

TECHNICAL DATASHEET

AVBR1025H47

The AVBR1025H47 is a 50W high gain Solid State Linear High Power Amplifier. This amplifier module utilizes the latest high power RF GaN transistors and also features high efficiency and linearity, with protection functions to ensure high availability. With good Amplitude and Phase Consistency, This amplifier is suitable for Linear System and high power combination.

**Features**

1.0GHz-2.5GHz frequency range	Solid-state Class AB Broadband design
Psat 47dBm Min	Instantaneous ultra-broadband
Power gain 48dB	Suitable for CW, Pulse, Modulated Signal
50 ohm input/output impedance	Small and lightweight
Built-in control, monitoring and protection circuits	High reliability and ruggedness

**ELECTRICAL SPECIFICATIONS(T=25°C,DC Voltage= 28V, Load VSWR ≤ 1.2)**

Description	Symbol	Min	Typ	Max	Unit
Operating Frequency	BW	1.0		2.5	GHz
Output Power CW [ Pin= 0 dBm]	Psat	50			W
Power Gain @ Psat	Gp		48		dB
Power Gain Flatness @ Rated Psat	ΔGp		± 1	± 1.3	dB
Input Power for Rated Psat	Pin		0		dBm
Harmonics @ Pin =-5dBm	2 <sup>nd</sup>		-20		dBc
Noise Figure(If Needed, Please Contact)	NF		9	10	dB
Spurious Signals@ Pin =-2dBm	Spur		-65	-60	dBc
Input Return Loss	S11		-20	-15	dB
Third Order Intercept Point 2-Tone @ 41dBm/Tone, 1MHz Space(If Needed, Please Contact)	IP3	50	52		dBm
Operating Voltage	VDC	26	28	30	V
Current Consumption @ Pout= 50 W	IDD		4.9	6.3	Amp
Current Consumption @ Shutdown	ISD		0.1	0.2	Amp
Quiescent Current	IDQ		1.5	2	Amp
Switching Time @ 1kHz TTL, Pin = -2dBm	TON/TOFF		1	2	μs

**MECHANICAL SPECIFICATIONS**

Cooling External Heat Sink Needed (Not Supplied)

Length*Width*Height mm[inch]	162.56x86.36x25 [6.4 x 3.4 x 0.98]
Weight[ Kg ]	0.8
RF Connector Input	SMA, Female
RF Connector Output	SMA, Female

Datasheet: REV A.3/10.28.2021

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## ENVIRONMENTAL SPECIFICATIONS(Design to meet)

Module Operation Temperature*	-20	65	°C
Storage Temperature Range	-45	90	°C
Relative-Humidity		95	%
Altitude	N/A		
Vibration/Shock	N/A		

**Notes:** Altitude /Vibration are designed with considerations, Please contact our sales for update the tests and experiments.

**Notes:** Operation Temperature can be extended to -40~+85°C ,Please contact our sales for update

## LIMITS

Input RF drive level without damage	Pin $\leq$ 10	dBm
Load VSWR @ POUT =40W	$\infty$ @ all load phase & amplitude for duration of 1 minutes;	
Load VSWR @ POUT =50W[Design To Meet]	3:1 @ all load phase & amplitude continuous	
Thermal Degradation	90	°C

## DC INTERFACE CONNECTOR – [Hybrid D-sub, 7 Pin, Male]

Pin #	Description	Specifications
1	Reserved	No Connection
2	Current Monitor	Analog voltage relative to IDD @ 50mV/A
3	Temp Monitor	Analog voltage relative to module temperature @ 10mV/°C
4	Reserved	No Connection
5	Shutdown	Amplifier Disable: TTL Logic High (3.3V), Internally Pull down
6,7	VDD	+28.0VDC
8,9	GND	Ground

## PLOTTED AND OTHER DATA

Notes:

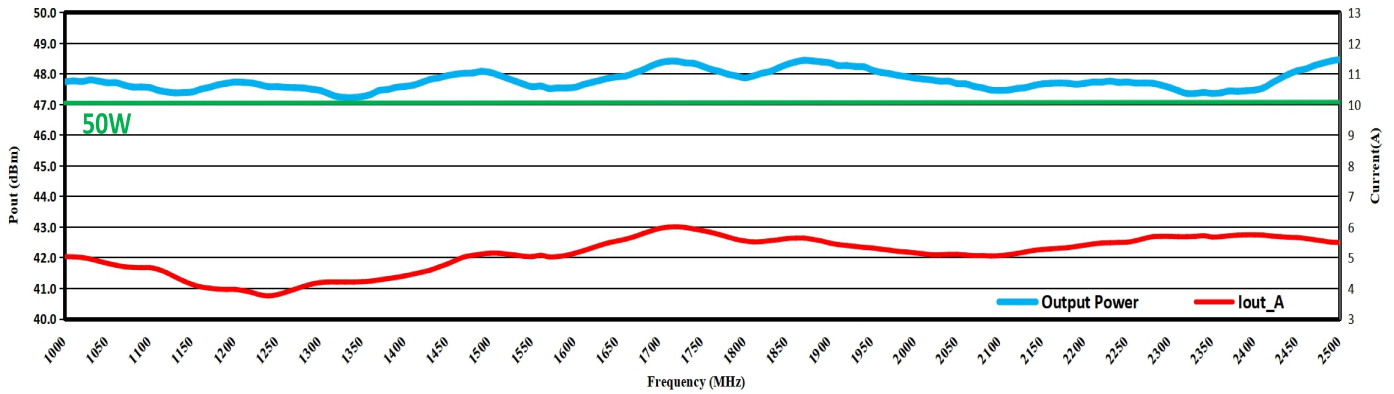
1. Values at +25°C, sea level.
2. ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in approved ESD Workstation.
3. Heat Sink required for Proper Operation, Unit is cooled by conduction to heat sink.

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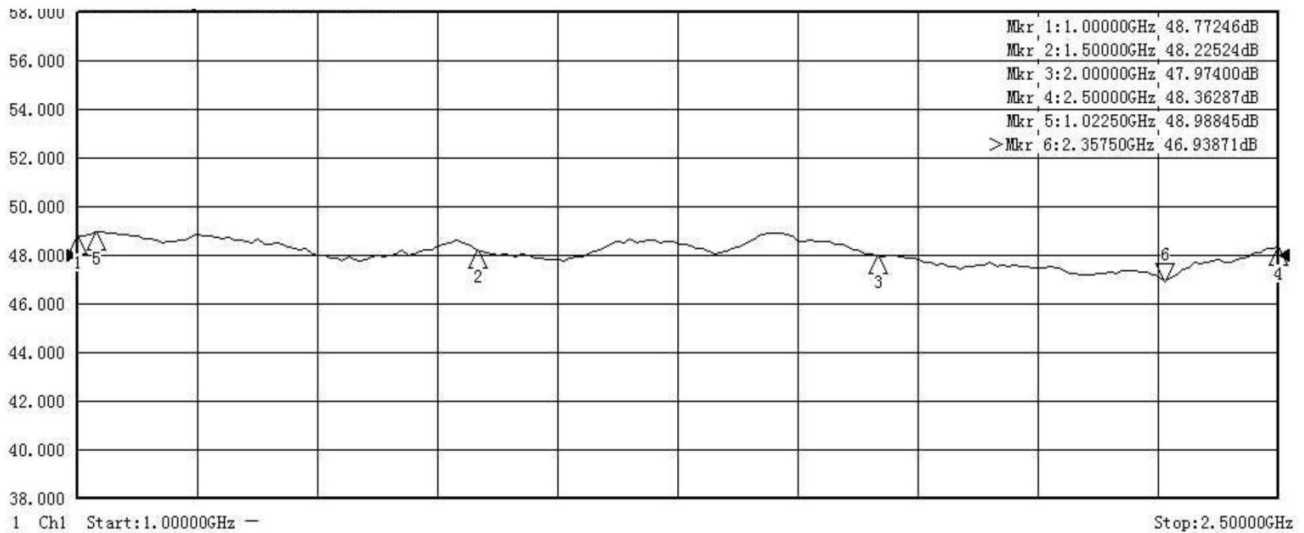
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TYPICAL PERFORMANCE DATA For Reference Only

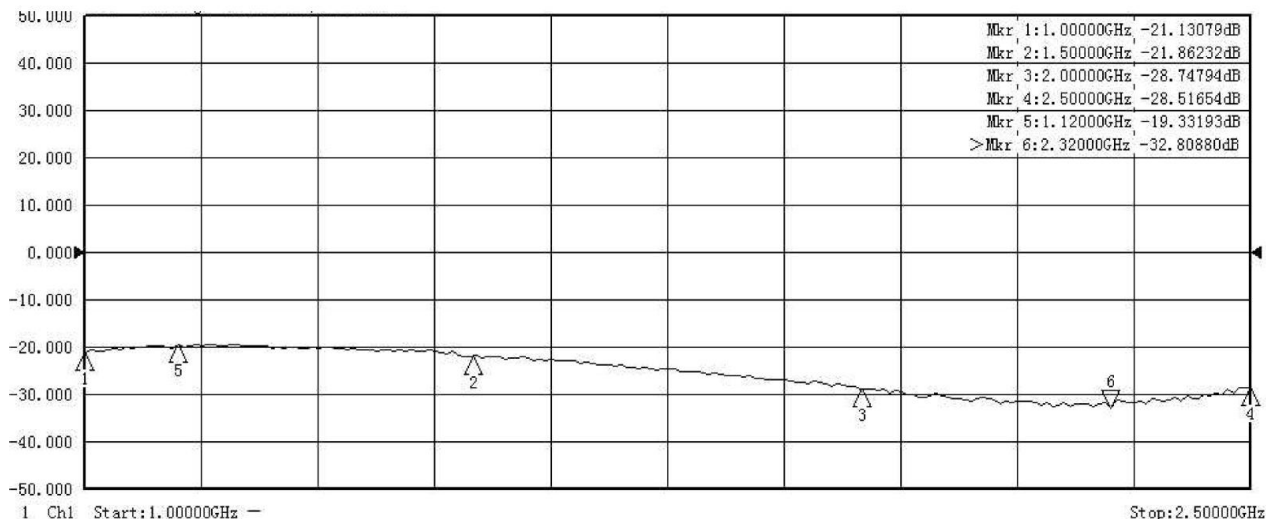
Output Power ,Iout\_A( DC Voltage= 28V,CW&Pin=0dBm, Load VSWR  $\leq$  1.2, T= +25°C)



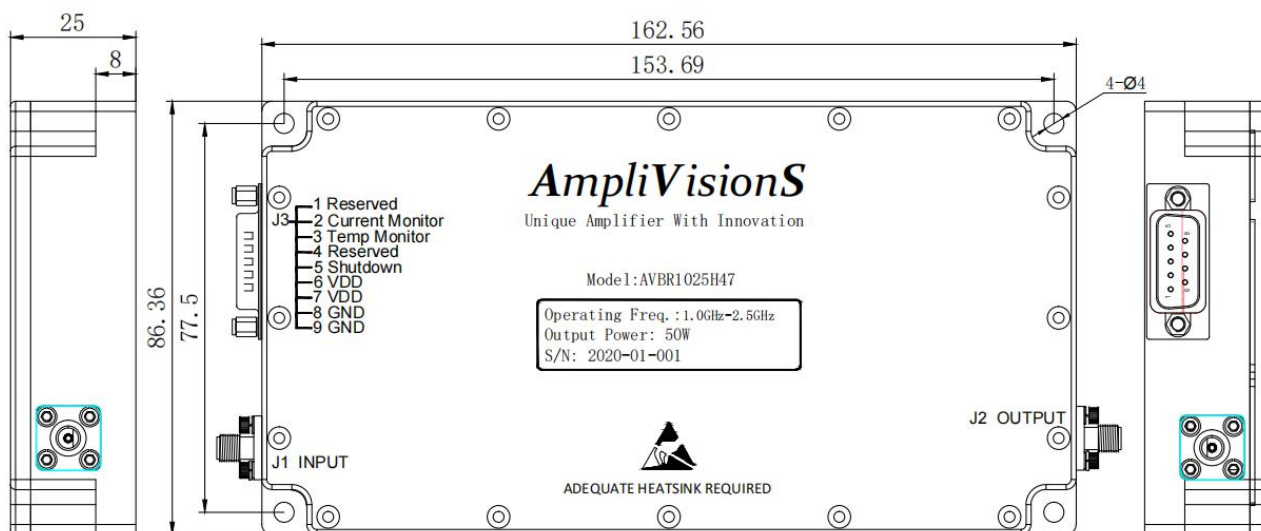
Power Gain (DC Voltage= 28V,Pin=0dBm, Load VSWR  $\leq$  1.2, T= +25°C)



Input Return Loss (DC Voltage= 28V, Pin=-30dBm, Load VSWR ≤ 1.2, T= +25°C)



OUTLINE DRAWING (mm)\*



\*Note: The Outline and Functions can be customized, please contact our sales for further information.