

TECHNICAL DATASHEET

AVNR1050H53

The AVNR1050H53 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

0.9GHz-1.17GHz frequency range	Solid-state Class AB design
P1dB 53dBm type	Instantaneous ultra-broadband
Power gain 53dB	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	0.9		1.17	GHz
Output Power CW@ P1dB	P1dB	180	200		W
Power Gain @ Pin=0 dBm	Gp		54		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		-40		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 @ 40dBm/Tone, 100kHz Spacing	IP3		55		dBc
Operating Voltage	VDC	26	28	30	V
Current Consumption @ Pout= 200W	IDD		23	25	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]	170*130*30
Weight[Kg]	1.3
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]

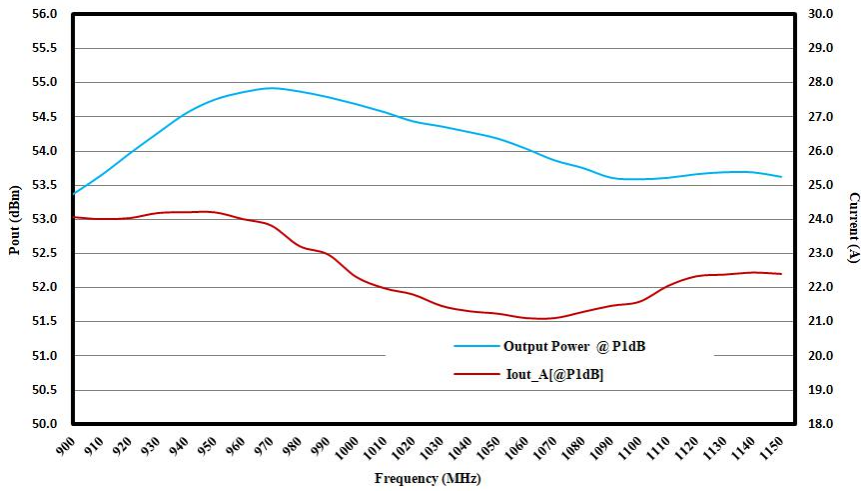
Pin #	Description	Specifications
A1	GND	Ground
A2	VDD	28VDC
1	CURRENT SENSE	Analog voltage relative to IDD @ 100mV per Ampere
2	TEMP SENSE	Analog voltage relative to Module's Temperature @ 10 mV/°C
3	SHUTDOWN	Amplifier Disable: TTL Logic High (3.3V) (Internally Pulled-Low)
4	FORWARD MONITOR	Analog voltage relative to forward power level
5	REVERSE MONITOR	Analog voltage relative to reflected power level

PLOTTED AND OTHER DATA

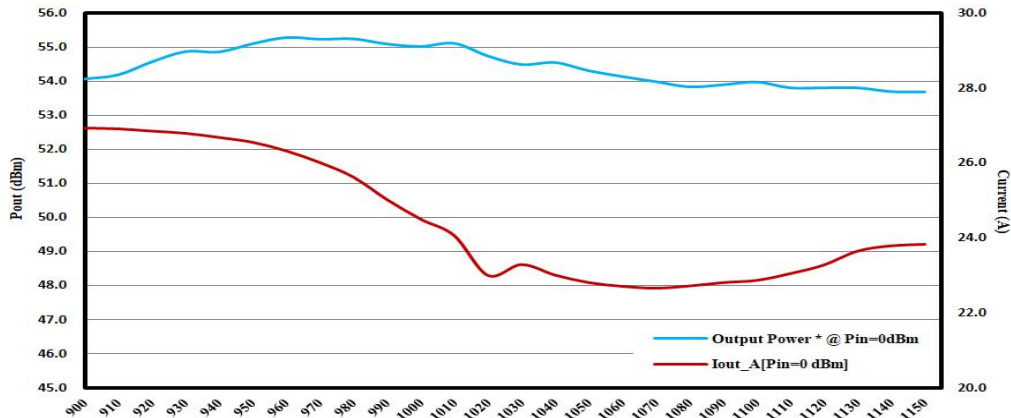
Notes:

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.

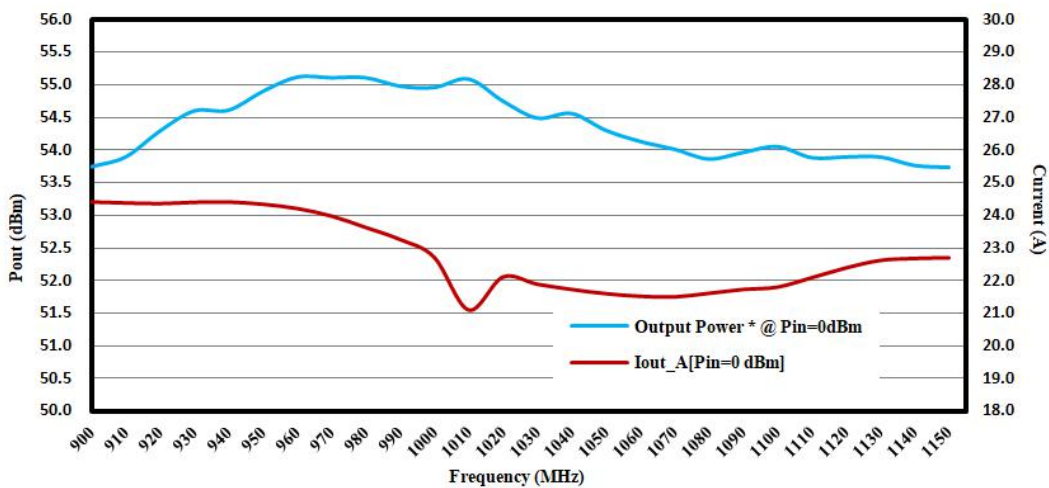
TYPICAL PERFORMANCE DATA [Load VSWR ≤1.2], (Normal temp. +25±3 °C)



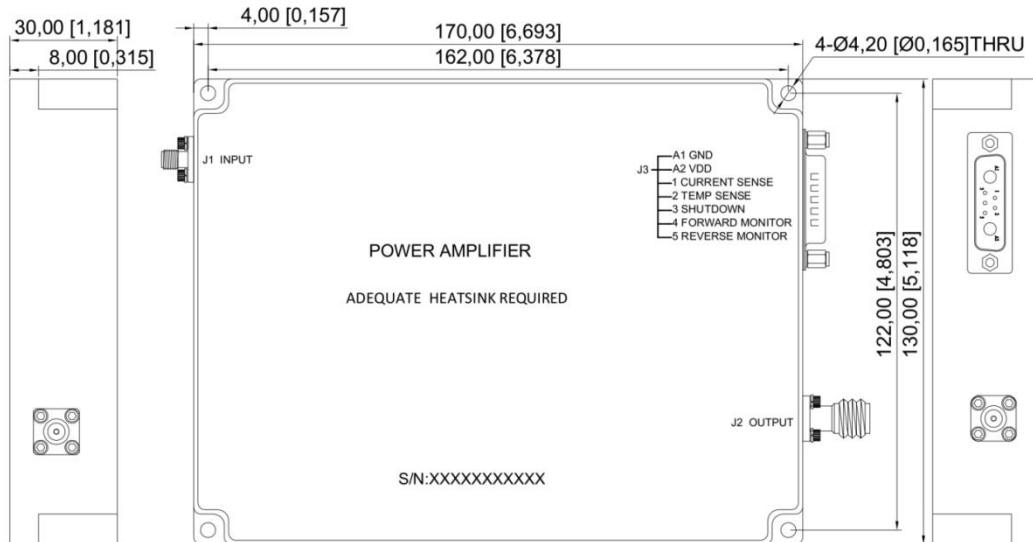
TYPICAL PERFORMANCE DATA [Load VSWR ≤1.2], (Low temp. -20±3 °C)



TYPICAL PERFORMANCE DATA [Load VSWR ≤1.2], (High temp. +65±3 °C)



OUTLINE DRAWING [mm]



Side View [3D]

