

GaAs MMIC Power Amplifier 2 - 6 GHz

MAAM26100-P1

V1.A

Features

- +30 dBm Saturated Output Power
- 18 dB Typical Gain
- 30% Power Added Efficiency
- On-Chip Bias Network
- DC Decoupled RF Input and Output
- High Performance Ceramic Bolt Down Package

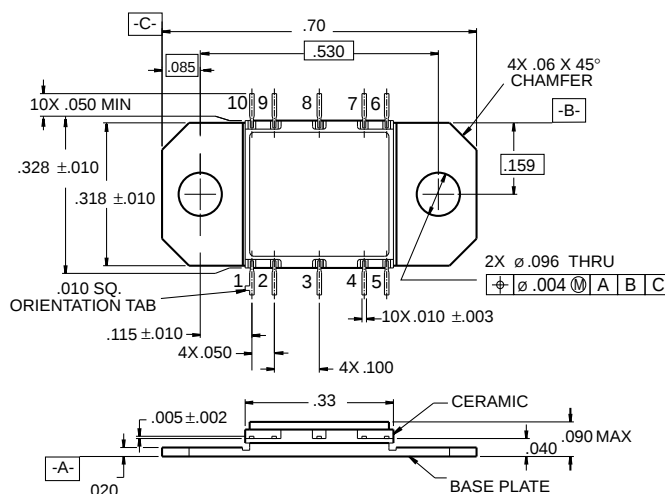
Description

M/A-COM's MAAM26100-P1 is a GaAs MMIC two stage high efficiency power amplifier in a high performance bolt down ceramic package. The MAAM26100-P1 is a fully monolithic design for operation in 50-ohm systems, with an on-chip negative bias network which eliminates the need for external bias circuitry.

The MAAM26100-P1 is ideally suited for driver amplifiers and transmitter outputs in Electronic Warfare Jammers, Missile Subsystems and Phased Array Radars.

M/A-COM's MAAM26100-P1 is fabricated using a mature 0.5-micron gate length GaAs process. The process features full passivation for increased performance reliability.

CR-15



- Notes: (unless otherwise specified)
1. Dimensions are inches.
2. Tolerance: in .xxx = ± 0.010

Ordering Information

Part Number	Package
MAAM26100-P1	Ceramic Bolt Down

Typical Electrical Specifications, $T_A = +25^\circ\text{C}$, $V_{DD} = +8\text{ V}$, $V_{GG} = -5\text{ V}$

Parameter	Test Conditions		Units	Min.	Typ.	Max.
Small Signal Gain	$P_{IN} \leq -10\text{ dBm}$	2 - 6 GHz	dB		18	
Input VSWR	$P_{IN} \leq -10\text{ dBm}$	2 - 6 GHz			2.0:1	
Output VSWR	$P_{IN} \leq -10\text{ dBm}$	2 - 6 GHz			2.2:1	
Output Power	$P_{IN} = +15\text{ dBm}$	2 - 6 GHz	dBm		+30	
Power Added Efficiency	$P_{IN} = +15\text{ dBm}$	2 - 6 GHz	%		30	
Output IP_3		2, 5 & 6 GHz	dBm		40	

The Preliminary Specifications Data Sheet Contains Typical Electrical Specifications Which May Change Prior to Final Introduction.

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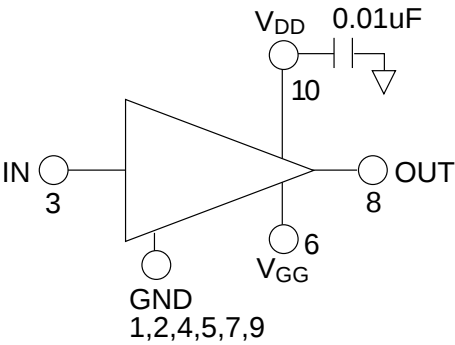
■ Europe: Tel. +44 (1344) 869 595
Fax +44 (1344) 300 020

Absolute Maximum Ratings^{1,2}

Parameter	Absolute Maximum
V _{DD}	10 Volts
V _{GG}	-10 Volts
Power Dissipation	8.4 W
RF Input Power	+23 dBm
Channel Temperature	150°C
Storage Temperature	-65°C to +150°C
Thermal Resistance (Channel to Case)	15°C/W

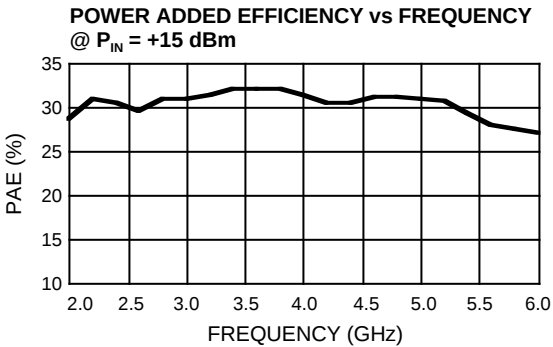
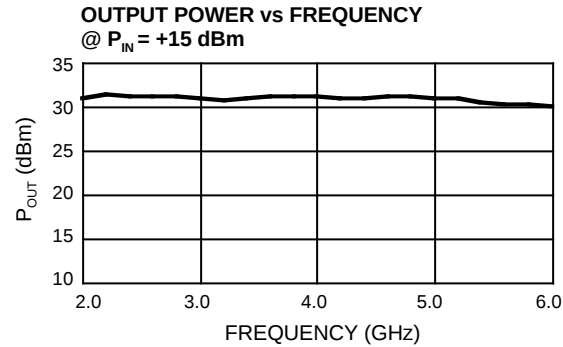
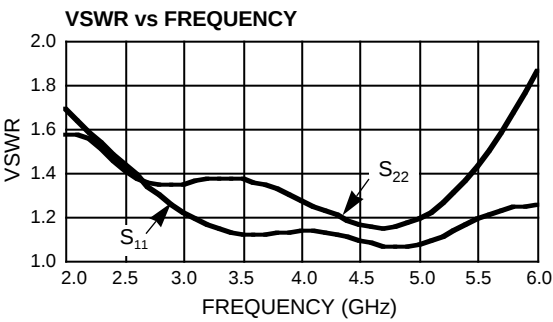
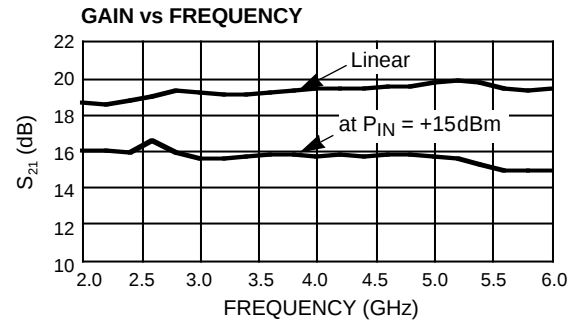
1. Exceeding these limits may cause permanent damage.
2. Case Temperature (T_c) = +25°C

Functional Diagram^{3,4}



3. Nominal bias is obtained by first connecting -5 volts to pin 6 (V_{GG}), followed by connecting +9 volts to pin 10 (V_{DD}). Note sequence.
4. RF ground and thermal interface is the flange (case bottom). Adequate heat sinking is required.

Typical Performance @+25°C



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