1.7 dB NF Low Noise Amplifier, Operating from 10 MHz to 550 MHz with 29.7 dB Gain, 19 dBm P1dB and SMA

The FMAM1044 is a low noise coaxial amplifier operating in the 10 MHz to 550 MHz frequency range. Impressive typical performance includes 1.7 dB noise figure, 29.7 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 GaAs pHEMT 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.

### Electrical Specifications (TA = +25°C , DC Voltage = 12Vdc , DC Current = 105mA)

<table>
<thead>
<tr>
<th>Description</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Range</td>
<td>10</td>
<td>29.7</td>
<td>550</td>
<td>MHz</td>
</tr>
<tr>
<td>Small Signal Gain</td>
<td>27</td>
<td>29.7</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Gain Flatness</td>
<td>±0.3</td>
<td>±0.5</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Output at 1 dB Compression Point</td>
<td>+19</td>
<td>+19</td>
<td></td>
<td>dBm</td>
</tr>
<tr>
<td>Output 3rd Intercept Point</td>
<td>+32</td>
<td>+34</td>
<td></td>
<td>dBm</td>
</tr>
<tr>
<td>Noise Figure</td>
<td>1.7</td>
<td>2</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Input VSWR</td>
<td>1.5:1</td>
<td>2:1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output VSWR</td>
<td>1.5:1</td>
<td>2:1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reverse Isolation</td>
<td>-35</td>
<td></td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Operating DC Voltage</td>
<td>12</td>
<td>15</td>
<td></td>
<td>Volts</td>
</tr>
<tr>
<td>Operating DC Current</td>
<td>105</td>
<td>120</td>
<td></td>
<td>mA</td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>-40</td>
<td>+75</td>
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<td>°C</td>
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### Absolute Maximum Rating

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Rating</th>
<th>Units</th>
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<tbody>
<tr>
<td>Supply Voltage</td>
<td>+25 V</td>
<td></td>
</tr>
<tr>
<td>RF Input Power</td>
<td>+15 dBm</td>
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</tr>
<tr>
<td>Operating Temperature</td>
<td>-40 to +85 °C</td>
<td></td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-55 to +125 °C</td>
<td></td>
</tr>
</tbody>
</table>

ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in approved ESD Workstation.

### Features:
- 10 MHz to 550 MHz Frequency Range
- Low Noise Figure: 1.7 dB
- High Dynamic Range
- Efficient GaAs pHEMT Design
- Small Signal Gain: 29.7 dB
- Output P1dB: +19 dBm
- Output IP3: +34 dBm
- Operating Temperature: -40°C to +75°C
- 50 Ohm Input and Output Matched
- DC Power Supply: +12V / 105 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

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**Mechanical Specifications**

**Size**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>0.086 lbs [39.01 g]</td>
</tr>
<tr>
<td>Input Connector</td>
<td>SMA Female</td>
</tr>
<tr>
<td>Output Connector</td>
<td>SMA Female</td>
</tr>
</tbody>
</table>

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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.

Typical Performance Data

![VSWR Graph](image)

![Gain Graph](image)
1.7 dB NF Low Noise Amplifier, Operating from 10 MHz to 550 MHz with 29.7 dB Gain, 19 dBm P1dB and SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: 1.7 dB NF Low Noise Amplifier, Operating from 10 MHz to 550 MHz with 29.7 dB Gain, 19 dBm P1dB and SMA FMAM1044

URL: https://www.fairviewmicrowave.com/1.7db-nf-low-noise-amplifier-29.7db-fmam1044-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. Fairview Microwave reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Fairview Microwave does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Fairview Microwave does not assume any liability, arising out of the use of any part or documentation.
FMAM1044 DATA SHEET

1.7 dB NF Low Noise Amplifier, Operating from 10 MHz to 550 MHz with 29.7 dB Gain, 19 dBm P1dB and 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

Fairview Microwave
RF COMPONENTS ON DEMAND.