

TECHNICAL DATASHEET

AVBR0510H50

The AVBR0510H50 is a 100W high gain Solid State Broadband High Power Amplifier. This amplifier module utilizes the latest high power RF LDMOS transistors and also features built in control and monitoring, with protection functions to ensure high availability. This amplifier is suitable for broadband jamming and EMC testing.

Features

500MHz-1000MHz frequency range	Solid-state Class AB Broadband design
Psat 50dBm type, 49dBm Min.	Instantaneous ultra broadband
Power gain 50dB	Suitable for AM, and FM
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	500		1000	MHz
Output Power CW Psat@ Pin=0 dBm	Psat	80	100		W
Power Gain @ Pin=0 dBm	Gp	49	50		dB
Power Gain Flatness @ Pin=0 dBm	ΔGp		± 1.5		dB
Input Power for PSAT	P _{IN}	-2	0	+2	dBm
Harmonics @ Pout = 50W	2 nd		-15	-12	dBc
Noise Figure*	NF		N/A		dB
Spurious Signals@ Pin=0 dBm	Spur		-70	-60	dBc
Input Return Loss@ Pin=-30 dBm	S11			-15	dB
Operating Voltage	VDC	26	28	30	V
Current Consumption @ Pout= 80~100W	IDD		11	13.5	A
Switching Time @ 1kHz TTL, @ Pin=0 dBm	TON/TOFF		2	5	μs

Note*: Noise Figure data, please contact sales engineer.

MECHANICAL SPECIFICATIONS

Cooling External Heat Sink Needed (Not Supplied)	
Length* Width*Height[mm]	150*90*25
Weight[Kg]	0.6
RF Connector Input	SMA, Female
RF Connector Output	SMA, Female

ENVIRONMENTAL SPECIFICATIONS (Design to Meet)

Module Operation Temperature	-20	60	°C
Storage Temperature Range	-25	65	°C
Relative-Humidity	N/A		
Altitude	N/A		
Vibration/Shock	N/A		

LIMITS

Input RF drive level without damage	$P_{in} \leq 10$	dBm
Load VSWR @ POUT = 50W	$V_{SWR} \leq 5:1$ [Design To Meet]	N/A
Load VSWR @ POUT = 80W	$V_{SWR} \leq 3:1$ [Design To Meet]	N/A
Thermal Degradation	90°C @ heatsink [recovery @ 60°C]	°C

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

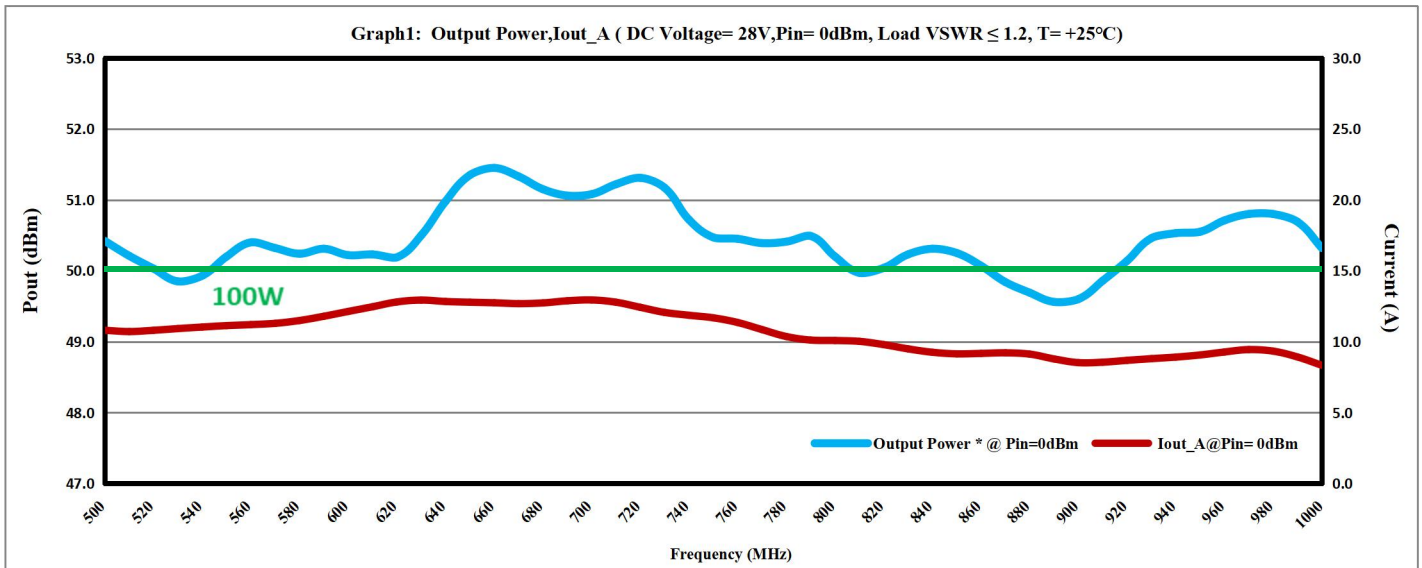
Pin #	Description	Specifications
A1	GND	Ground
A2	VDD	28VDC
1	CURRENT SENSE	Analog voltage relative to IDD @ 100mV per Ampere
2	TEMP SENSE	Analog voltage relative to Module's Temperature @ 10 mV/°C
3	ENABLE	Amplifier Enable: TTL Logic High (3.3V) (Internally)
4	GND	Ground
5	N/C	No Connection

PLOTTED AND OTHER DATA

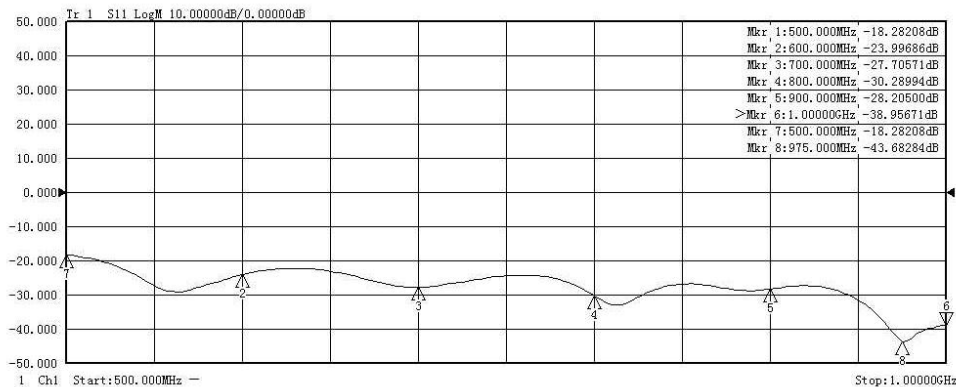
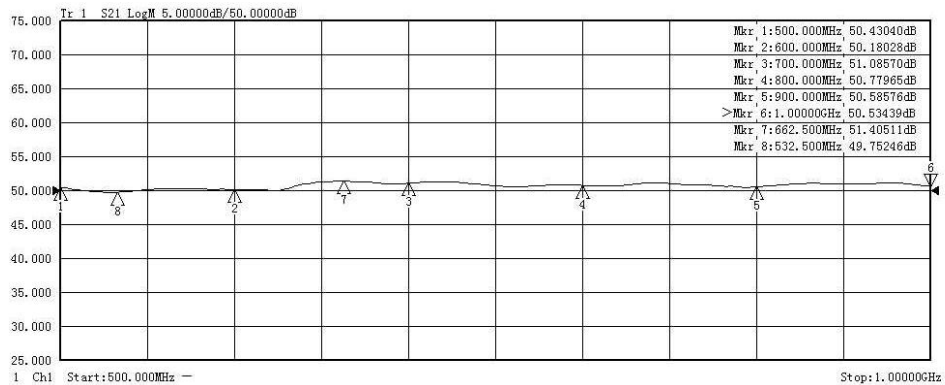
Notes:

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 [Load VSWR ≤ 1.2], (Normal temp. +25±3 °C)

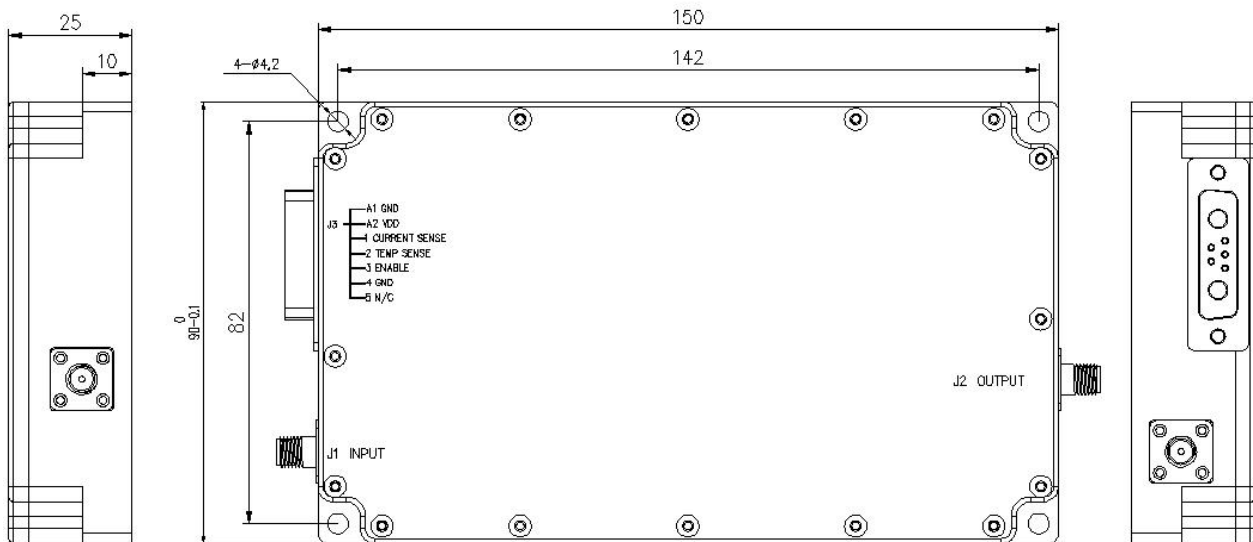


Pout and Iout Curve with Pin=0dBm(CW)



S21 Curve, Pin=0dBm (Up) & S11 Curve, Pin=-30dBm(Down) [Load VSWR ≤ 1.2]

OUTLINE DRAWING [mm]



Product Outline[For Reference]:

