

VWA-00R12-MP-2320

**23dB Gain 10MHz to 2GHz High IP3
Medium Power Amplifier Module**

Description

The **VWA-00R12-MP-2320** is a broadband dual stage GaAs MMIC amplifier module, providing up to 23 dB gain from 10 MHz to 2 GHz and delivering up to +24 dBm output power, with less than 7.5 dB Noise Figure within the Bandwidth. This unit is designed for Ultra Wideband applications and is ideal for ECM, T&M, driving E/O modulator with RF signal as well as others RF applications. This amplifier has single-ended input and output, and SMA field replaceable RF connectors (male or female).

Features

- High Linearity
- High power
- High Gain
- Wideband
- Low Noise Figure
- 50 Ohm impedance
- Single +12V supply

Typical Characteristics (25°C)

Electrical Parameters	Symbols	Min	Typ	Max	Units
High Frequency Response (-3 dB)	BW_{high}	2			GHz
Low Frequency Response (-3 dB)	BW_{Low}			10	MHz
Averaged Gain	G		23		dB
Gain Flatness	ΔG	-1		+1	dB
Noise Figure (@ +55°C)	NF			8,5	dB
Input Return Loss	S11		-8	-10	dB
Output Return Loss	S22		-8	-10	dB
Output Power @ 1dB gain compression	P_{1dB}	+20	+24		dBm
Bias Voltage	V_{bias}	+10	+12	+ 15	V
Drive Current	I_d		400		mA

Environment Parameters	Symbols	Min	Typ	Max	Units
Operating temperature	T_{op}	-20		+70	°C
Storage temperature	T_{stg}	-45		+85	°C

Absolute maximum ratings

Maximum ratings	Symbols	Min	Typ	Max	Units
Supply Voltage	$V_{bias,max}$		+12	+15	V
Lead soldering temperature				250	°C

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VWA 00007 ABxx DS Rev 1.41

VectraWave Proprietary information subject to change

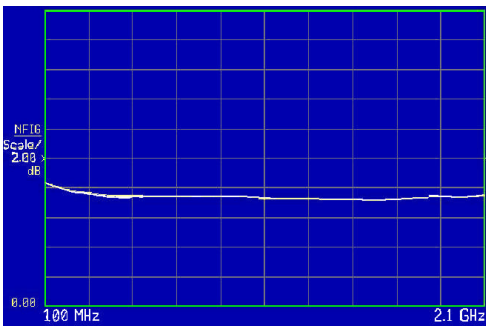


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Typical measurements

Noise Figure

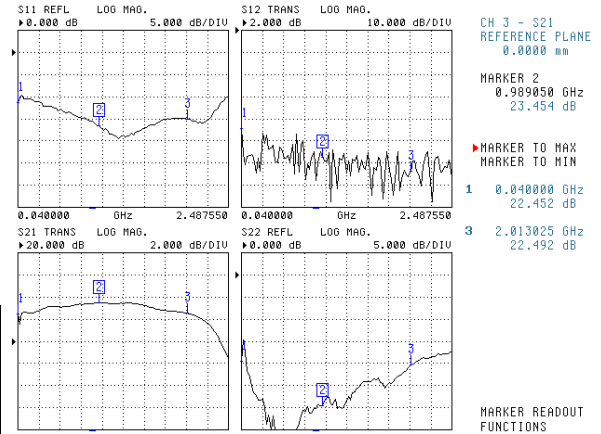


Output Power @ 1dB compression

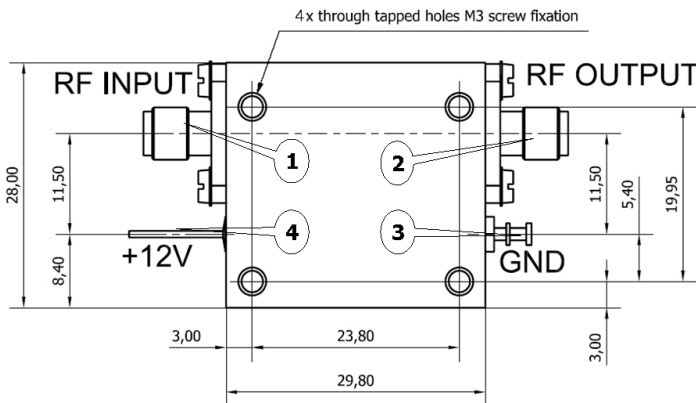
P 1dB (dBm)	
10MHz	24.7
100MHz	24.7
500MHz	25
2GHz	24.3

IP3	+33dBm
Harmonic @ output ≤+20dBm	-27dBc
Spurious	<-60dBc

S Parameters



Mechanical characteristics (dimensions in mm)



Pin out

Pin Nb	Designation
1	Input
2	Output
3	Ground
4	V _{bias}

Handling

This product is sensitive to electrostatic discharge and should not be handled except at a static free workstation. Take precautions to prevent ESD; use wrist straps, grounded work surfaces and recognized anti-static techniques when handling the **VWA-00R12-MP-2320** module.

Care should be taken to avoid supply transient and over voltage. Over voltage above the maximum specified in absolute maximum rating section may cause permanent damage to the device.



Ordering information

Part number	Operating temp. °C	Connector In	Connector Out
VWA 00007 AA	-20 / + 70	SMA female	SMA female

Options on demand:

- Input and output RF connectors
- Operating temperature -40/+85°C