FMAM1009 is a wideband low noise RF coaxial power amplifier operating in the 10 MHz to 3 GHz frequency range. The amplifier offers 1.4 dB typical noise figure, 11 dBm of P1dB, 25 dBm of IP3 and 34 dB small signal gain with the excellent gain flatness of ±0.75dB max. This exceptional technical performance is achieved through the use of hybrid MIC design and advanced GaAs PHEMT devices. The low noise amplifier requires typically a +12V DC power supply. The connectorized SMA module is unconditionally stable and includes built-in voltage regulation, bias sequencing, and reverse bias protection for added reliability. The amplifier operates over the temperature range of -40°C and +85°C.

**Electrical Specifications** (TA = +25°C, DC Voltage = 12Vdc, DC Current = 95mA)

<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>0.01</td>
<td>3</td>
<td>GHz</td>
<td></td>
</tr>
<tr>
<td>Small Signal Gain</td>
<td>32.5</td>
<td>34</td>
<td>36.5</td>
<td>dB</td>
</tr>
<tr>
<td>Gain Flatness</td>
<td>±0.75</td>
<td>±1</td>
<td>dB</td>
<td></td>
</tr>
<tr>
<td>Gain Variance at OTR*</td>
<td>1.25</td>
<td>dB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output at 1 dB Compression Point</td>
<td>+10</td>
<td>+11</td>
<td>dBm</td>
<td></td>
</tr>
<tr>
<td>Output 3rd Intercept Point</td>
<td>+25</td>
<td>dBm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Noise Figure (50 MHz to 3 GHz)</td>
<td>1.4</td>
<td>1.7</td>
<td>dB</td>
<td></td>
</tr>
<tr>
<td>Input VSWR</td>
<td>1.4:1</td>
<td>1.6:1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output VSWR</td>
<td>1.4:1</td>
<td>1.6:1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reverse Isolation</td>
<td>40</td>
<td>50</td>
<td>dB</td>
<td></td>
</tr>
<tr>
<td>Operating DC Voltage</td>
<td>10</td>
<td>12</td>
<td>15</td>
<td>Volts</td>
</tr>
<tr>
<td>Operating DC Current</td>
<td>85</td>
<td>95</td>
<td>105</td>
<td>mA</td>
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<tr>
<td>Operating Temperature Range</td>
<td>-40</td>
<td>+85</td>
<td>°C</td>
<td></td>
</tr>
</tbody>
</table>

*OTR= Base Plate Operating Temperature Range

**Mechanical Specifications**

- **Size**
  - Length: 1.5 in [38.1 mm]
  - Width: 0.85 in [21.59 mm]
  - Height: 0.375 in [9.53 mm]
  - Weight: 0.055 lbs [24.95 g]
- 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

**Applications:**

- Laboratory Applications
- R&D Labs
- Military Radio
- Radar Systems
- Telecom Infrastructure
- Test Instrumentation
- Military & Space
- Communication Systems
- Wireless Communication
- Microwave Radio Systems
- Cellular Base Stations
- Low Noise Amplifier
- General Purpose Amplification
- General Purpose Wireless
- Wideband Gain Block
- IF Amplifier/RF Driver Amplifier
- RF Wideband Front Ends
- RF Pre-amplification
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

### Gain, Input Return Loss and Output Return Loss

![Graph showing Gain (dB), Input Return Loss (dB), and Output Return Loss (dB) vs. Frequency (MHz).]

### Noise Figure

![Graph showing Noise Figure vs. Frequency (MHz).]
1.4 dB NF Low Noise Amplifier, Operating from 10 MHz to 3 GHz with 34 dB Gain, 11 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: 1.4 dB NF Low Noise Amplifier, Operating from 10 MHz to 3 GHz with 34 dB Gain, 11 dBm P1dB and SMA FMAM1009

URL: https://www.fairviewmicrowave.com/1.4db-nf-low-noise-amplifier-34db-fmam1009-p.aspx
STANDARD TOLERANCES
.X ±0.2
.XX ±0.01
.XXX ±0.005

*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES

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].