MAAM71200-H1

Low Noise GaAs MMIC Amplifier 7.5 - 12.0 GHz

Features

- Noise Figure: 2.7 dB Typical
- Gain: 15.5 dB Typical
- Single Bias Supply
- Low Current Consumption
- DC Decoupled RF Input and Output
- Ceramic Package

Description

M/A-COM's MAAM71200-H1 is a wide band, low noise GaAs MMIC amplifier enclosed in a leadless ceramic package. The MAAM71200-H1 is a packaged version of M/A-COM's MAAM71200 low noise MMIC amplifier chip. The fully monolithic design operates in 50 ohms without the need for external components.

The MAAM71200-H1 is ideally suited for microstrip assemblies where wire or ribbon bonds are used for interconnects. Typical applications include radar, EW and communication systems.

The MAAM71200-H1 is fabricated using a mature 0.5-micron gate length GaAs process for increased reliability and performance repeatability.

Ordering Information

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Part Number	Package
MAAM71200-H1	Bulk Packaging
Nottor	

Functional Diagram



- 1. Case must be electrically connected to RF and DC ground.
- The RF bond inductance from the transmission line to the package is assumed to be 0.25 nH. Variations in bond inductance will result in variations in VSWR and gain slope. A small capacitive stub may be needed depending on the inductance realized in the final assembly.
- 3. Nominal bias is obtained by setting $V_{DD} = 4 V$.
- 4. Increasing V_{DD} from 4 volts to 6 volts increases output power and high frequency bandwidth.

Absolute Maximum Ratings 5,6

Parameter	Absolute Maximum
Input Power	+20 dBm
V _{DD}	+7 V
Junction Temperature	+150°C
Thermal Resistance	+175°C/W
Storage Temperature	-65°C to +150°C

Exceeding any one or combination of these limits may cause permanent damage to this device.

 M/A-COM does not recommend sustained operation near these survivability limits.

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- Europe Tel: 44.1908.574.200 / Fax: 44.1908.574.300
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Rev. V6

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Handling Procedures

Please observe the following precautions to avoid damage:

Static Sensitivity

Gallium Arsenide Integrated Circuits are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these devices.

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Electrical Specifications: $T_A = 25^{\circ}C$, $V_{DD} = 4 V$



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Typical Performance Curves



Input and Output VSWR

$(\mathbf{g}) = \mathbf{i}_{1} \mathbf{f}_{2} \mathbf{f}_{3} \mathbf{f}_{4} \mathbf{f}_{3} \mathbf{f}_{4} \mathbf{f}_{3} \mathbf{f}_{4} \mathbf$

Noise Figure

Output Power @ 1 dB Compression



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