

TECHNICAL DATASHEET

AVNR1580H53

The AVNR1580H53 is a 200W high gain Solid State Narrowband High Power Amplifier. This amplifier module utilizes the latest high power RF LD MOS 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

1.55GHz-1.61GHz frequency range	Solid-state Class AB design
Psat 53dBm Min.	Instantaneous ultra-broadband
Power gain 53dB Min.	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	1.55		1.61	GHz
Output Power CW@ Pin=0 dBm	Psat	200	250		W
Power Gain @ Pin=0 dBm	Gp	53	53.5		dB
Power Gain Flatness @ Pin=0 dBm	ΔGp		±0.5	±0.8	dB
Input Power for Rated Power	P _{IN}	-1	0	1	dBm
Harmonics @ Pin=0 dBm	2 nd			-40	dBc
Noise Figure	NF		N/A		dB
Spurious Signals@ Pin=0 dBm	Spur		-70	-60	dBc
Input VSWR@ Pin=-30 dBm	VSWR_IN			1.5	/
Third Order Intercept Point					
2-Tone @ 40dBm/Tone, 100kHz Spacing	IP3		N/A		dBc
Operating Voltage	VDC	26	28	30	V
Current Consumption @ Pout= 200~250W	IDD		17	22	A
Switching Time @ 1kHz TTL, P _{IN} = 0 dBm	TON/TOFF		2	5	μs

MECHANICAL SPECIFICATIONS

Cooling External Heat Sink Needed (Not Supplied)	
Length*Width*Height[mm]	180*140*27
Weight[Kg]	1.6
RF Connector Input	SMA-K, Female
RF Connector Output	N-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	$P_{in} \leq 10$	dBm
Load VSWR @ POUT =150W	$VSWR \leq 5:1$ [Design To Meet]	N/A
Load VSWR @ POUT =200W	$VSWR \leq 3:1$ [Design To Meet]	N/A
Thermal Degradation	85°C Graceful Degradation	°C

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

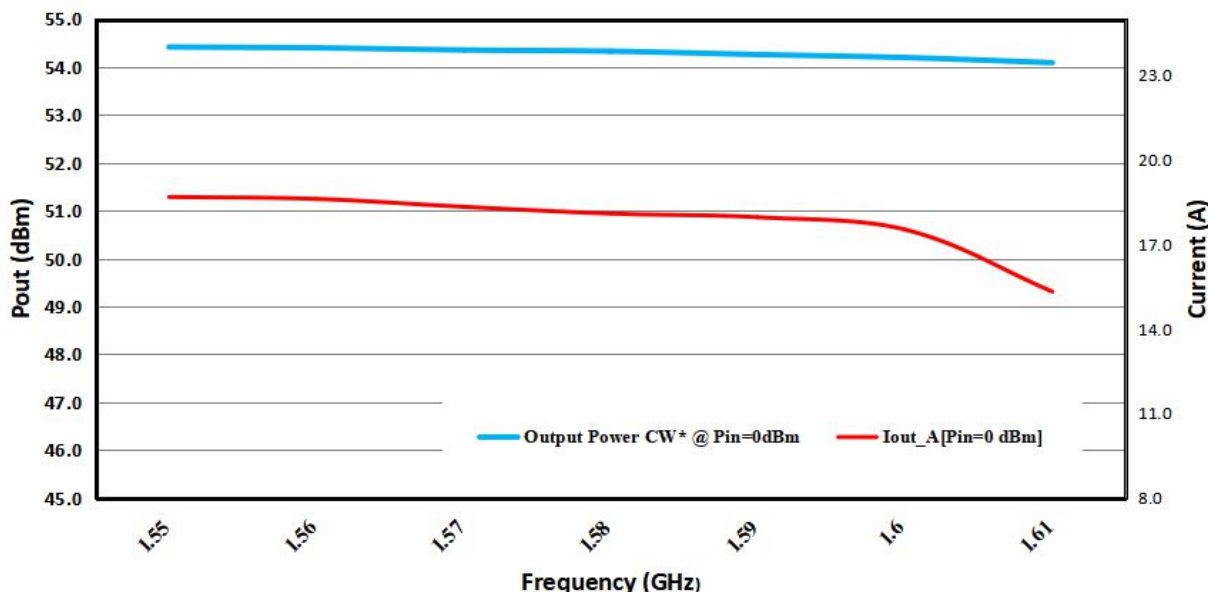
Pin #	Description	Specifications
A1	GND	Ground
A2	VDD	28VDC
1	CURRENT SENSE	Analog voltage relative to IDD @ 100mV per Ampere
2	TEMP SENSE	Analog voltage relative to Module's Temperature @ 10 mV/°C
3	ENABLE	Amplifier Enable: TTL Logic High (3.3V) (Internally Pulled-Low)
4	GND	Ground
5	N/C	No Connection

PLOTTED AND OTHER DATA

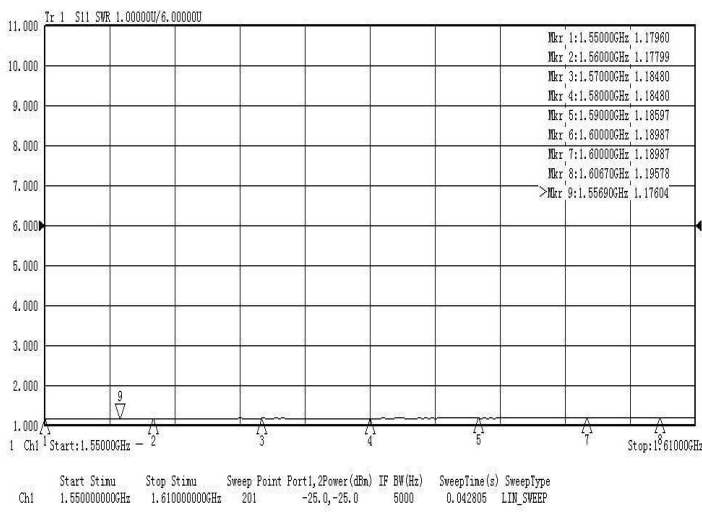
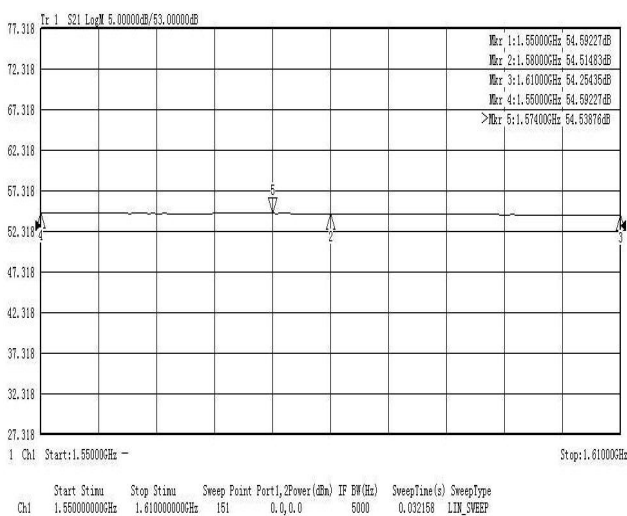
Notes:

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

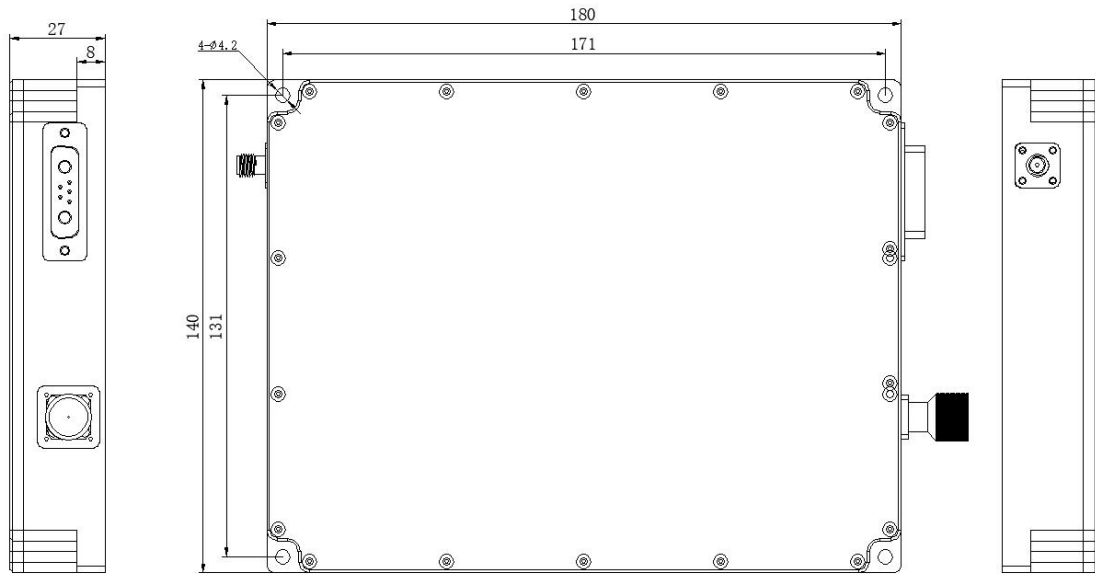


Pout and Iout Curve with Pin=0dBm(CW)



S21 Curve Test, Pin=0dBm (Left) & VSWR_IN Curve Test, Pin=-30dBm(Right) [Load VSWR ≤1.2]

OUTLINE DRAWING [mm]



Product View [Shipped Product]

