

TECHNICAL DATASHEET

AVBC1822H48

The AVBC1822H48 is a 60W high gain Solid State Linear High Power Amplifier. This amplifier module utilizes the latest high power RF LDMOS 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

- 1.8GHz-2.2GHz frequency range
- Psat 47.7dBm Min,48.5dBm Typ.
- Power gain 48dB
- 50 ohm input/output impedance
- Output Power Level Indicator
- Solid-state Class AB Broadband design
- Instantaneous ultra-broadband
- Suitable for CW, Pulse, Modulated Signal
- Small and lightweight
- 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	1.8		2.2	GHz
Output Power CW [Pin= 0 dBm]	Psat	60	70		W
Output Power @ P1dB Gain Compression	P1dB	45	50		W
Power Gain @ P1dB Gain Compression	G1dB	48			dB
Power Gain Flatness @ Pin= 0 dBm	ΔGp		± 1	± 1.5	dB
Gain Flatness Leveled (ALC)*	Δ Gp (ALC)		± 0.5	± 0.8	dB
Input Power for Rated Psat	PIN		0		dBm
Harmonics @ Pin=-5 dBm(ALC OFF)	2 nd /3 rd		-40/-40		dBc
Third Order Intercept Point 2-Tone @ 37dBm/tone, 100kHz Spacing	IP3		56		dBm
Noise Figure	NF		7	10	dB
Spurious Signals@ Pin= 0 dBm	Spur		-70	-60	dBc
Input return loss	S11			-14	dB
Operating Voltage	VDC	26	28	30	V
Current Consumption @ Pout=60 W	IDD		7	9.5	Amp
Current Consumption @ Shutdown	ISD		0.1	0.2	Amp
Switching Time @ 1kHz TTL, PIN = 0 dBm	TON/TOFF		1	2	μs

Note*: ALC power can be set to the range of 30dBm~48dBm.

MECHANICAL SPECIFICATIONS

Cooling External Heat Sink Needed (Not Supplied)

Length*Width*Height mm 161.8x84.3x25.4

Weight[Kg] 1.0

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RF Connector Input	SMA, Female
RF Connector Output	SMA, Female

ENVIRONMENTAL SPECIFICATIONS

Module Operation Temperature*	-20	50	°C
Storage Temperature Range	-45	85	°C
Relative-Humidity		95	%
Altitude (Design to meet)		30,000	Feet
Vibration/Shock (Design to meet)		Airborne	

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≤10	dBm
Load VSWR @ POUT =60W	∞ @ all load phase & amplitude for duration of 1 minutes;	
Load VSWR @ POUT =60W[Design To Meet]	3:1 @ all load phase & amplitude continuous	
Thermal Degradation	80°C(Recovery @70°C)	°C

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

Pin #	Description	Specifications
1	Forward	Continuous Analog Voltage 0-5VDC relative to Forward Power Level via Peak
2	Reverse	Continuous Analog Voltage 0-5VDC relative to Reflected Power Level via Peak
3	ALC On/OFF	ALC OFF: TTL Logic High (3.3~5V),(Internally Pulled-Low)
4	ALC Level Remote	Continuous 30~48 dBm adjustable range via 0-5VDC Analog levels Maximum Gain: 5VDC, Minimum Gain: 0VDC
5	Shutdown	Amplifier Disable: TTL Logic High (3.3~5V), Internally Pull down
6,7	VDD	+28.0VDC±2
8,9	GND	Ground

PLOTTED AND OTHER DATA

Notes:

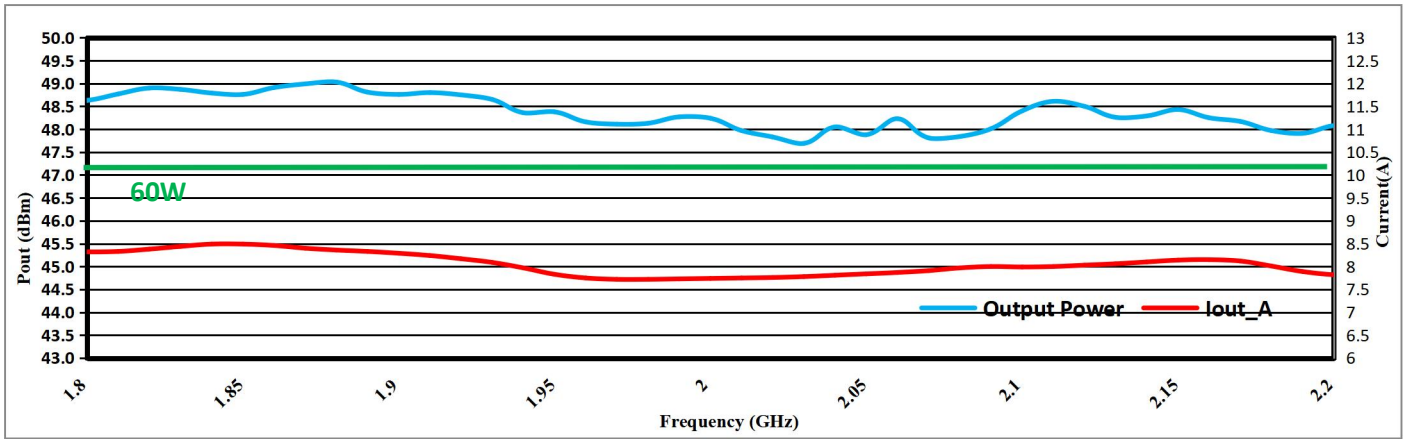
- 1、 Values at +25°C,sea level.
- 2、 ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in approved ESD Workstation.

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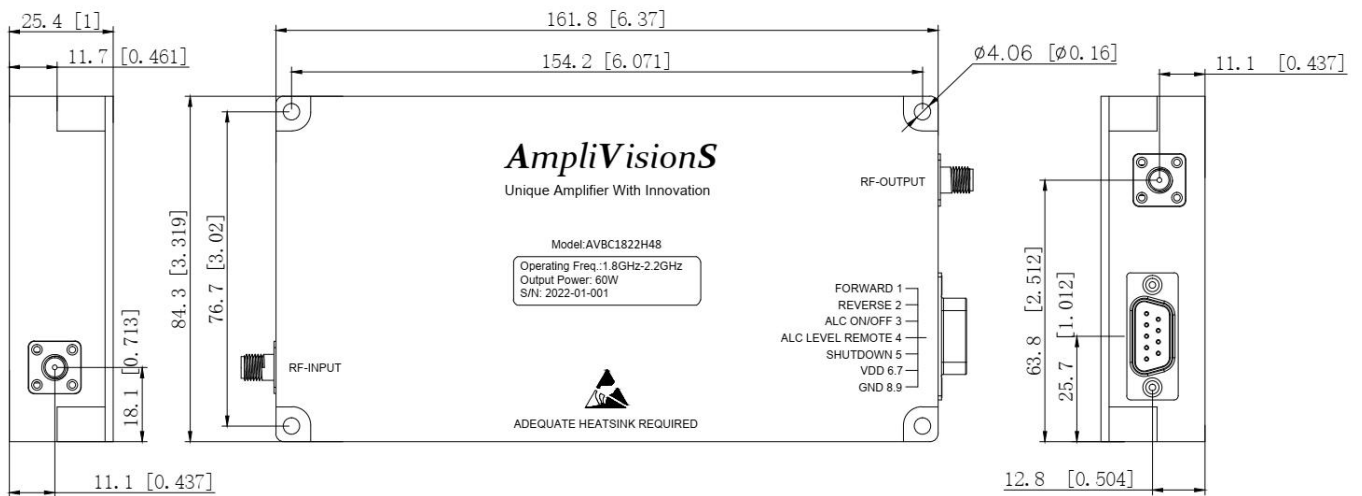
3、Heat Sink required for Proper Operation, Unit is cooled by conduction to heat sink.

Typical Performance Data (For reference only) :



Output Power ,Iout_A(DC Voltage= 28V,CW&Pin=0dBm, Load VSWR ≤ 1.2, T= +25°C)

OUTLINE DRAWING (mm)*



Part Number	Version	Release Date	Modification	Status
AVBC1822H48	1.0	2022.12.02	Based on Product data	Primary Production