

Product Features

- Frequency from 700 ~2700MHz
- Class AB GaN design
- Instantaneous wide bandwidth
- 50 Ohm Input/Output impedance
- Small size and Light weight
- High reliability and Ruggedness

Description

The AMPB7002700-50W GaN Wideband Amplifier is designed for general purpose. Operating frequency range is from 700~2700MHz. Gallium Nitride on SiC Technology is used and attached on a copper sub carrier. Improved thermal handling by patented technology.

Electrical Specifications @ $V_{DC}=32V$, $T_C=50^{\circ}C$, 50 Ω System

Parameter	Unit	Min	Typ	Max	Notes
Operating Frequency	MHz	700	-	2700	-
Power Gain @ Pin 10dBm	dB	35	37	-	700 ~ 2700 MHz
Power Gain Flatness @ Pin 10dBm	dBpp	-	± 1.0	± 2.0	700 ~ 2700 MHz
Output Power @ Pin 10dBm	dBm	45	47	-	700 ~ 2700 MHz
Input Return Loss	dB	-	-10	-5	-
Supply Voltage	V	32	-	-	Vcc (=Vds)
Quiescent Current Consumption	A	-	1.2	1.7	-
Current Consumption @ Pin 10dBm	A	-	5.0	6.5	CW 1-tone
On/Off Switching Time	uS	-	2	5	On : TTL " Low"
					Off : TTL " High" (50mA @Disable)
Shut Down or Switch On/Off TTL	V	0	-	0.5	On : TTL " Low" (Enable)
		2.5	5	5.5	Off : TTL " High" (50mA @Disable)

Environmental Specifications

PARAMETER	UNIT	RATING	SYMBOL
Operating Case Temperature	$^{\circ}C$	-20 ~ 85	T_C
Storage Temperature	$^{\circ}C$	-40 ~ 105	T_{STG}
Relative Humidity(Non-condensing)	RH	95	%

Operating Voltages

PARAMETER	UNIT	NOMINAL VOLTAGE	VOLTAGE ACCURACY	SYMBOL
Operating Voltage	V	32	± 2%	V _{DC}
HPA Enable Voltage	V	-		
Current Monitor Voltage	V	Output Voltage 1V@10A(0.1V/1A)		
Temp Monitor Voltage	V	Output Voltage 0.75V@25°C (1°C/0.01V)		

Mechanical Specifications

PARAMETER	UNIT	TYP
Mass	kg	0.2
Dimension	mm	72*50.8*16.6(Without Connectors)
RF Connector	-	SMA Female : RF Input
		SMA Female : RF Output
DC Connector	-	Through core capacitor, Male : Supply
Cooling		External Heat-sink Required

Power Test result

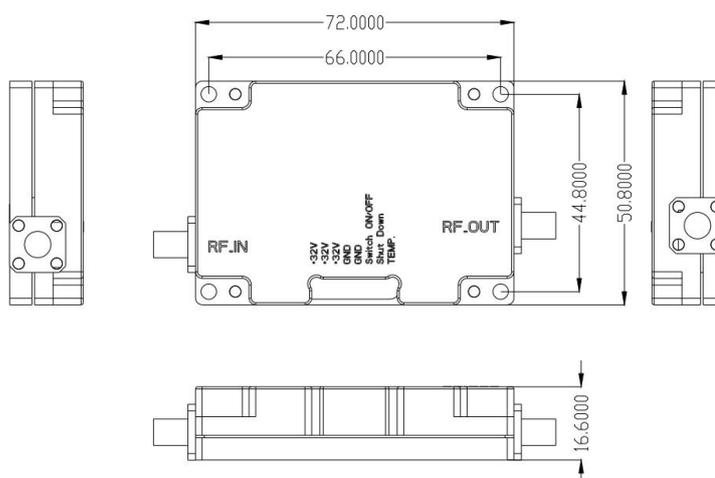
Frequency	Input power(dBm)	Output power(dBm)	Power Gain (dB)	Current Consumption(A)
700	+0dBm	46.8	46.8	3.2
750	+0dBm	47.2	47.2	3.4
800	+0dBm	47.4	47.4	3.47
850	+0dBm	47.2	47.2	3.47
900	+0dBm	47.1	47.1	3.59
950	+0dBm	46.9	46.9	3.47
1000	+0dBm	47.3	47.3	3.47
1050	+0dBm	47.4	47.4	4.1
1100	+0dBm	47.1	47.1	4.1
1150	+0dBm	47.2	47.2	4.3
1200	+0dBm	47.5	47.5	4.4
1250	+0dBm	47.7	47.7	4.7
1300	+0dBm	48	48	5.0
1350	+0dBm	48	48	4.9
1400	+0dBm	47.9	47.9	4.9
1450	+0dBm	47.9	47.9	4.6
1500	+0dBm	47.2	47.2	4.4
1550	+0dBm	47.8	47.8	4.4
1600	+0dBm	48.2	48.2	4.4
1650	+0dBm	48.5	48.5	4.2

Wideband Amp Pallet

AMPB7002700-50W-GaN-Wideband-Amplifier

Frequency	Input power(dBm)	Output power(dBm)	Power Gain (dB)	Current Consumption(A)
1700	+0dBm	48.6	48.6	4.3
1750	+0dBm	48.5	48.5	4.1
1800	+0dBm	48.1	48.1	3.9
1850	+0dBm	47.9	47.9	4.0
1900	+0dBm	47.7	47.7	3.9
1950	+0dBm	47.3	47.3	3.9
2000	+0dBm	47.3	47.3	4.1
2050	+0dBm	47.3	47.3	4.2
2100	+0dBm	47.1	47.1	4.1
2150	+0dBm	46.8	46.8	3.9
2200	+0dBm	47.2	47.2	4.2
2250	+0dBm	46.1	46.1	4.1
2300	+0dBm	46.2	46.2	4.1
2350	+0dBm	45.8	45.8	3.8
2400	+0dBm	46.7	46.7	4.1
2450	+0dBm	46.6	46.6	4.1
2500	+0dBm	47.1	47.1	3.9
2550	+0dBm	46.7	46.7	3.8
2600	+0dBm	46.6	46.6	3.5
2650	+0dBm	46.1	46.1	3.1

Outline Drawing



Side View[3D]



Pin Description

Pin No	Description	Pin No	Description
A1	-	1	+32V
A2	-	2	+32V
A3	-	3	+32V
A4	-	4	GND
A5	-	5	GND
A6	-	6	Switch
A7	-	7	NC
A8	-	8	TEMP

Revision History

Part Number	Release Date	Version	Modification	Data Sheet Status
AMPB7002700-50W	2025.03.01	2.5.3.1	-	Preliminary