Wide Band GaAs MMIC Amplifier
2-8 GHz

MAAM28000-A1

V 2.00

Features

- High Gain: 17 dB
- Gain Flatness: ±0.5 dB
- Single Supply: +10 V
- No External Components Required
- DC Decoupled RF Input and Output
- Small, Low Cost 8-Lead Ceramic Package

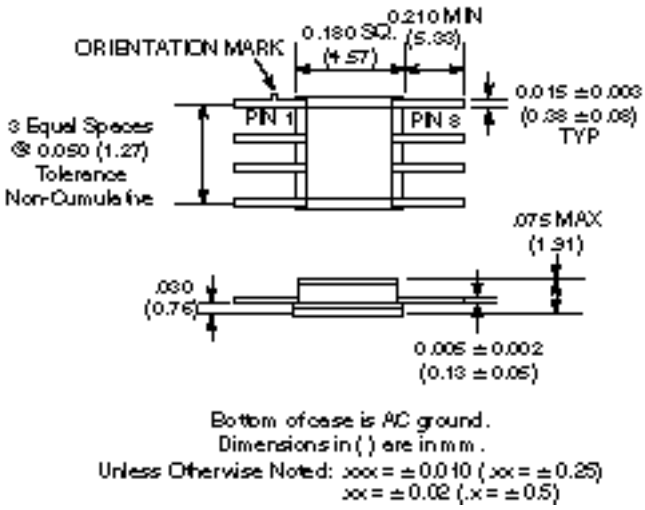
Description

M/A-COM's MAAM28000-A1 is a wide band, MMIC amplifier housed in a small 8-lead ceramic package. It includes two distributed gain stages to obtain flat gain and a good, 50-ohm, input and output impedance match over a very wide bandwidth. The MAAM28000-A1 operates from a single +10 V supply. It is fully monolithic, requires no external components, and is provided in a low-cost, user-friendly, microwave package.

The MAAM28000-A1 performs well as a generic IF, driver or buffer amplifier where high gain, excellent linearity and low power consumption are important. Because of its wide bandwidth, the MAAM28000-A1 can be used in numerous commercial and government system applications, such as satellite communications, RLL, EW and radar.

The MAAM28000-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.

CR-3



Ordering Information

Part Number	Package
MAAM28000-A1	8-Lead Ceramic
MAAM28000-A1G	Gull Wing

Electrical Specifications

Test Conditions: T_A = +25°C, Z_O = 50 Ω, V_{DD} = +10 V, P_{IN} = -30 dBm

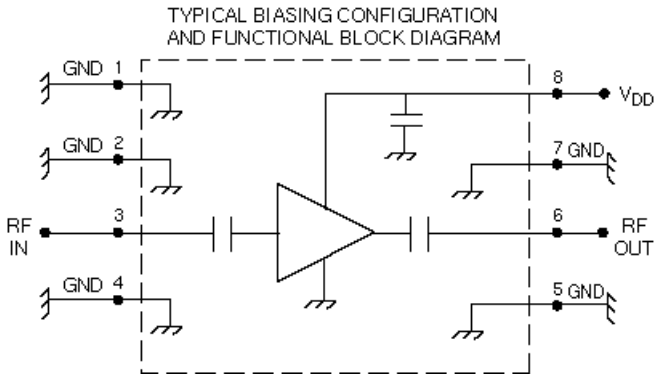
Parameter	Test Conditions	Units	Min.	Typ.	Max.
Gain		dB	14	17	
Noise Figure	2 - 4 GHz	dB		6.5	8.0
	4 - 6 GHz	dB		5.5	6.5
	6 - 8 GHz	dB		4.5	6.0
Gain Flatness		dB		± 0.5	
Input VSWR				1.6:1	
Output VSWR				1.5:1	
Output 1 dB Compression		dBm		+14	
Input IP_3		dBm		+7	
Reverse Isolation		dB		35	
Bias Current		mA		70	100

Absolute Maximum Ratings[1]

Parameter	Absolute Maximum
V_{DD}	+14 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

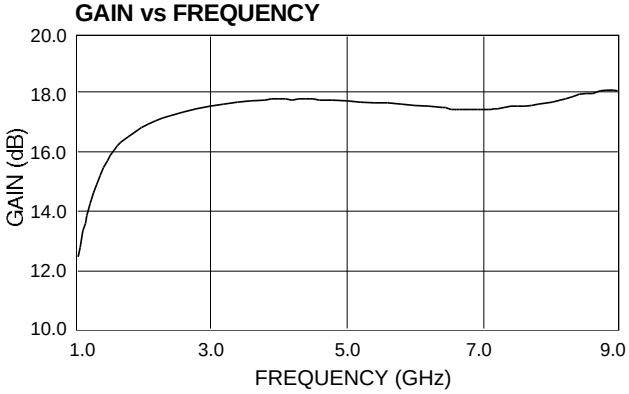
1. Operation of this device outside these limits may cause permanent damage.
2. Typical thermal resistance (θjc) = +45°C/W

Schematic

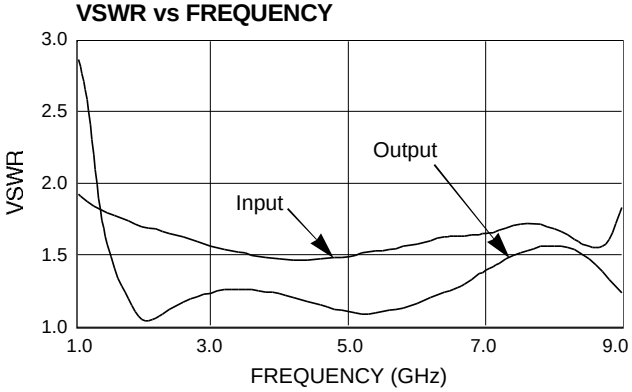


Typical Performance @ +25°C

GAIN vs FREQUENCY



VSWR vs FREQUENCY



NOISE FIGURE vs FREQUENCY