

TECHNICAL DATASHEET

AVBR2060H45

The AVBR2060H45 is a 30W 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

2GHz-6GHz frequency range	Solid-state Class AB Broadband design
Psat 45dBm type	Instantaneous ultra-broadband
Power gain 45dB	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±2°C,DC Voltage= 28V, Load VSWR ≤ 1.2)

Description	Symbol	Min	Typ	Max	Unit
Operating Frequency	BW	2		6	GHz
Output Power CW @Pin=0dBm	Psat	25	30		W
Output P1dB CW	P1dB	10			W
Power Gain @Pin=0dBm	Gp	44	45		dB
Power Gain Flatness @Pin=0dBm	ΔGp		± 1	± 1.5	dB
Input Power for Rated PSAT	P _{IN}	-2	0	2	dBm
Harmonics @Pin=0dBm	2 nd /3 rd		-20/-20	-15/-15	dBc
Noise Figure*	NF		8	12	dB
Spurious Signals @Pin=0dBm	Spur		-70	-60	dBc
Input Return Loss @Pin=-30dBm	S11			-10	dB
Third Order Intercept Point					
2-Tone @ 34dBm/Tone, 100kHz Spacing	IP3		+48		dBm
Operating Voltage	VDC	26	28	30	V
Current Consumption @ Pout= 25~30W	IDD		4.5	5.5	A
Switching Time @ 1kHz TTL, PIN = -2dBm	TON/TOFF		2	5	μs

Note*: Contact Sales If this parameter is necessary.

MECHANICAL SPECIFICATIONS

Cooling External	Heat Sink Needed (Not Supplied)
Length* Width*Height[mm]	160*120*25
Weight[Kg]	1.2
RF Connector Input	SMA, Female
RF Connector Output	SMA, Female

ENVIRONMENTAL SPECIFICATIONS (Design to Meet)

Module Operation Temperature	-20	65	°C
Storage Temperature Range	-25	70	°C
Relative-Humidity		95	%
Altitude* ²	N/A		
Vibration/Shock* ²	N/A		

Notes *1: Module Operation Temperature can be extended to -40~85°C, Contact Sales for update.

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

LIMITS

Pin<10 dBm (Input RF level without damage)	Load VSWR<1.5:1 (50 Ohm)
Pin=0 dBm	Load VSWR<3:1 for continuous operation
Thermal Degradation	90°C @ heatsink [recovery@ 60°C]

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

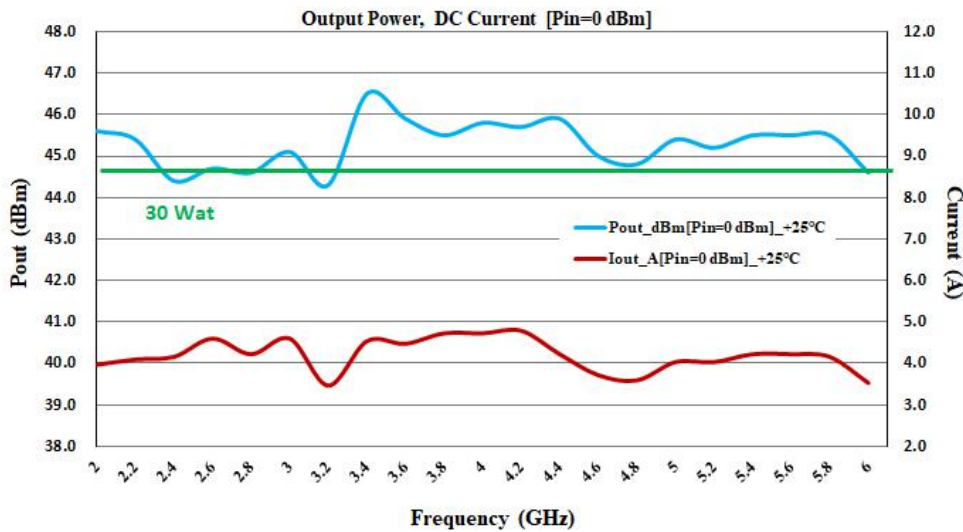
Pin #	Description	Specifications
A1	GND	Ground
A2	VDD	28VDC
1	CURRENT SENSE	Analog voltage relative to IDD @ 100mV per Ampere
2	TEMP SENSE	Analog voltage relative to Module's Temperature @ 10 mV/°C
3	ENABLE	Amplifier Enable: TTL Logic High (3.3V) (Internally Pulled-Low)
4	GND	Ground
5	N/C	No Connection

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



Pout@ Pin=0dBm [CW, Load VSWR≤1.2, 25°C], for Reference Only (Shipped Products)

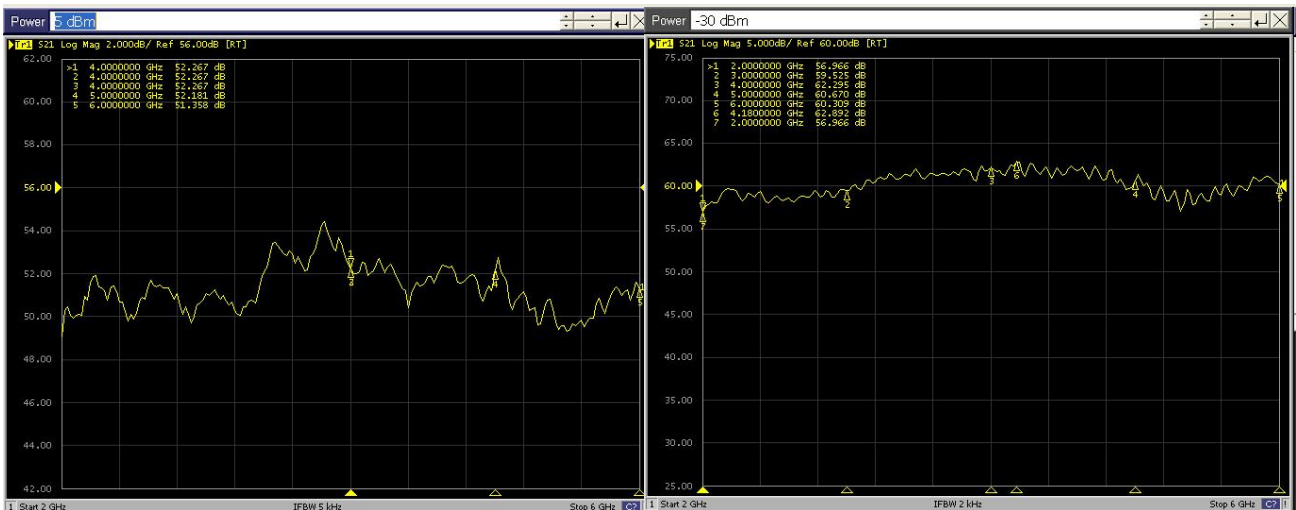


Figure left: Power Gain S21@ Pin=0dBm (Ambient temp, +25±2°C, Load VSWR≤ 1.2), for Reference Only (Shipped Products)

Figure right: Small signal gain @Pin=-30dBm (Ambient temp, +25±2°C, Load VSWR≤ 1.2), for Reference Only (Shipped Products)

Outline Dimensions [mm]

