

TECHNICAL DATASHEET

AVBR0525H47

The AVBR0525H47 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

0.5GHz-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	0.5		2.5	GHz
Output Power CW [ Pin= 0 dBm]	Psat	50	55		W
Power Gain @ Pin= 0 dBm	Gp		48		dB
Power Gain Flatness @Pin= 0 dBm	ΔGp		± 1	± 1.5	dB
Input Power for Rated Psat	PIN		0		dBm
Harmonics @ Pout =40 W	2 <sup>nd</sup> /3 <sup>rd</sup>		-20/-20	-12/-12	dBc
Noise Figure(If Needed, Please Contact)	NF		10		dB
Spurious Signals@ Pin= 0 dBm	Spur			-60	dBc
Input Return Loss	S11			-10	dB
Third Order Intercept Point					
2-Tone @ 37dBm/Tone, 1MHz Space	IP3		51		dBm
Operating Voltage	VDC	26	28	30	V
Current Consumption @ Pout= 50 W	IDD		4.9	6.5	Amp
Current Consumption @ Shutdown	ISD		0.1	0.2	Amp
Quiescent Current	IDQ		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.1/02.01.2021

Unique Amplifier With Innovation

## ENVIRONMENTAL SPECIFICATIONS(Design to meet)

Module Operation Temperature	-40	85	°C
Storage Temperature Range	-40	85	°C
Relative-Humidity		95	%
Altitude	N/A		
Vibration/Shock	N/A		

**Notes:** Altitude /Vibration are designed with considerations, but without tests and experiments.

## LIMITS

Input RF drive level without damage	$P_{in} \leq 10$	dBm
Load VSWR @ POUT =40W	$\infty$ @ all load phase & amplitude for duration of 1 minutes;	
Load VSWR @ POUT =50W	3:1 @ all load phase & amplitude continuous	
Thermal Degradation	90	°C

## DC INTERFACE CONNECTOR – [D-sub, 9 Pin, Male]

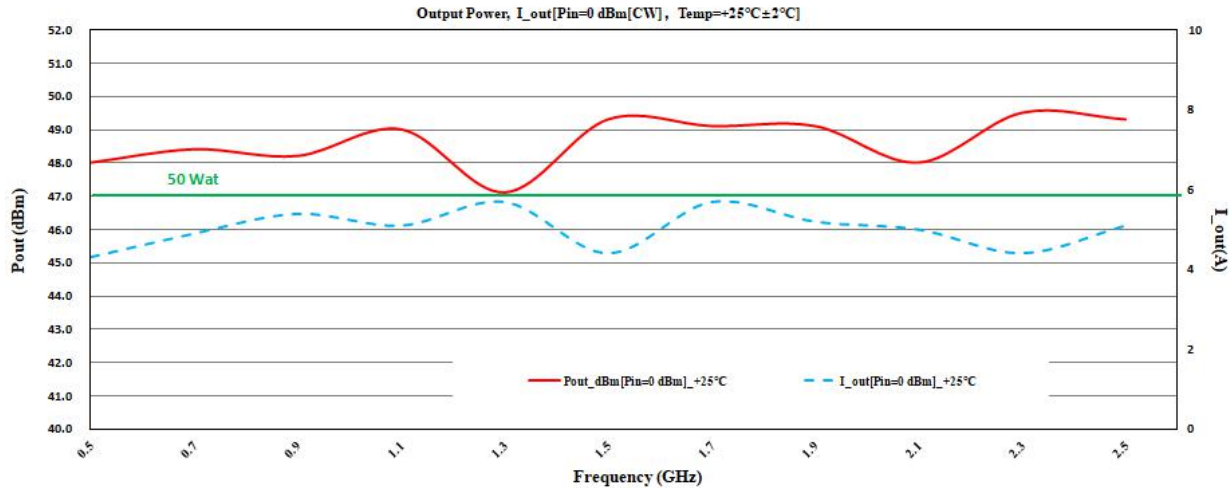
Pin #	Description	Specifications
1	Reserved	No Connection
2	Current Monitor	Analog voltage relative to IDD @ 50mV/100mA
3	Temp Monitor	Analog voltage relative to module temperature @ 10mV/°C
4	SPARE	No Connection
5	SHUTDOWN	Amplifier Disable: TTL Logic High (5V)
6,7	VDD	+28.0VDC
8,9	GND	Ground

## PLOTTED AND OTHER DATA

Notes:

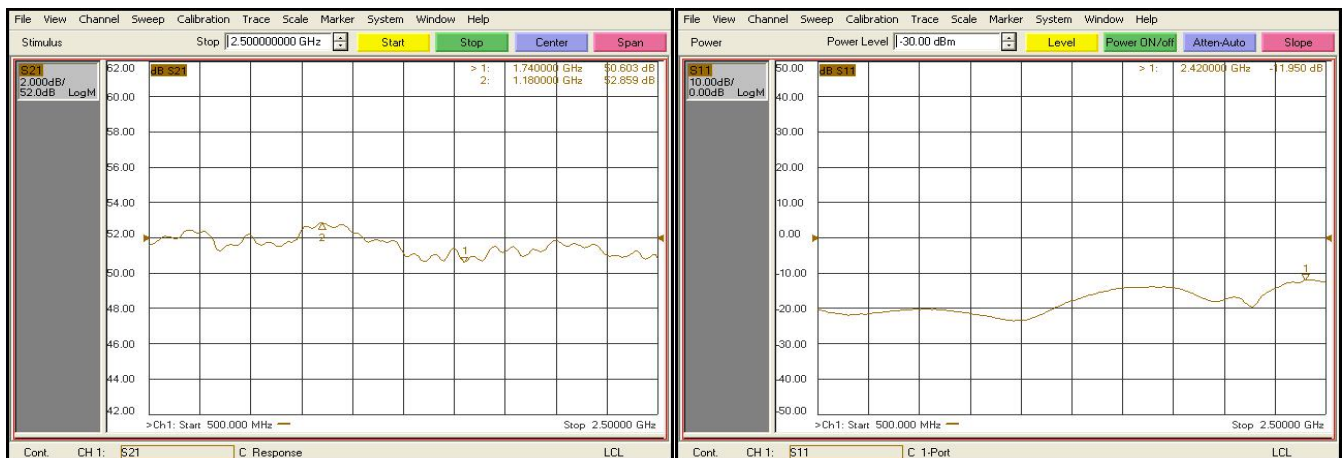
1. Values at +25°C, sea level.
2. ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in approved ESD Workstation.
3. Heat Sink required for Proper Operation, Unit is cooled by conduction to heat sink.

TYPICAL PERFORMANCE DATA[CW, Load VSWR≤1.2, 25°C]

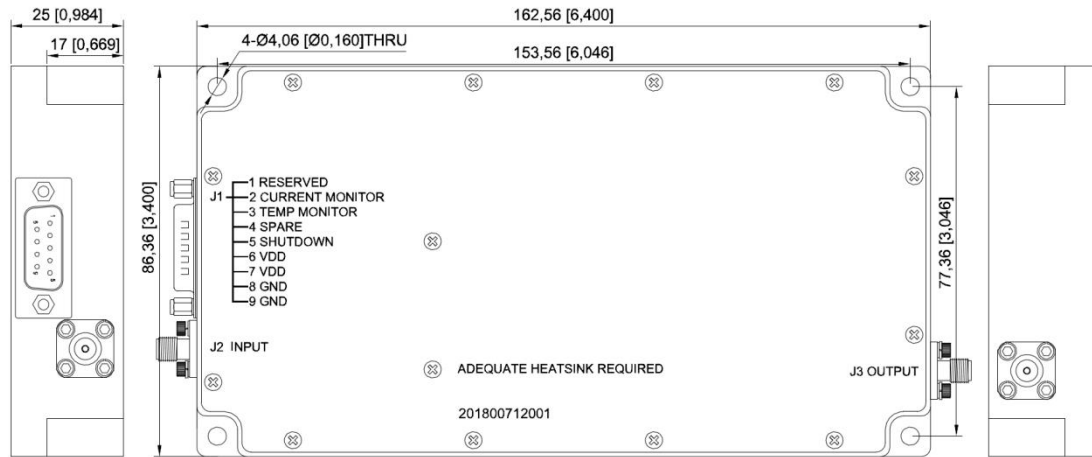


Graph1: Power gain @Pin=0 dBm (Ambient temp. +25±3°C, DC Voltage= 28V,Load VSWR ≤ 1.2)

Graph2: S11 Return Loss @ Pin=-30 dBm (Ambient temp. +25±3°C, DC Voltage= 28V,Load VSWR ≤ 1.2)



OUTLINE DRAWING (mm)\*



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