

TECHNICAL DATASHEET

AVBR2560H47

The AVBR2560H47 is a 50W high gain Solid State Broadband High Power Amplifier. This amplifier module utilizes the latest high power RF GaN 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

2.5GHz-6GHz frequency range	Solid-state Class AB Broadband design
Psat 47dBm Min	Instantaneous ultra-broadband
Power gain 47dB	Suitable for CW, and Pulse
50 ohm input/output impedance	Small and light weight
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	2.5		6	GHz
Output Power CW@ Pin=0 dBm	Psat	50	55		W
Output P1dB CW@ Pin=0 dBm	P1dB	10	15		W
Power Gain @ Pin=0 dBm	Gp	47	48		dB
Power Gain Flatness @ Pin=0 dBm	ΔGp		±1.3	±1.8	dB
Input Power for Rated	P _{IN}		0		dBm
Harmonics @ Pout = 30W	2 nd /3 rd		-20/40	-15/20	dBc
Spurious Signals@ Pout =30W	Spur		-60		dBc
Input Return Loss	S11		-15	-10	dB
Third Order Intercept Point					
2-Tone @ 40dBm/Tone, 1MHz Spacing	IP3	50	52		dBm
Operating Voltage	VDC	26	28	30	V
Current Consumption @ Pout=50~60W	IDD		7.5	8.5	A
Switching Time @ 1kHz TTL, Pin=0 dBm	TON/TOFF		2	5	μs

MECHANICAL SPECIFICATIONS

Cooling External	Heat Sink Needed (Not Supplied)
Length* Width*Height[mm]	160*100*25
Weight[Kg]	1.5
RF Connector Input	SMA, Female
RF Connector Output	SMA, Female

ENVIRONMENTAL SPECIFICATIONS (Design to Meet)

Module Operation Temperature	-40	65	°C
Storage Temperature Range	-45	80	°C
Relative-Humidity		95	%
Altitude	N/A		
Vibration/Shock	N/A		

LIMITS

Input RF drive level without damage	$P_{in} \leq 10$	dBm
Load VSWR @ POUT =30W	$VSWR \leq 5:1$ [Design To Meet]	N/A
Load VSWR @ POUT =50W	$VSWR \leq 3:1$ [Design To Meet]	N/A
Thermal Degradation	90°C Graceful Degradation(recovery at 60°C)	°C

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

Pin #	Description	Specifications
1~3	VDD	28VDC
4~6	GND	Ground
7	CURRENT SENSOR	Analog voltage relative to IDD @ 100mV per Ampere
8	TEMP SENSOR	Analog voltage relative to Module's Temperature @ 10 mV/°C
9	ENABLE	Amplifier Enable: TTL Logic High (3.3V) (Internally Pulled-Low)

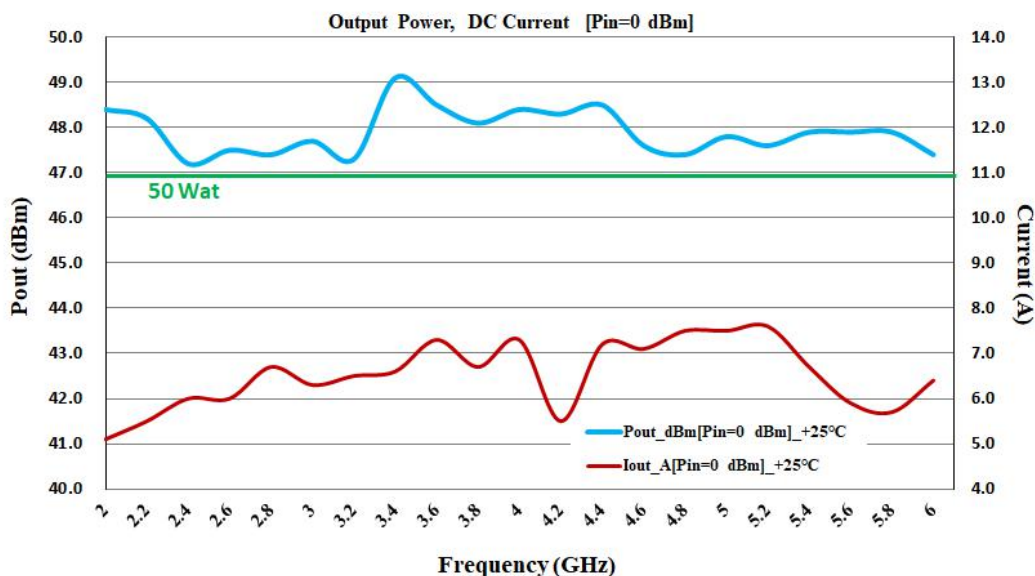
Notes *1: OPTION: High-Density D-Sub Connector 15-Pin FWD/REV Power indication, Output power is lowered by 0.2-0.3dB with this option

PLOTTED AND OTHER DATA

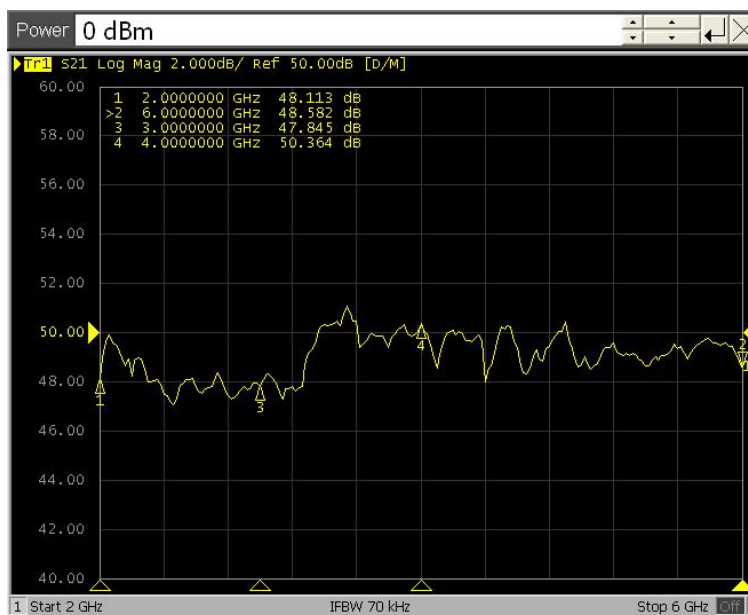
Notes:

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.

Measurements Report:



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



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

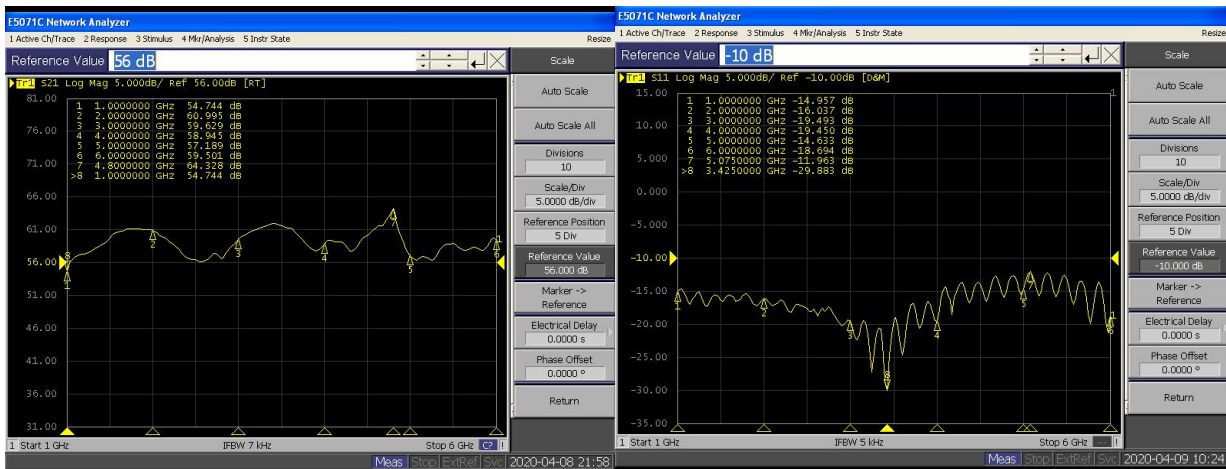
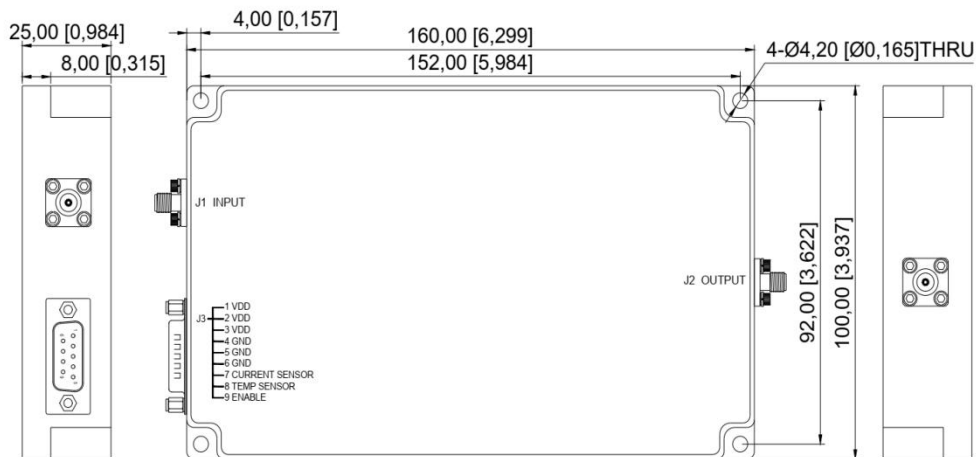


Figure Left: Small signal gain @Pin=-30 dBm (Ambient temp. +25±3 °C, DC Voltage= 28V, Load VSWR ≤ 1)

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

OUTLINE DRAWING [mm]



Side View [3D]

