

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

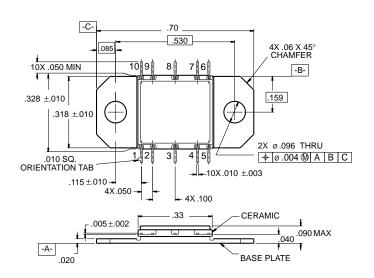
Description

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 $.xxx = \pm .010$

Ordering Information

Part Number	Package
MAAM26100-P1	Ceramic Bolt Down

Typical Electrical Specifications, $T_A = +25$ °C, $V_{DD} = +8$ V, $V_{GG} = -5$ V

Parameter	Test Conditions		Units	Min.	Тур.	Max.
Small Signal Gain	P _{IN} ≤ -10 dBm	2 - 6 GHz	dB		18	
Input VSWR	P _{IN} ≤ -10 dBm	2 - 6 GHz			2.0:1	
Output VSWR	P _{IN} ≤ -10 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 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.

M/A-COM, Inc.

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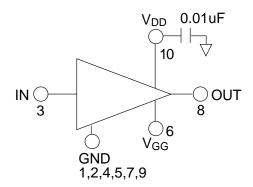
Fax +44 (1344) 300 020

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	

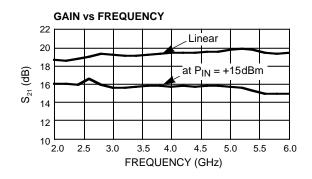
- 1. Exceeding these limits may cause permanent damage.
- 2. Case Temperature (Tc) = +25°C

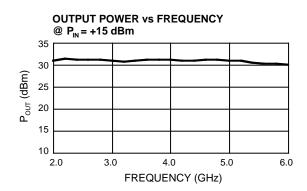
Functional Diagram^{3,4}

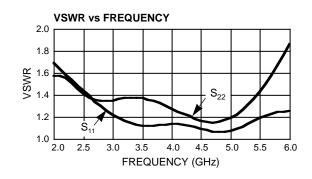


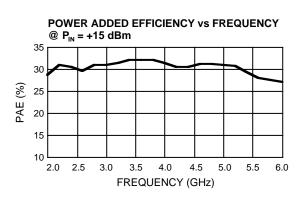
- Nominal bias is obtained by first connecting -5 volts to pin 6 (VGG),followed by connecting +9 volts to pin 10 (VDD). Note sequence.
- RF ground and thermal interface is the flange (case bottom).
 Adequate heat sinking is required.

Typical Performance @+25°C









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