

TECHNICAL DATASHEET

AVBR60180H46

The AVBR60180H46 is a 40W 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

6GHz-18GHz frequency range	Solid-state Class AB Broadband design
Psat 46dBm type	Instantaneous ultra-broadband
Power gain 57dB	Suitable for CW and Pulse
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	6		18	GHz
Output Power CW	Psat	35	40		W
Power Gain @ Psat	Gp		57		dB
Power Gain Flatness @ Rated PSAT	ΔGp		± 1.5	± 2.5	dB
Input Power for Rated PSAT	P _{IN}		0		dBm
Harmonics @ Pout = 20W	2 nd		-15		dBc
Noise Figure	NF			12	dB
Spurious Signals@ Pout =20W	Spur		-60		dBc
Input Return Loss	S11			-10	dB
Operating Voltage	VDC	26	28	30	V
Current Consumption @ Pout= 40W	IDD		10	12	A
Switching Time @ 1kHz TTL, PIN = -2dBm	TON/TOFF		1	2	μs

MECHANICAL SPECIFICATIONS

Cooling External Heat Sink Needed (Not Supplied)	
Length* Width*Height[mm]	160*120*22
Weight[Kg]	0.9
RF Connector Input	SMA, Female
RF Connector Output	SMA, Female

ENVIRONMENTAL SPECIFICATIONS (Design to Meet)

Datasheet: REV A.6/ 06.04.2020

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Module Operation Temperature	-55	80	°C
Storage Temperature Range	-55	85	°C
Relative-Humidity		98	%
Altitude		N/A	
Vibration/Shock		N/A	

LIMITS

Input RF drive level without damage	Pin ≤ 10	dBm
Load VSWR @ POUT = 20W	VSWR ≤ 5:1 [Design To Meet]	N/A
Load VSWR @ POUT = 40W	VSWR ≤ 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 Pulled-Low)
4	GND	Ground
5	N/C	No Connection

COMPLIANCE CERTIFICATIONS

XX
XX

PLOTTED AND OTHER DATA

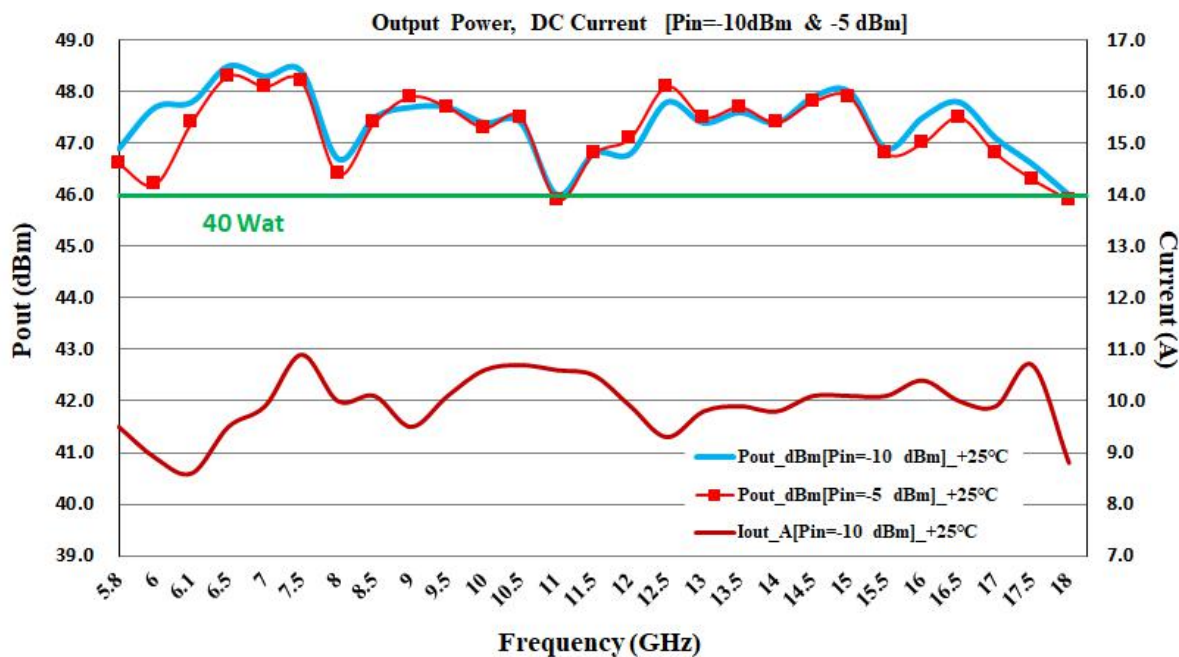
Notes:

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.

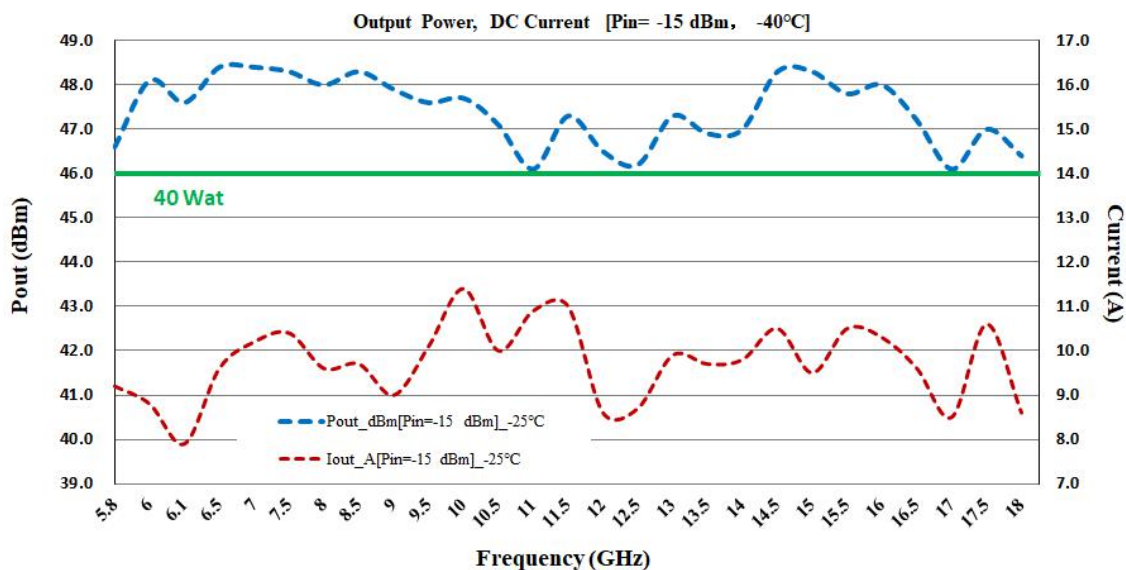
TYPICAL PERFORMANCE DATA [Load VSWR ≤ 1.2]

Datasheet: REV A.6/ 06.04.2020

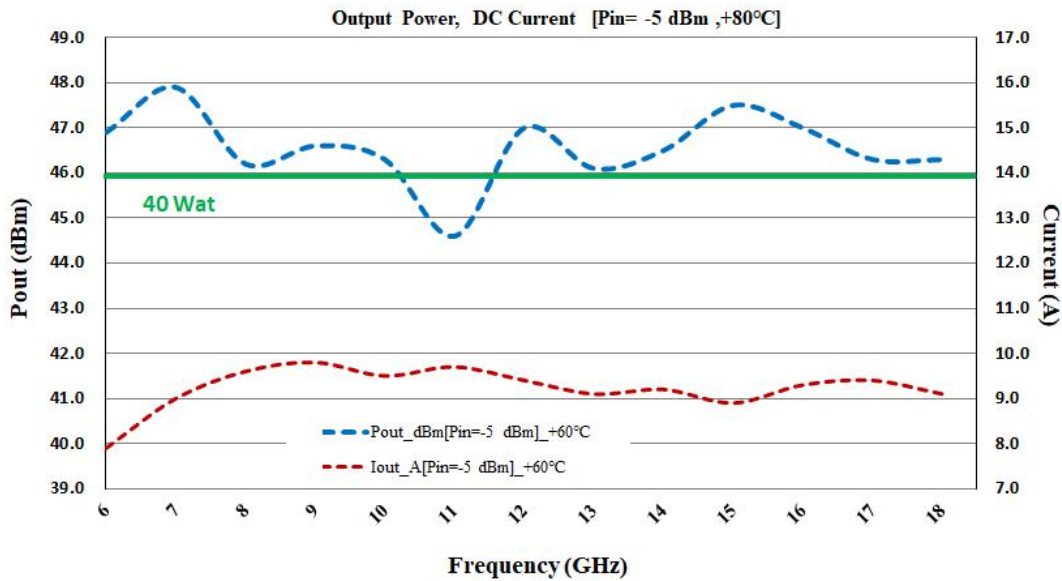
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Output Power (CW, Normal temp. +25±3°C)



Output Power (CW, Low temp. -40±3°C)



Output Power (CW, High temp. +80±3°C)

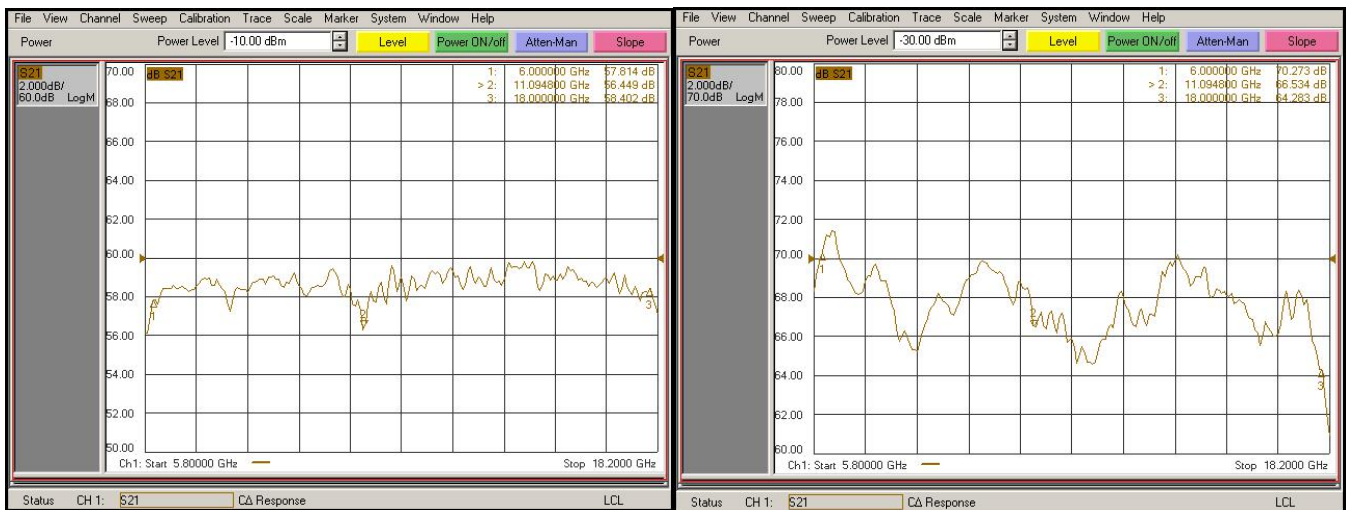
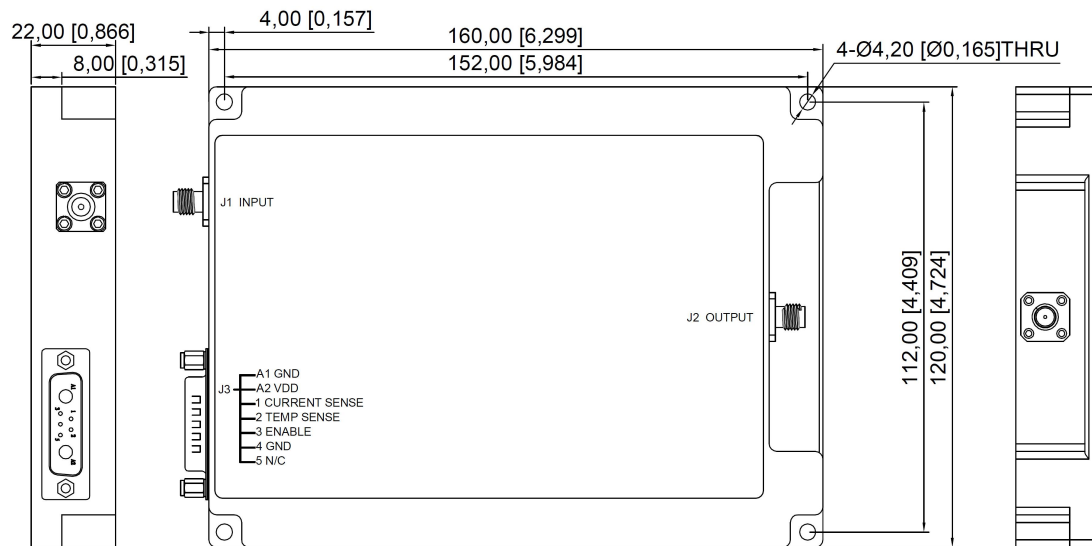


Figure Left: Power Gain @ Pin=-10 dBm (Ambient temp. +25±3°C, DC Voltage= 28V,Load VSWR ≤ 1.2)

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

OUTLINE DRAWING [mm]



3D View

