

Low Noise GaAs MMIC Amplifier

3.5 - 7 GHz

MAAM37000-A1

V 2.00

Features

- Low Noise Figure: 2.2 dB
- High Gain: 17 dB
- Gain Flatness: ± 0.5 dB
- Single Supply: +4 V
- No External Components Required
- DC Decoupled RF Input and Output
- Small, 8-Lead Ceramic Package

Description

M/A-COM's MAAM37000-A1 is a wide band, low noise, MMIC amplifier housed in a 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 entire frequency band. The MAAM37000-A1 operates from a single +4 V supply. It is fully monolithic, requires no external components, and is provided in a user-friendly, microwave package.

The MAAM37000-A1 performs well as a low noise amplifier in receive applications and as a driver or buffer amplifier where high gain, excellent linearity and low power consumption are important. Because of its wide bandwidth, the MAAM37000-A1 can be used in numerous commercial and government system applications, such as TVRO, VSAT, missile guidance and radar.

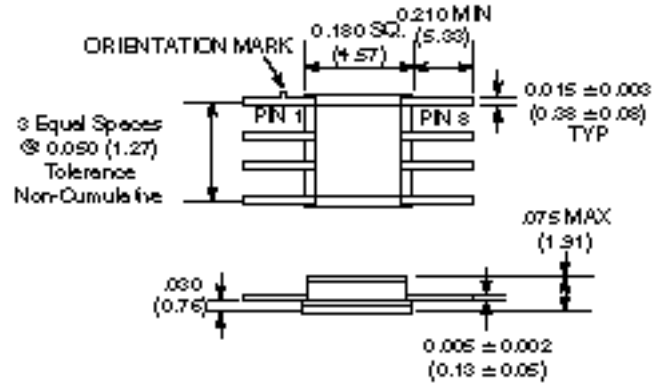
The MAAM37000-A1 is manufactured in-house using a reliable, 0.5-micron, GaAs MESFET process. This product is 100% RF tested to ensure compliance to performance specifications.

Electrical Specifications

Test Conditions: $T_A = +25^\circ\text{C}$, $Z_0 = 50 \Omega$, $V_{DD} = +4 \text{ V}$, $P_{IN} = -30 \text{ dBm}$

Parameter	Units	Min.	Typ.	Max.
Gain	dB	15	17	
Noise Figure	dB		2.2	3.2
Input VSWR			2.0:1	
Output VSWR			2.0:1	
Output 1 dB Compression	dBm		+14	
Input IP_3	dBm		+8	
Reverse Isolation	dB		35	
Bias Current	mA		75	110

CR-3



Bottom of case is AC ground.
Dimensions in () are in mm.
Unless Otherwise Noted: xxx = ± 0.10 (xxx = ± 0.25)
xx = ± 0.02 (x = ± 0.5)

Ordering Information

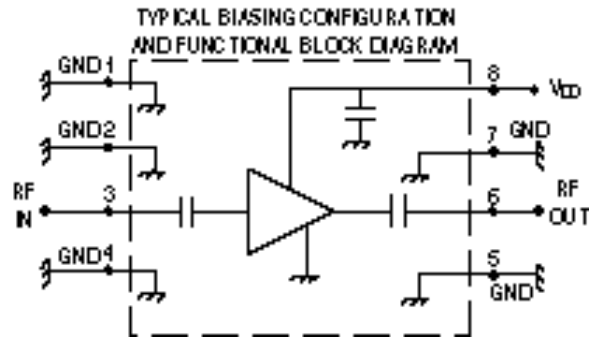
Part Number	Package
MAAM37000-A1	8-Lead Ceramic
MAAM37000-A1G	Gull Wing

Absolute Maximum Ratings¹

Parameter	Absolute Maximum
V_{DD}	+7 volts
Input Power	+20 dBm
Current	150 mA
Channel Temperature	+150°C
Operating Temperature ²	-55°C to +100°C
Storage Temperature	-65°C to +150°C

1. Operation of this device outside these limits may cause permanent damage.
2. Typical thermal resistance (θ_{jc}) = +120°C/W

Schematic



Typical Performance @ +25°C

