



40.5 dB Gain, 34 dBm IP3, 0.9 dB NF, 20 dBm Psat,  
 10 MHz to 600 MHz, Low Noise Amplifier, SMA

## TECHNICAL DATA SHEET

PE15A1063

The PE15A1063 is a low noise coaxial amplifier operating in the 10 MHz to 600 MHz frequency range. Impressive broadband typical performance includes 0.9 dB noise figure, 40.5 dB small signal gain, +19 dBm P1dB, and an output 3rd order intercept point of +34 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 +12V 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

- 10 MHz to 600 MHz Frequency Range
- Low Noise Figure: 0.9 dB
- High Dynamic Range
- Efficient GaAs pHEMT Design
- Small Signal Gain: 40.5 dB
- Output P1dB: +19 dBm
- Output IP3: +34 dBm
- Operating Temperature: -40°C to +85°C
- 50 Ohm Input and Output Matched
- DC Power Supply: +12V / 140 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 = 140mA)

Description	Minimum	Typical	Maximum	Units
Frequency Range	10		600	MHz
Small Signal Gain	38.5	40.5		dB
Gain Flatness		±0.8	±1.2	dB
Gain Variation Over Temperature		0.02		dB/°C
Output at 1 dB Compression Point	+19	+19		dBm
Saturated Output Power (Psat)	+18	+20		dBm
Output 3rd Intercept Point	+31	+34		dBm
Noise Figure		0.9	1.1	dB
Input VSWR		1.6:1	2:1	
Output VSWR		1.3:1	2:1	
Reverse Isolation		-55		dB
Operating DC Voltage	9	12	15	Volts
Operating DC Current		140	160	mA
Operating Temperature Range	-40		+85	°C

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### Absolute Maximum Rating

Parameter	Rating	Units
Supply Voltage	+20	V
RF Input Power	+15	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	1.79 in [45.47 mm]
Width	1.1 in [27.94 mm]
Height	0.45 in [11.43 mm]
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

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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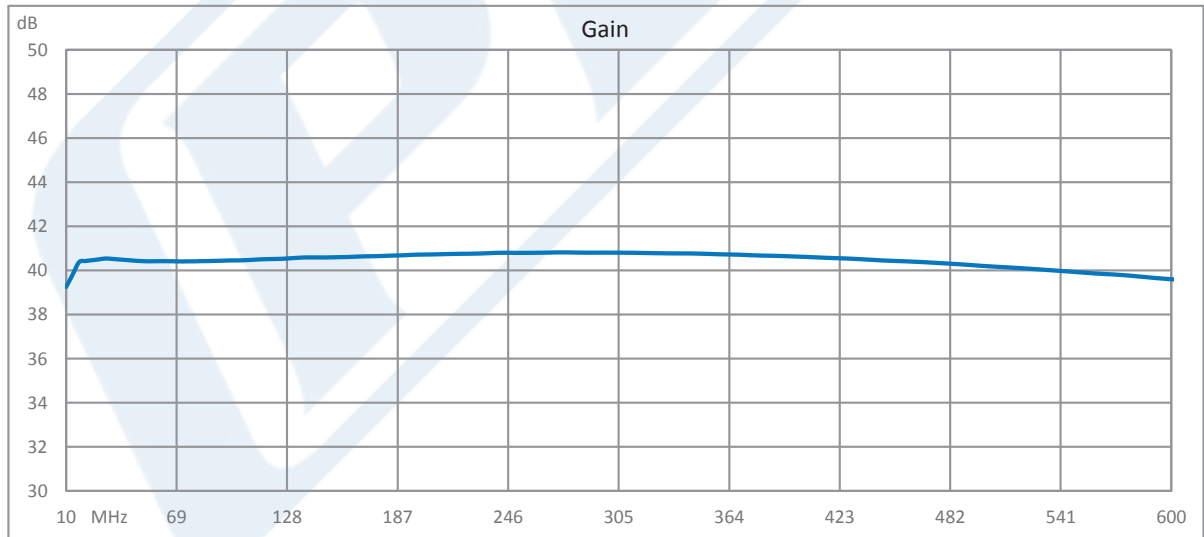
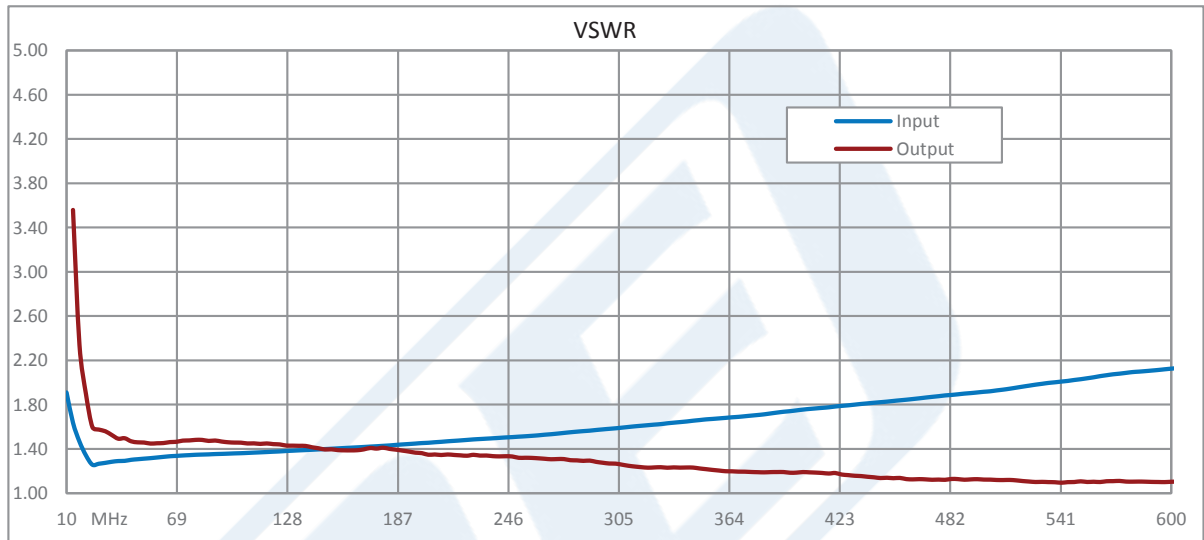


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Typical Performance Data

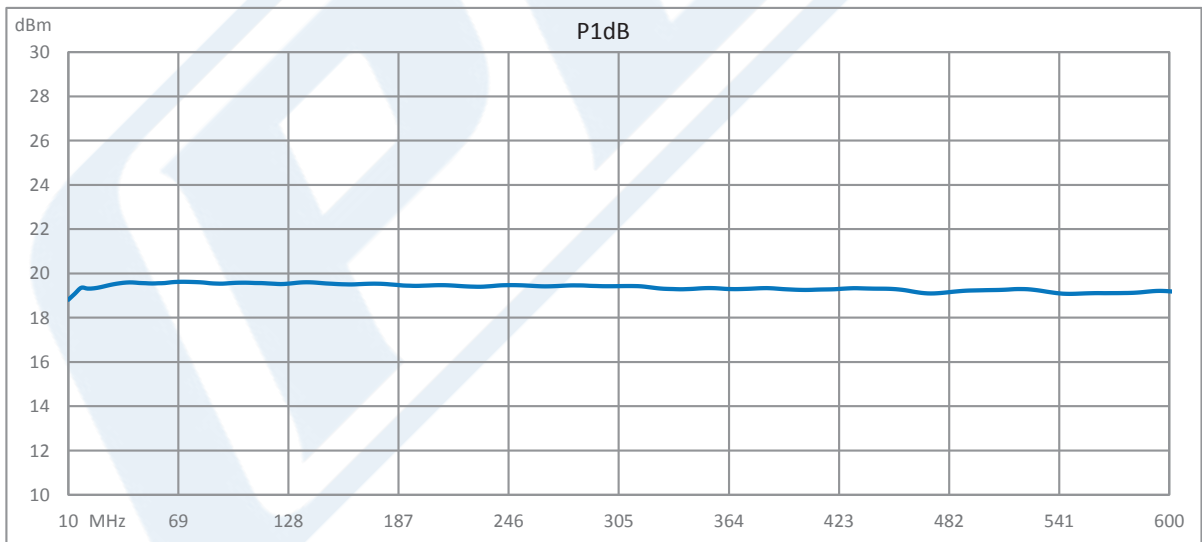
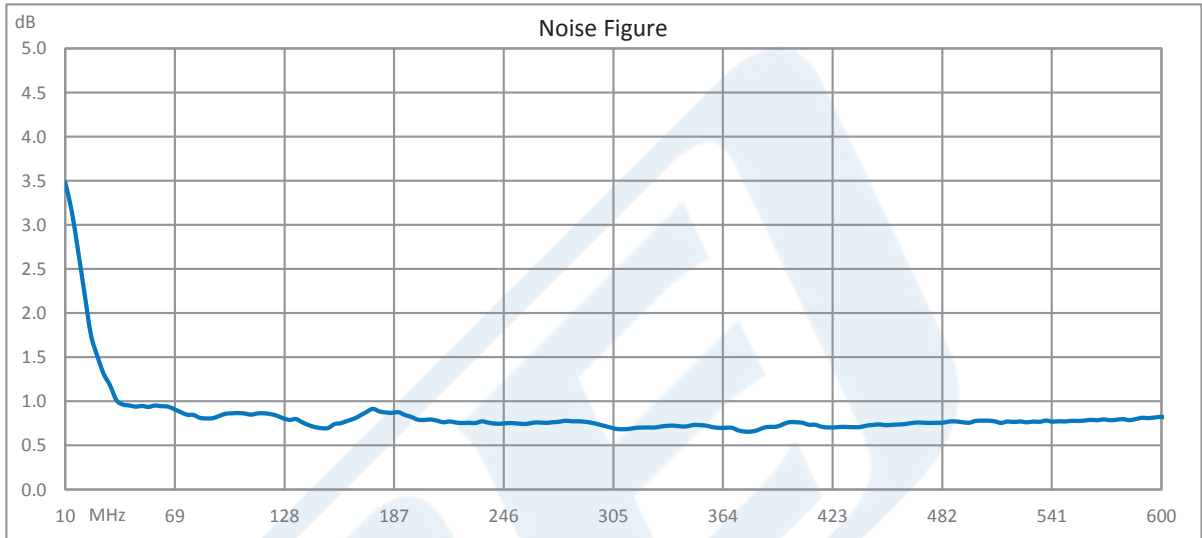


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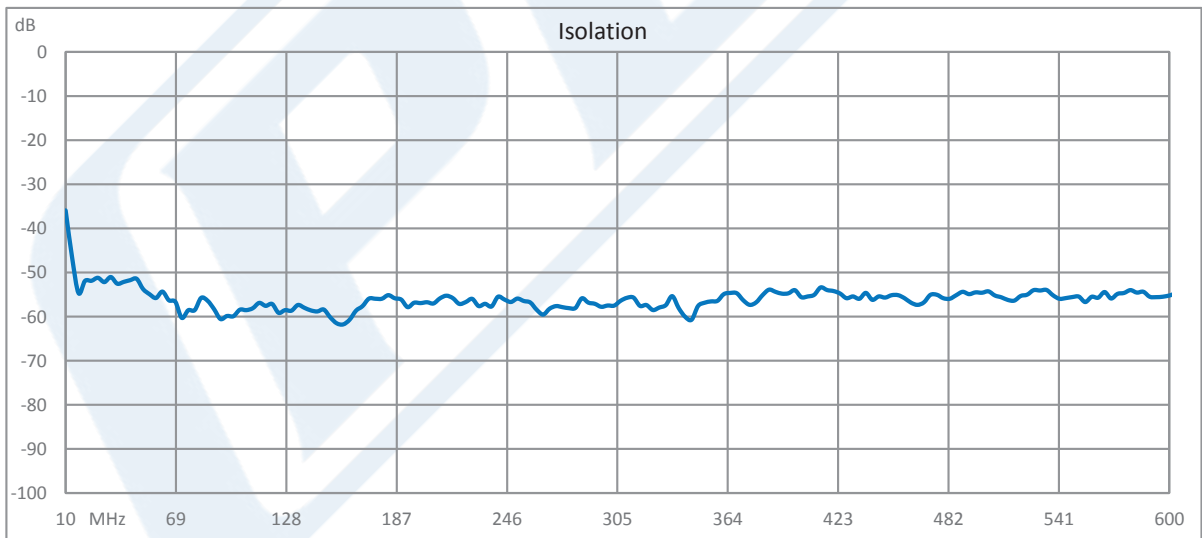
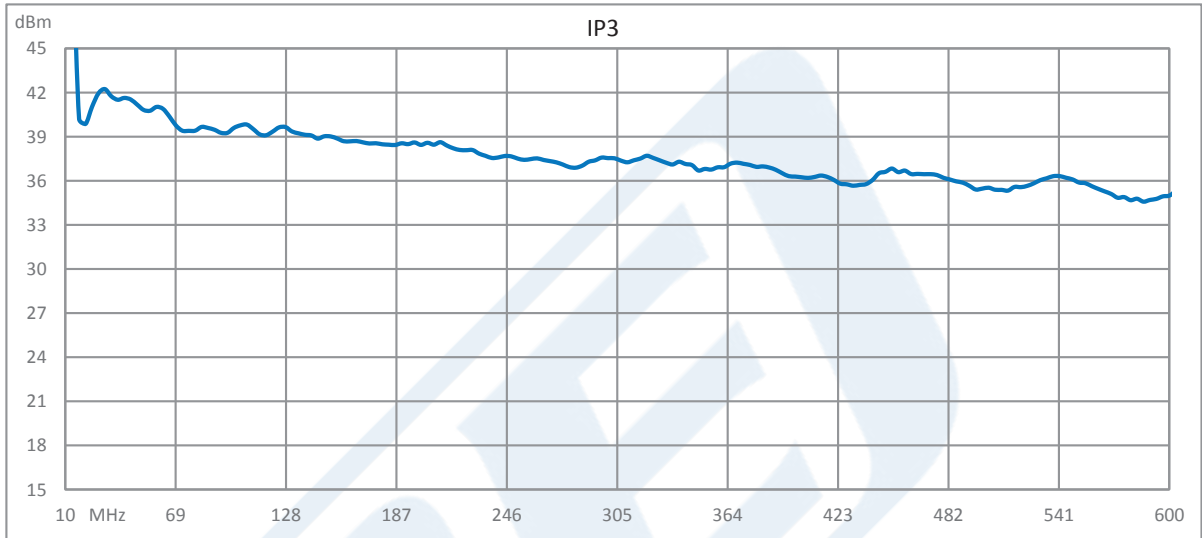


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URL: <https://www.pasternack.com/40.5-dB-Gain,-0.9-dB-600-MHz-Low-Noise-Amplifier-SMA-PE15A1063-p.aspx>

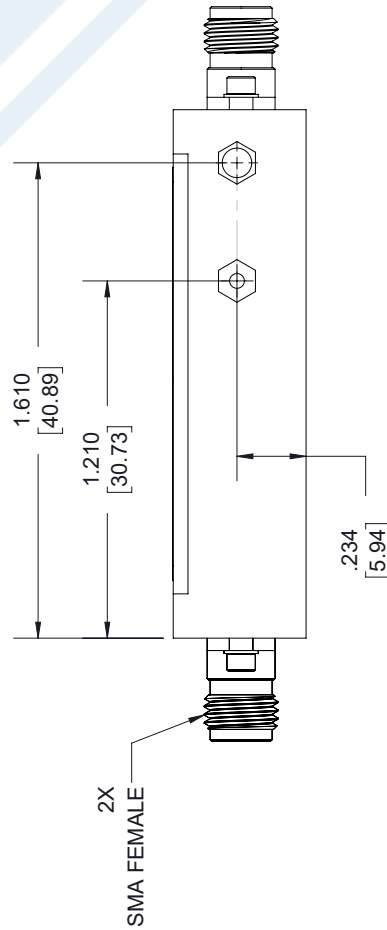
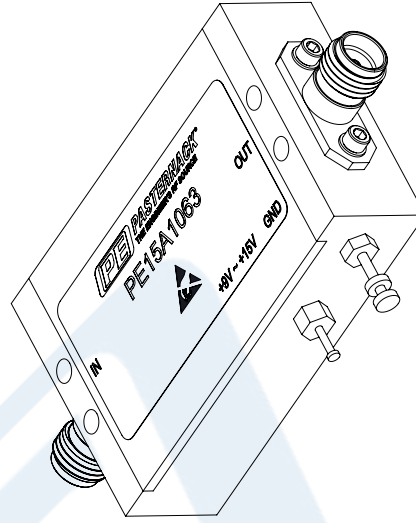
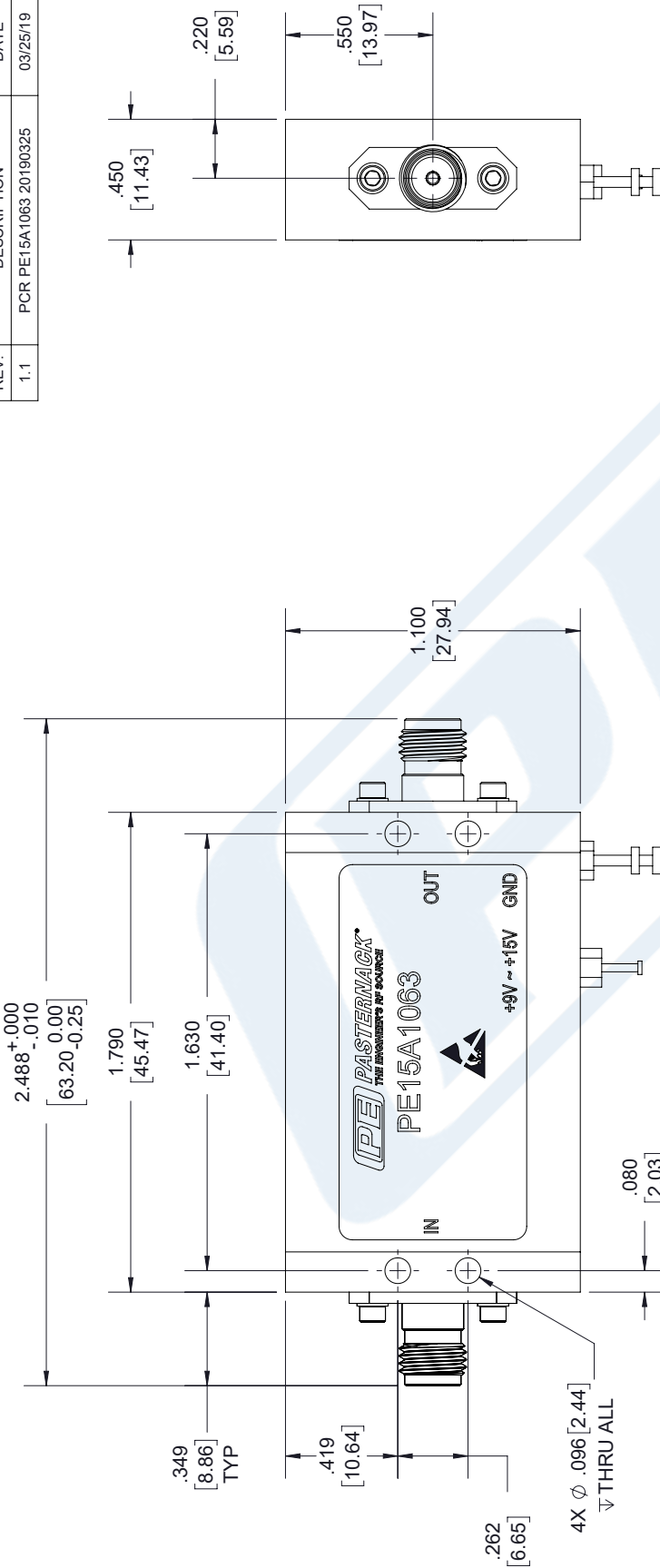
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# PE15A1063 CAD Drawing

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## REVISIONS

REV.	DESCRIPTION	DATE	APPROVED
1.1	PCR PE15A1063 20190325	03/25/19	T. GALLA



UNLESS OTHERWISE SPECIFIED  
LEADING DIMENSIONS ARE INCHES  
DIMENSIONS IN [ ] ARE MILLIMETERS

TOLERANCES:  
X±.2 [5.08] FRACTIONS  
XX±.01 [0.25] ±.132  
XXX±.005 [0.13] ANGLES ± 1°

ALL DIMENSIONS SHOWN  
ARE FOR REFERENCE ONLY.

THIRD-ANGLE PROJECTION

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Pasternack Enterprises, Inc.  
P.O. Box 16759, Irvine, CA 92623.  
Phone: 1.949.261.1920 | 1.866.727.8376  
Fax: 1.949.261.7451  
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SIZE [CAGE] DRAWN BY PART NUMBER REV  
A 53919 K.DANG PE15A1063 A

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SCALE N/A

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