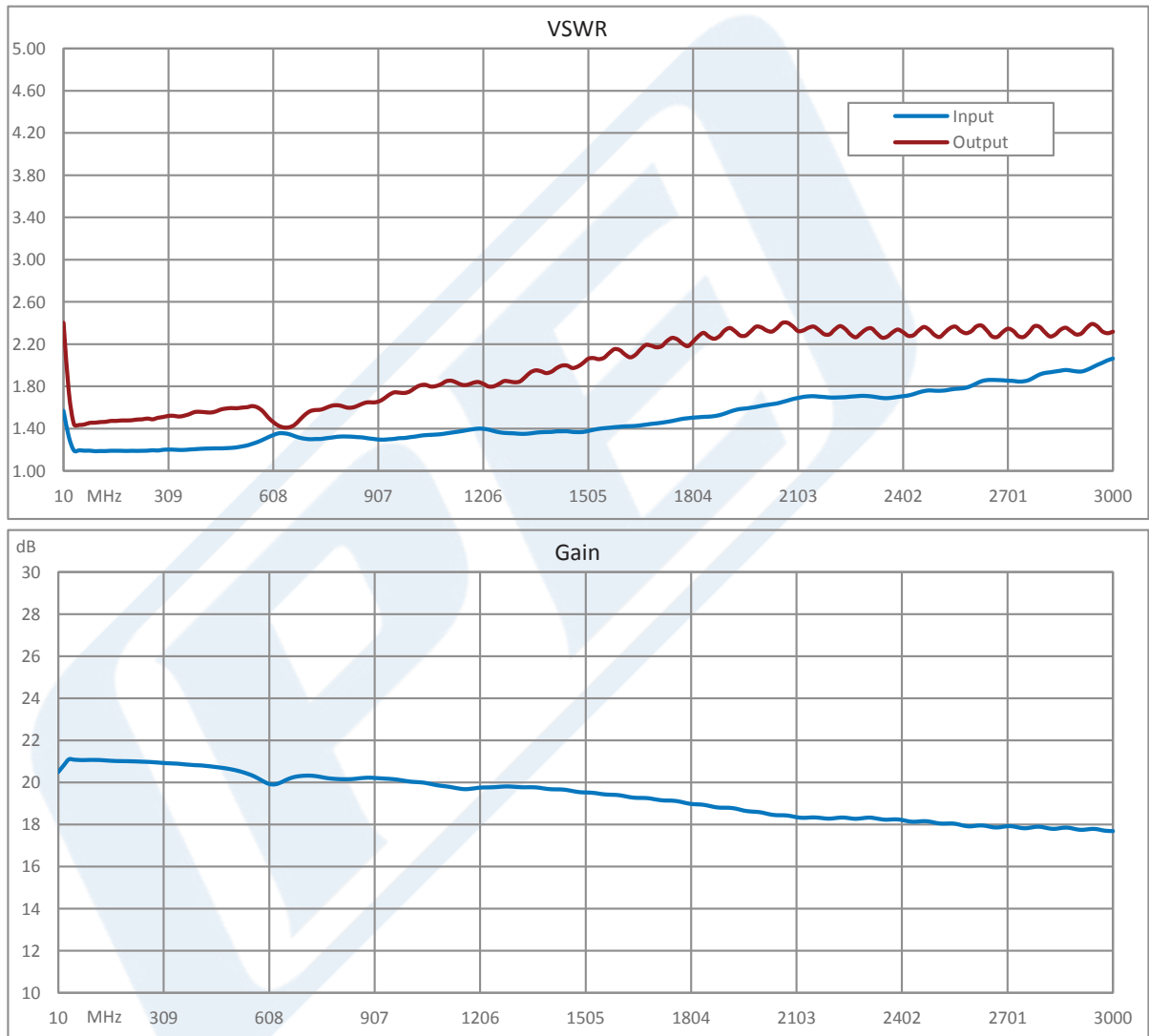


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Typical Performance Data



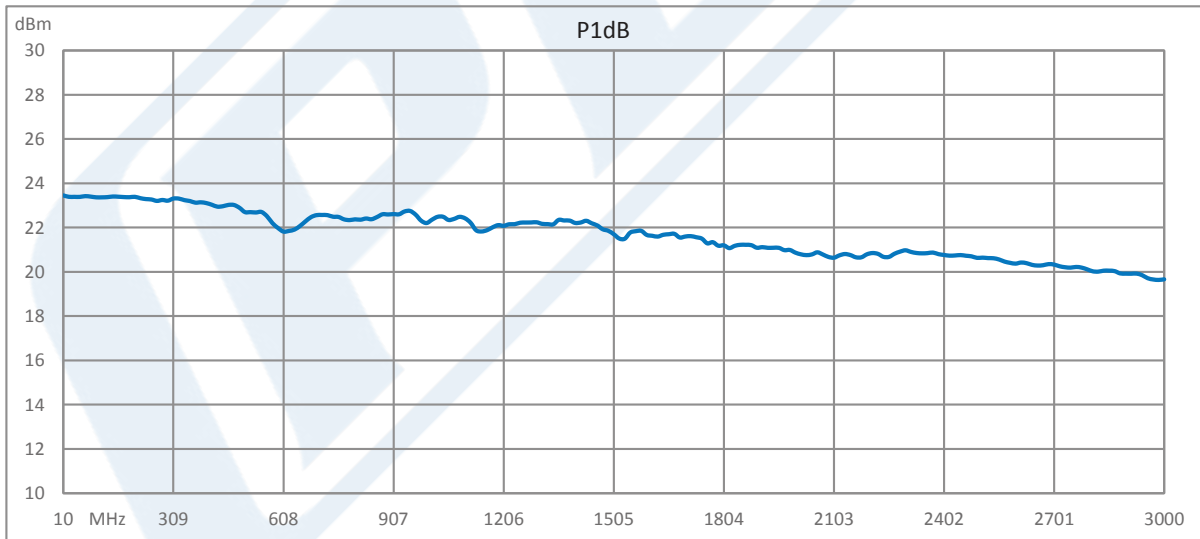
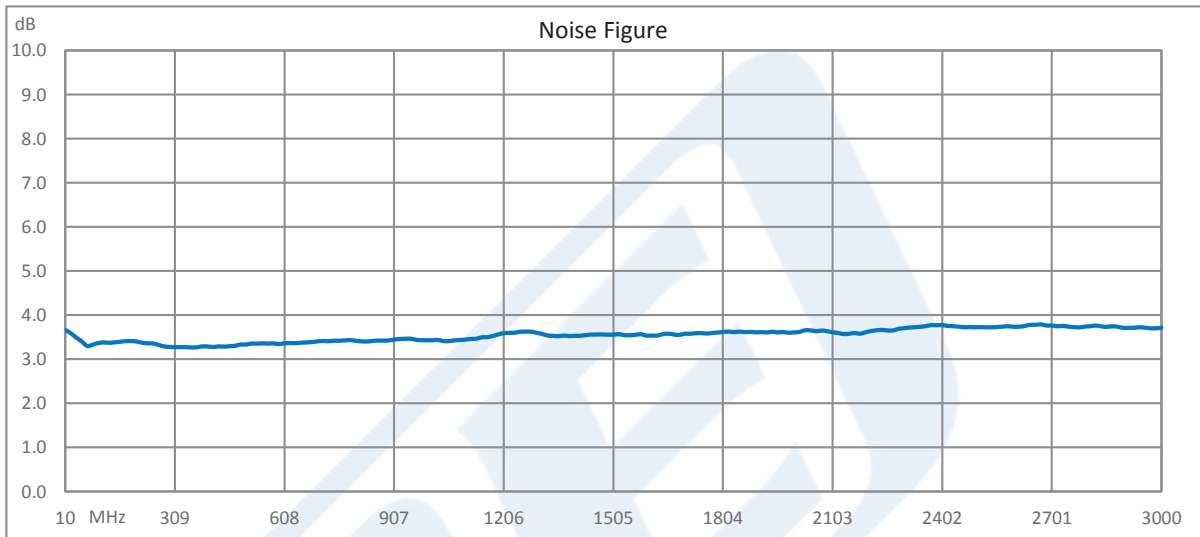
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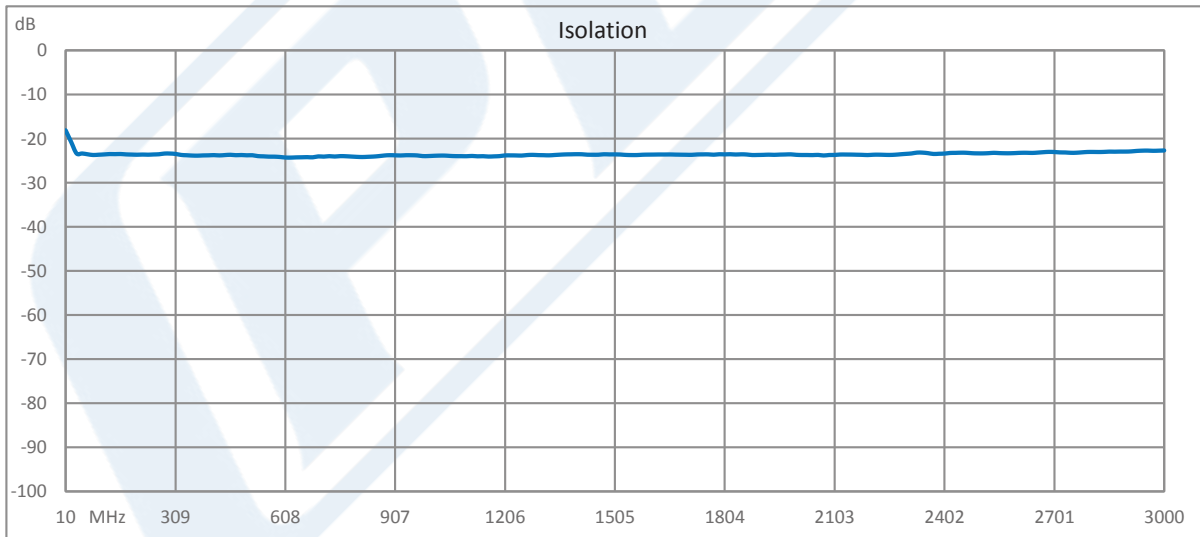
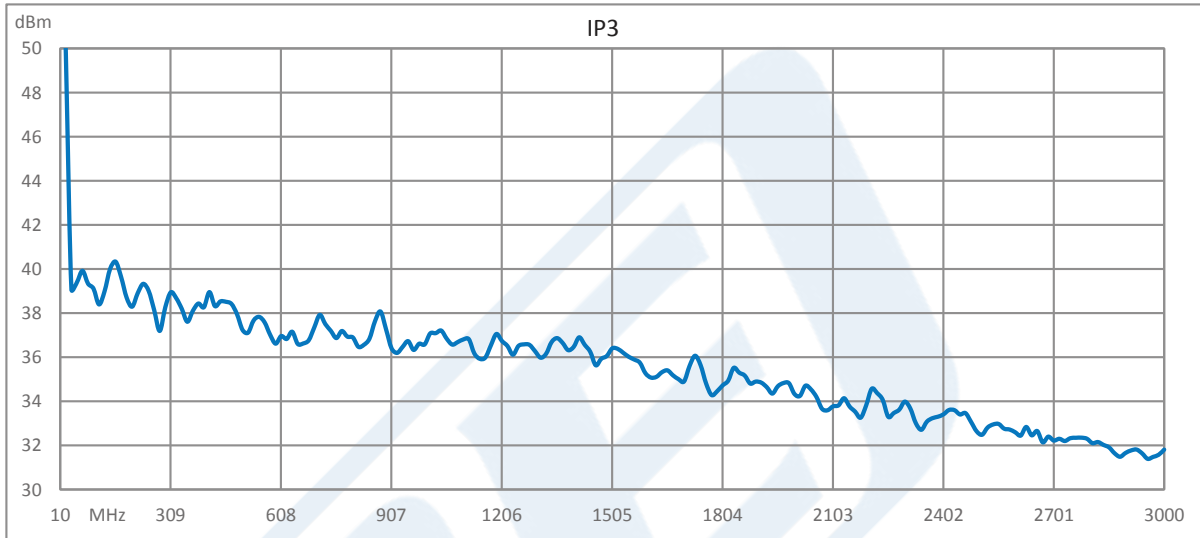
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35 dBm IP3, 4 dB NF, 22 dBm P1dB, 1 MHz to 3 GHz, Low Noise Broadband Amplifier, 21 dB Gain, SMA from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

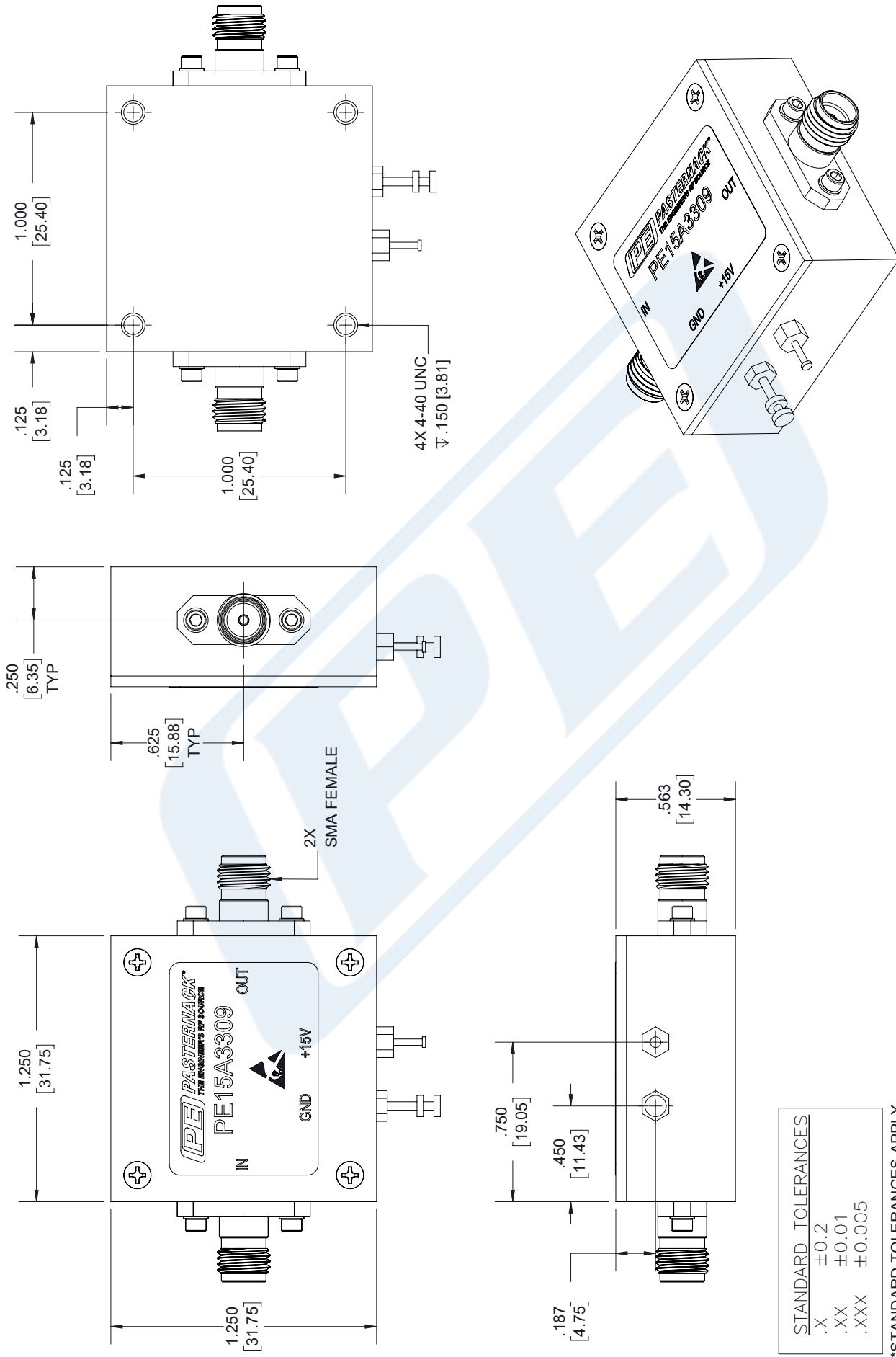
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The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements.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

# PE15A3309 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

<p><b>PE PASTERNAK</b> THE ENGINEER'S RF SOURCE</p> <p>Pasternack Enterprises, Inc. P.O. Box 16759   Irvine   CA   92623</p> <p>Phone: (949) 261-1920   Fax: (949) 261-7451 Website: www.pasternack.com   E-Mail: sales@pasternack.com</p>	DWG TITLE	PE15A3309
	CAGE CODE	53919
NOTES:	<p>1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.</p> <p>2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.</p> <p>3. DIMENSIONS ARE IN INCHES [mm].</p>	
CAD FILE	04/26/18	SCALE N/A
SIZE	A	7361