50dB Gain，100W Psat，8-12 GHz

Solid State High Power Amplifier

AmpliVisionS

TECHNICAL DATASHEET ***AVBR80120H50***

The AVBR80120H50 is a 100W high gain Solid State 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. This amplifier is suitable for Linear System and high power combination.

Features

8 GHz-12 GHz frequency range
Psat 50dBm Typ
Power gain 50dB
50 ohm input/output impedance
Built-in control, monitoring and protection circuits
Solid-state Class AB Broadband design
Instantaneous ultra-broadband
Suitable for CW, and Pulse
Small and lightweight
High reliability and ruggedness

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

Description	Symbol	Min	Typ	Max	Unit
Operating Frequency	BW	8		12	GHz
Output Power CW [Pin= 0 dBm]	Psat	90	100		W
Power Gain @ PSAT	Gp		50		dB
Power Gain Flatness @ Rated PSAT	ΔGp		±1.5	±2	dB
Input Power for Rated PSAT	PIN		0		dBm
Harmonics @ Pout =50W	2nd		-15		dBc
Noise Figure(If Needed, Please Contact)	NF		N/A		dB
Spurious Signals@ Pout =50W	Spur			-60	dBc
Input Return Loss	S11			-10	dB
Third Order Intercept Point 2-Tone @ 41dBm/Tone, 1MHz Space(If Needed, Please Contact)	IP3		N/A		dBm
Operating Voltage	VDC	24	28	30	V
Current Consumption @ Pout=90~100 W	IDD		18	23	Amp
Current Consumption @ Shutdown	ISD		0.2	0.3	Amp
Quiescent Current ON	IDQ		8.5		Amp
Switching Time @ 1kHz TTL, PIN = -2dBm	TON/TOFF		2	5	µs

MECHANICAL SPECIFICATIONS

Cooling External Heat Sink Needed (Not Supplied)	
Length*Width*Height mm	200x200x25
Weight[Kg]	2.5
RF Connector Input	SMA, Female
RF Connector Output	Type-N, Female

ENVIRONMENTAL SPECIFICATIONS(Design to meet)

Module Operation Temperature*[1]	-20	65	℃
Storage Temperature Range	-45	85	℃
Relative-Humidity		95	%
Altitude *[2]	N/A		
Vibration/Shock *[2]	N/A		

Notes *1**:** Module Operation Temperature can be extended to -45~85℃, Contact Sales for update.

Notes *2**:** Altitude /Vibration are designed with considerations, but without tests and experiments.

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 =90W	3:1 @ all load phase & amplitude continuous	
Thermal Degradation	90	℃

DC INTERFACE CONNECTOR – [Hybrid D-Sub 7W2, Male]

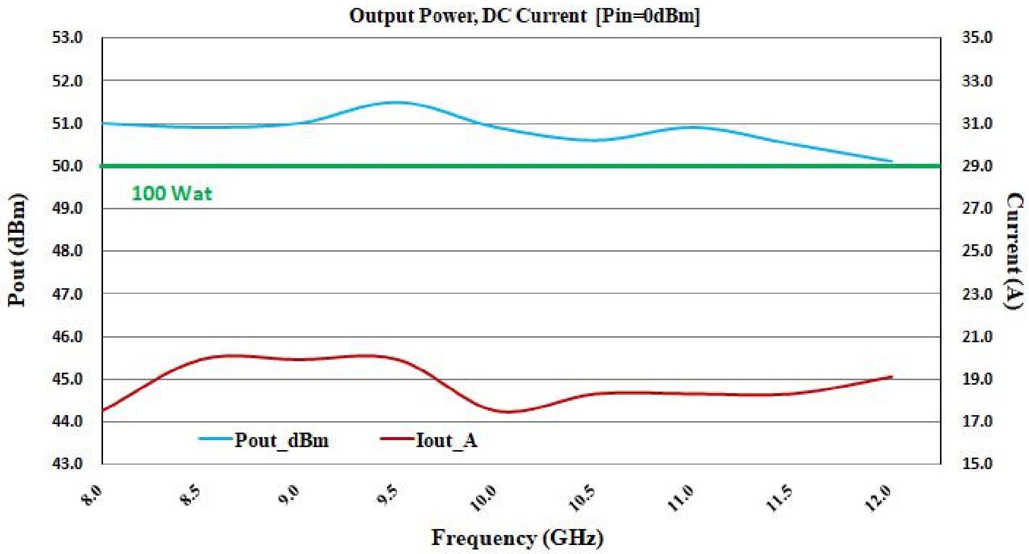
Pin #	Description	Specifications
A1	GND	Ground
A2	VDD	28VDC
1	CURRENT SENSE	Analog voltage relative to IDD @ 100mV per Ampere
2	TEMP SENSE	Analog voltage relative to Module’s Temperature @ 10 mV/°C
3	ENABLE	Amplifier Enable: TTL Logic High (3.3V) (Internally Pulled-Low)
4	GND	Ground
5	N/C	No Connection

PLOTTED AND OTHER DATA

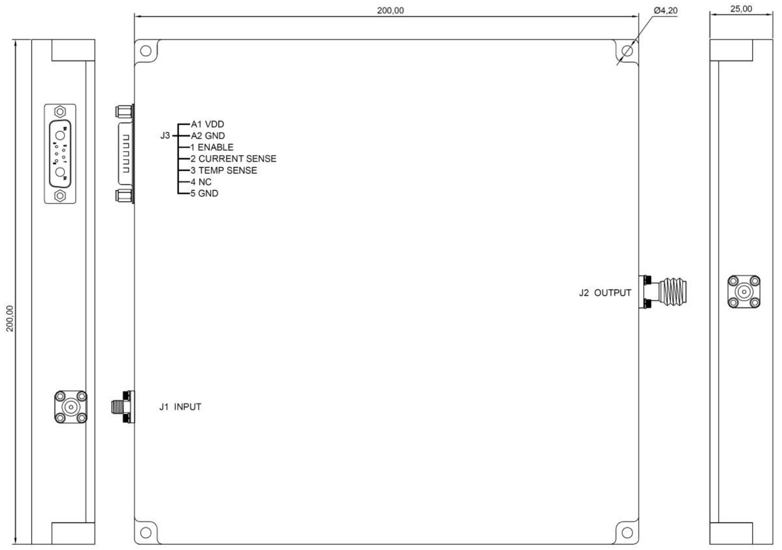
Notes:

1. Values at +25℃,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℃]



OUTLINE DRAWING (mm)



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