

The AVNR2140H47 is a 50W high gain Solid State Narrowband High Power Amplifier. This amplifier module utilizes the latest high power RF Discrete transistors and also features built in control and monitoring, with protection functions to ensure high availability. This amplifier is suitable for jamming and Modulated Signals testing.

Features

2.11GHz-2.17GHz frequency range	Solid-state Class AB design
Psat 47 dBm type	Instantaneous ultra-broadband
Power gain 47dB	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	2.11		2.17	GHz
Output Power CW@ Pin=0 dBm	Psat	40	50		W
Small Signal Gain	Gss		50		dB
Small Signal Gain Flatness	ΔGss		±0.5	±1	dB
Power Gain @ Pin=0 dBm	Gp		47		dB
Power Gain Flatness @ Pin=0 dBm	ΔGp		±0.5	±1	dB
Input Power for Rated Power	P _{IN}	-1	0	1	dBm
Harmonics @ Pin=0 dBm	2 ND / 3 RD		-25/-25		dBc
Noise Figure	NF		N/A		dB
Spurious Signals@ Pin=0 dBm	Spur			-60	dBc
Input Return Loss	S11		-15	-10	dB
Third Order Intercept Point					
2-Tone @ 34dBm/Tone, 100kHz Spacing	IP3		51		dBc
Operating Voltage	VDC	26	28	30	V
Current Consumption @ Pout= 50W	IDD		6.5	8	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]	150*80*30
Weight[Kg]	1.2
RF Connector Input	SMA-K, Female
RF Connector Output	SMA-K, Female

ENVIRONMENTAL SPECIFICATIONS (Design to Meet)

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

LIMITS

Input RF drive level without damage	Pin ≤ 10	dBm
Load VSWR @ POUT =40W	VSWR ≤ 5:1 [Design To Meet]	N/A
Load VSWR @ POUT =50W	VSWR ≤ 3:1 [Design To Meet]	N/A
Thermal Degradation	85°C Graceful Degradation	°C

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

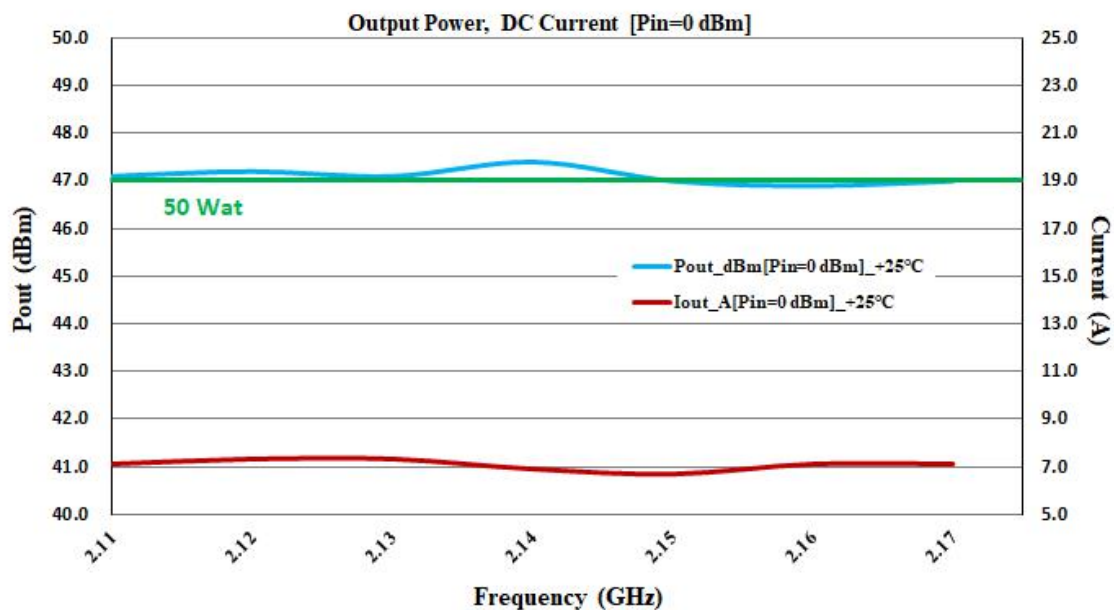
Pin #	Description	Specifications
1	Reserved	No Connection
2	Current Monitor	Analog voltage relative to IDD @ 50mV/100mA
3	Temp Monitor	Analog voltage relative to module temperature @ 10mV/°C
4	Reserved	No Connection
5	Shutdown	Amplifier Disable: TTL Logic High (3.3V), Internally Pull down
6,7	VDD	+28.0VDC
8,9	GND	Ground

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)



OUTLINE DRAWING [mm]

