

VWA-0R518-MP-2521

**25dB Gain 0,5 to 18GHz Ultra Wideband
Medium Power Amplifier Module**

Description

The **VWA-0R518-MP-2521** is a broadband dual stage GaAs MMIC amplifier module, which provides up to 25 dB gain from 0.5 GHz to 18 GHz and delivers +21 dBm of output power, with less than 5.5 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

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

Typical Characteristics (25°C)

Electrical Parameters	Symbols	Min	Typ	Max	Units
High Frequency Response (-3 dB)	BW_{high}	18			GHz
Low Frequency Response (-3 dB)	BW_{Low}			500	MHz
Averaged Gain	G	24		29	dB
Gain Flatness	ΔG	-1,5		+1,5	dB
Noise Figure (@ +55°C)	NF			5,5	dB
Input Return Loss	S11		-8	-10	dB
Output Return Loss	S22		-8	-10	dB
Output Power @ 1dB gain compression	P_{1dB}	+21			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}	-55		+85	°C

Absolute maximum ratings

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

Head Office : rue de la Croix Blanche - Immeuble LOGI- 78350 France

<http://www.vectrawave.com>

+33 (0)619 870 560

+33 (0)139 564 012

mail : info@vectrawave.com

VWA 00027 AAxx DS Rev 1.41

VectraWave Proprietary information subject to change

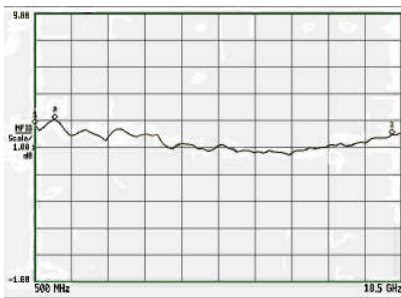


光貿易株式会社

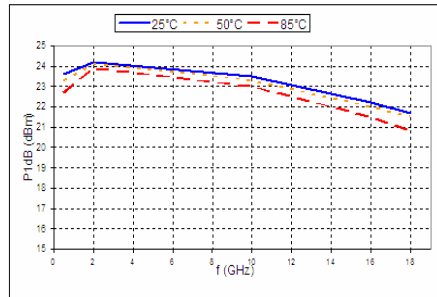
〒113-0034
東京都文京区湯島 3-13-8 湯島不二ビル 301号
TEL : 03-3832-3117 FAX : 03-3832-3118
e-mail : contact@hikari-trading.com
<http://www.hikari-trading.com/>

Typical measurements

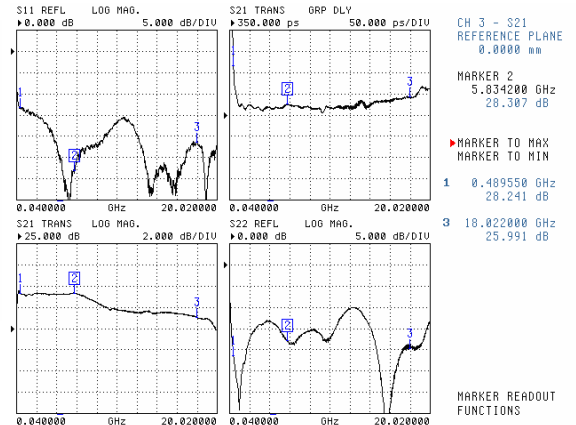
Noise Figure



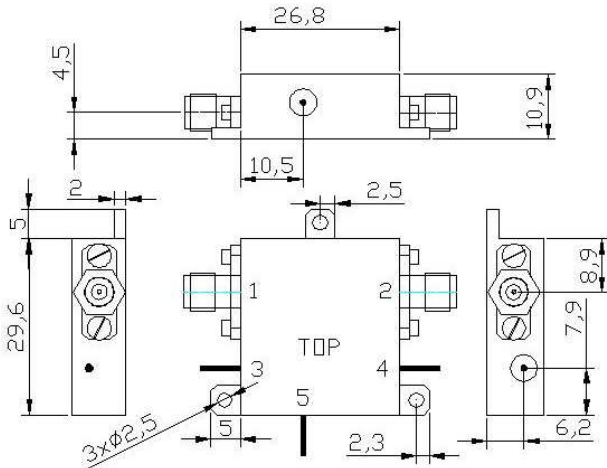
Output Power @ 1dB compression



S Parameters



Mechanical characteristics (dimensions in mm)



Pin out

Pin Nb	Designation
1	Input
2	Output
3	Vbias
4	Ground
5	V _c

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-0R518-MP-2521 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 00027 AA	-20 / + 70	SMA female	SMA female

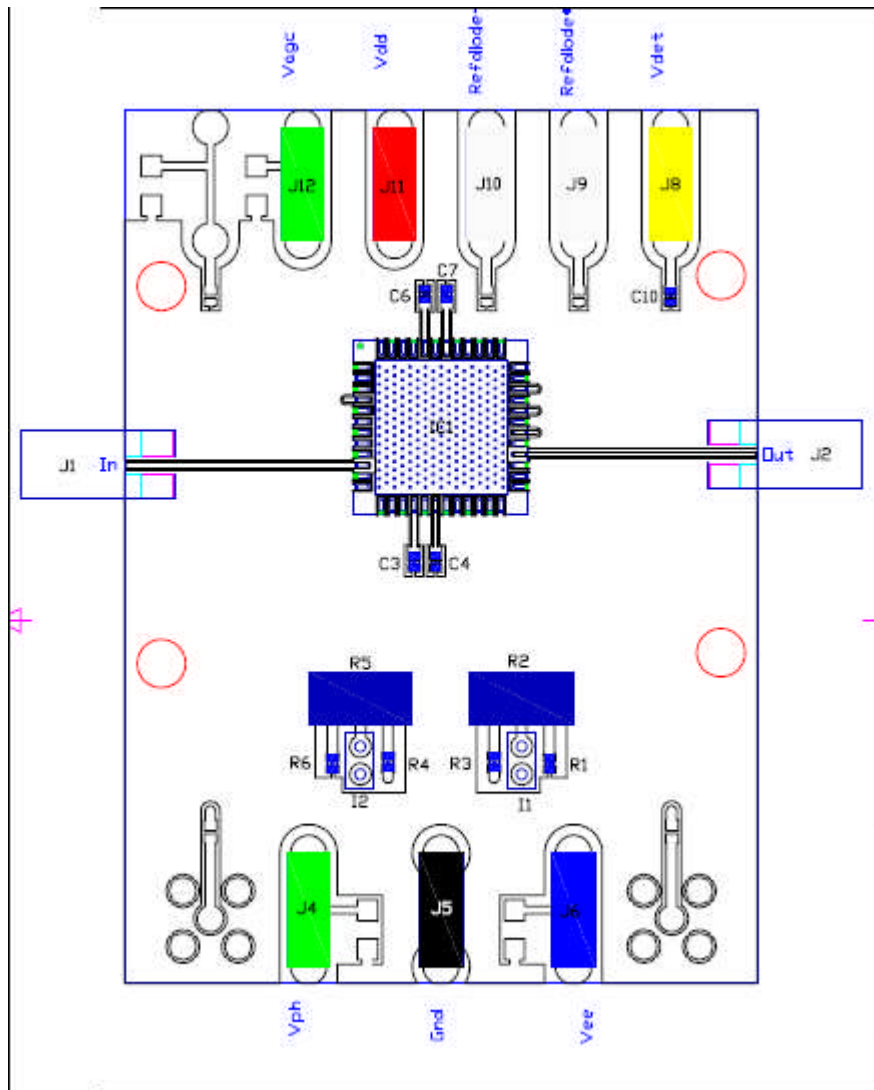
Options on demand:

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

xG-PSDx-DB	Demo-Board	VWA 00039Ax
-------------------	-------------------	--------------------

Description

– The **xG-PSDx-DB** is a evaluation board for phase shifter driver in 16mm SMD package.



Lay out

Pin out when used with VWA 00020 Ax xx

Component	Type	SMD pin nb	Usage	Comment
J1	SMA	10	RF input	
J2	SMA	28	RF output	
J3	SMA	NA	J4 LF mod input	Not Connected
J4	DC connection	16	V phase command Vph	Direct command when I2 non connected
J5	DC connection	GND	GND	GND
J6	DC connection	18	Vee	
J7	SMA	NA	J12 LF mod input	Not Connected
J8	DC connection	30	Vdet	
J9	DC connection	32	Ref det +	Reference diode A
J10	DC connection	34	Ref Det -	Reference diode K
J11	DC connection	42	Vdd	
J12	DC connection	44	V gain control Vagc	Direct command when I1 non connected
J13	DC connection	NA	NA	Not Connected
I1	Strap		Allow Vagc adjustment via R2. Active when strap connected.	J12 must be not connected.
I2	Strap		Allow Vph adjustment via R5. Active when strap is connected	J4 must be not connected.
R2	Potentiometer		Allow Vagc adjustment	
R5	Potentiometer		Allow Vph adjustment	

Remove straps I1 and I2 for direct command of Vagc and Vph with J12 and J4 respectively.