

Low Noise GaAs MMIC Amplifier 1.2 - 1.75 GHz

**MAAM12000-A1
V4**

Features

- Low Noise Figure: 1.35 dB
- High Gain: 26 dB
- No External Components Required
- DC Decoupled RF Input and Output
- Lead-Free 8-Lead Ceramic Package
- RoHS* Compliant and 260°C Reflow Compatible

Description

M/A-COM's MAAM12000-A1 is a wide band, low noise, MMIC amplifier housed in a lead-free, small 8-lead ceramic package. It includes two integrated gain stages and employs series inductive feedback to obtain excellent noise figure and a good, 50-ohm, input and output impedance match over the 1.2 to 1.75 GHz band. The MAAM12000-A1 is fully monolithic, requires no external components and is provided in a low-cost, user-friendly, microwave package.

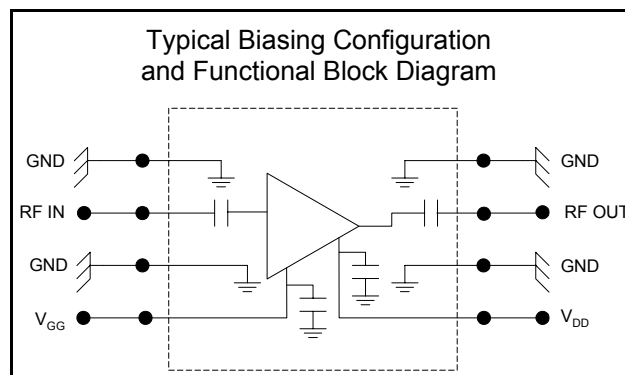
The MAAM12000-A1 is ideally suited to receivers in GPS and DGPS applications and operates over both the L1 and L2 frequency bands. Because of its wide bandwidth, the MAAM12000-A1 can also be used as a driver, buffer or IF amplifier in numerous commercial and government system applications that require high gain, excellent linearity and low power consumption.

The MAAM12000-A1 is manufactured in-house using a reliable, 0.5 micron, GaAs MESFET process. This product is 100% RF tested to ensure compliance to performance specifications.

Ordering Information

Part Number	Package
MAAM12000-A1	8-Lead Ceramic
MAAM12000-A1G	Gull Wing

Schematic



Pin Configuration¹

Pin No.	Function	Pin No.	Function
1	Ground	5	V _{DD}
2	RF Input	6	Ground
3	Ground	7	RF Output
4	V _{GG}	8	Ground

1. The package bottom must be connected to RF and DC ground.

Absolute Maximum Ratings^{2,3}

Parameter	Absolute Maximum
V _{DD}	+7 V
V _{GG}	-10 V
Input Power	+20 dBm
Current	150 mA
Channel Temperature	+150°C
Operating Temperature ⁴	-55°C to +100°C
Storage Temperature	-65°C to +150°C

2. Exceeding any one or combination of these limits may cause permanent damage to this device.
 3. M/A-COM does not recommend sustained operation near these survivability limits.
 4. Typical thermal resistance (θ_{jc}) = +110°C/W.

* Restrictions on Hazardous Substances, European Union Directive 2002/95/EC.

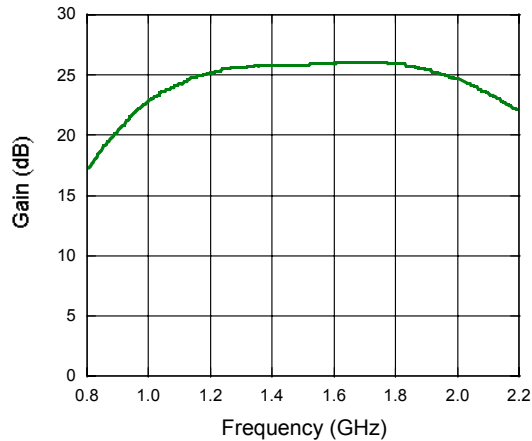
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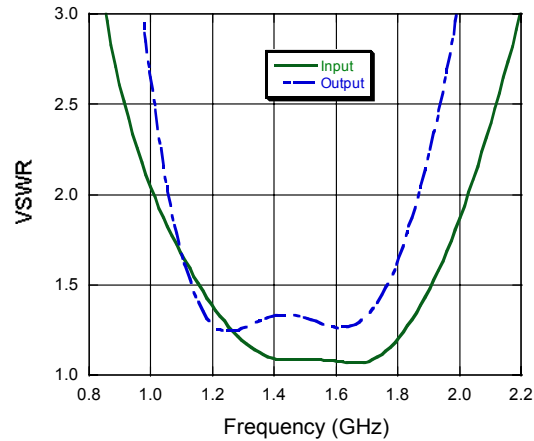
**MAAM12000-A1
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Typical Performance Curves

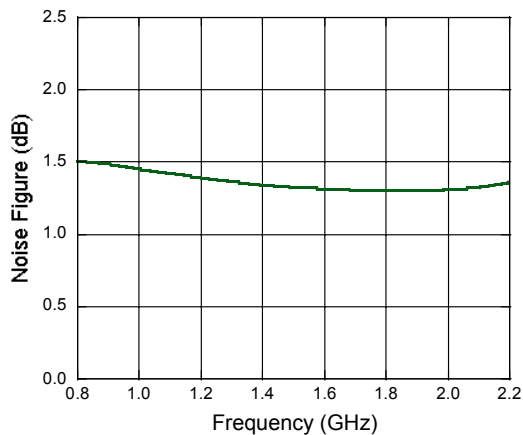
Gain



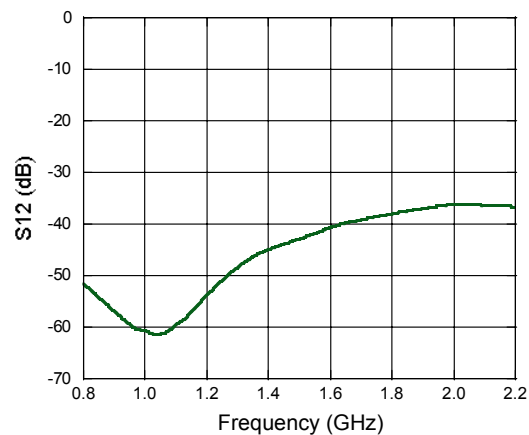
VSWR



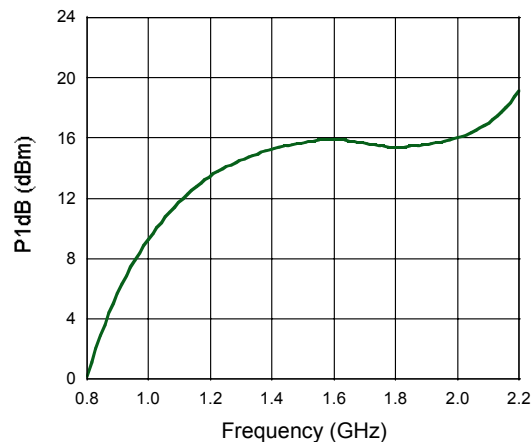
Noise Figure



Reverse Isolation



Output Power



Mouser Electronics

Authorized Distributor

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MACOM:

[MAAM12000-A1](#) [MAAM12000-A1G](#)