PE15A4019 is a broadband multi-octave RF GaAs MMIC high gain coaxial 0.8W power amplifier, operating in the 60 MHz to 6 GHz frequency range. The amplifier offers 29 dBm of P1dB and 36 dB high small signal gain, with the excellent gain flatness of ±1.5 dB typ, along with an outstanding IP3 performance of 39 dBm. This power amplifier requires only a single positive DC supply, Unconditionally stable, operates over the temperature range of -40°C to 75°C, and characterized by a light weight (28 g) and small size (1.5"x1.0"x0.56").

Features
- 60 MHz to 6 GHz Frequency Range
- P1dB: 29 dBm
- High Small Signal Gain: 36 dB
- Gain Flatness: ±1.5 dB
- Gain Variation Over the Temperature Range: ±2 dB
- Output IP3: 39 dBm
- Noise Figure: 5 dB
- Reverse Isolation: 50 dB
- 50 Ohm Input and Output Matched
- -40 to +75°C Operating Temperature
- Unconditionally Stable
- Single DC Positive Supply
- Built-in DC Voltage Regulator
- Small Size: 1.5"x1.0"x0.4"

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

Electrical Specifications (TA = +25°C, DC Voltage = 15Volts, DC Current = 530mA)

<table>
<thead>
<tr>
<th>Description</th>
<th>Minimum</th>
<th>Typical</th>
<th>Maximum</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Range</td>
<td>0.06</td>
<td>6</td>
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<td>GHz</td>
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<tr>
<td>Small Signal Gain</td>
<td>33</td>
<td>36</td>
<td>39</td>
<td>dB</td>
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<tr>
<td>Gain Flatness</td>
<td>±1.5</td>
<td>±2</td>
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<td>dB</td>
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<tr>
<td>Output Power at 1 dB Compression Point</td>
<td>+27.5</td>
<td>+29</td>
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<td>dBm</td>
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<tr>
<td>Output 3rd Intercept Point</td>
<td>+35</td>
<td>+39</td>
<td></td>
<td>dBm</td>
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<tr>
<td>Reverse Isolation</td>
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<td></td>
<td></td>
<td>dB</td>
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<tr>
<td>Noise Figure</td>
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<td>dB</td>
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<tr>
<td>Spurious</td>
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<td>-60</td>
<td></td>
<td>dBc</td>
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<td>Input VSWR</td>
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<td>2.5:1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output VSWR</td>
<td>2:1</td>
<td>2.5:1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating DC Voltage</td>
<td>15</td>
<td></td>
<td></td>
<td>Volts</td>
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<tr>
<td>Operating DC Current</td>
<td>530</td>
<td>650</td>
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<td>mA</td>
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<tr>
<td>Operating Temperature Range</td>
<td>-40</td>
<td>+75</td>
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<td>°C</td>
</tr>
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</table>

Click the following link (or enter part number in “SEARCH” on website) to obtain additional part information including price, inventory and certifications: 800 mW P1dB, 60 MHz to 6 GHz, Medium Power Amplifier, GaAs, 36 dB Gain, 39 dBm IP3, 5 dB NF, SMA PE15A4019
800 mW P1dB, 60 MHz to 6 GHz, Medium Power Amplifier, GaAs, 36 dB Gain, 39 dBm IP3, 5 dB NF, SMA

TECHNICAL DATA SHEET

Absolute Maximum Rating

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Rating</th>
<th>Units</th>
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<tbody>
<tr>
<td>Source Voltage</td>
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<td>Volts</td>
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<tr>
<td>RF input Power</td>
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<tr>
<td>Operating Temperature (base-plate)</td>
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</tr>
<tr>
<td>Storage Temperature</td>
<td>-55 to +125</td>
<td>°C</td>
</tr>
</tbody>
</table>

Mechanical Specifications

Size
- Length: 1.5 in [38.1 mm]
- Width: 1 in [25.4 mm]
- Height: 0.4 in [10.16 mm]
- Weight: 0.064 lbs [29.03 g]
- 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

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.
- Heat Sink Required for Proper Operation, Unit is cooled by conduction to heat sink.

Caution: This Power Amplifier is matched for a 50 ohm input and output load impedance. Applications such as driving a wideband antenna can introduce a load impedance mismatch condition that could result in reflected waves potentially damaging the amplifier output power stage which will void the warranty. Pasternack highly recommends using an Isolator at the output port of the power amplifier where the termination load will absorb any potentially damaging signal reflections.

Click the following link (or enter part number in “SEARCH” on website) to obtain additional part information including price, inventory and certifications: 800 mW P1dB, 60 MHz to 6 GHz, Medium Power Amplifier, GaAs, 36 dB Gain, 39 dBm IP3, 5 dB NF, SMA PE15A4019
800 mW P1dB, 60 MHz to 6 GHz, Medium Power Amplifier, GaAs, 36 dB Gain, 39 dBm IP3, 5 dB NF, SMA

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**TECHNICAL DATA SHEET**

**PE15A4019**

800 mW P1dB, 60 MHz to 6 GHz, Medium Power Amplifier, GaAs, 36 dB Gain, 39 dBm IP3, 5 dB NF, 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: 800 mW P1dB, 60 MHz to 6 GHz, Medium Power Amplifier, GaAs, 36 dB Gain, 39 dBm IP3, 5 dB NF, SMA PE15A4019


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.
800 mW P1dB, 60 MHz to 6 GHz, Medium Power Amplifier, GaAs, 36 dB Gain, 39 dBm IP3, 5 dB NF, SMA

**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].

**STANDARD TOLERANCES**
- X ±0.2
- XX ±0.01
- XXX ±0.005

*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES*