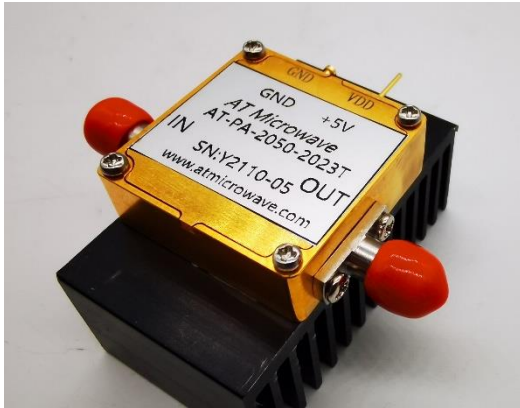


20-50GHz Broadband Amplifier, +23dBm

2021-10-13



Product Overview

AT-PA-2050-2023T is high gain power amplifier with +23dBm output power in the frequency of 20-50GHz. The DC power requirement is +5V/650mA. The module is with 2.4mm connector.

The power amplifier has high gain, high linearity, low input/output return loss and flat gain response.

More information, please visit www.atmicrowave.com

Advantages

- ✓ Frequency: 20-50GHz
- ✓ Psat:+23dBm
- ✓ Small signal gain: 20dB
- ✓ Single Power Supply

Application

- ✓ 5G Communication
- ✓ Test Equipment
- ✓ ROF (RF Over Fiber)
- ✓ Radar System

Key Features

Parameter	Min	Typical	Max
Frequency		20-50GHz	
Gain		20dB	
P1dB	+20dBm +18dBm	20-45GHz: +22dBm 45-50GH: +19dBm	
Psat	+21dBm +18.5dBm	20-45GHz: +23dBm 45-50GHz: +20dBm	
Drain Supply		+5V	+8V
Current NO RF		430 mA	
Idd Psat		650mA	
Input Return Loss	-5dB	-10 dB	
Output Return Loss	-5dB	-10 dB	
Spec Temp		25C	





AT-PA-2050-2023T

20-50GHz Power Amplifier

Mechanical Information

Item	Description
Input Port	2.4mm Female
Output Port	2.4mm Female
Case Material	Copper
Finish	Gold Plated
Weight (Without Heatsink)	90g
Size:	30x30x9.5 mm

Absolute Maximum Ratings Table

Parameter	Value
Drain Supply	+13V
RF Input Power	+10 dBm
Operating Temperature	-20 to +70C
Storage Temperature	-65 to +150C

Caution:

Please pay attention to the case temperature.

If case temperature exceeds +50C, heat sink and fan are required.

Bias Procedure:

Make sure GND is connected before Vdd Power ON.

Module may be damaged when Vdd Power ON without GND.

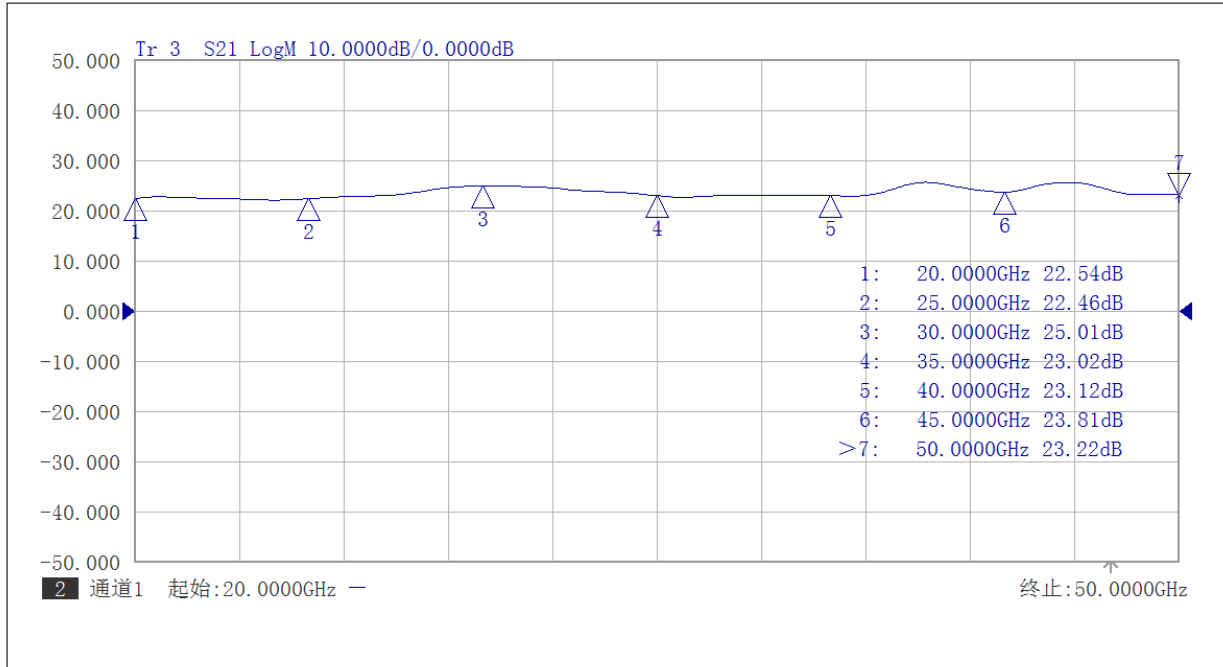
Notes:

1. Datasheet may be changed according to update of MMIC, Raw materials , process, and so on.
2. This data is only for reference, not for guaranteed specifications.
3. Please contact AT Microwave team to make sure you have the most current data.

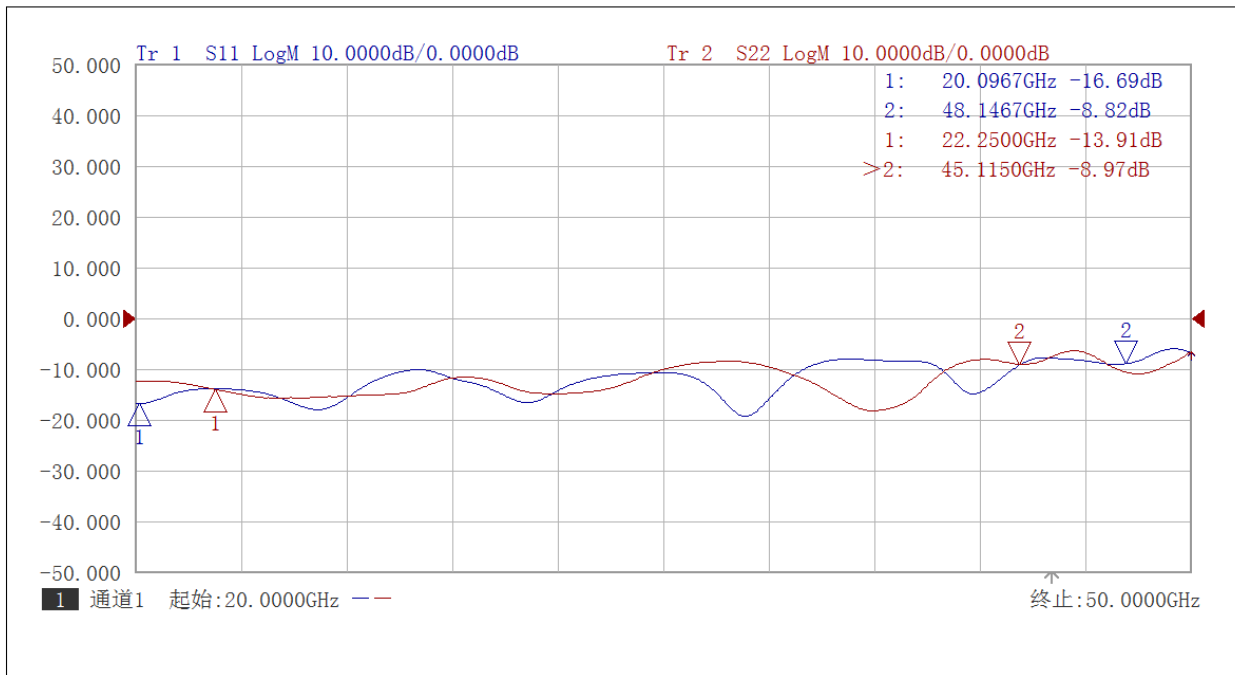


Test Data

Please note that test curves will vary slightly from unit to unit.



Gain vs Frequency



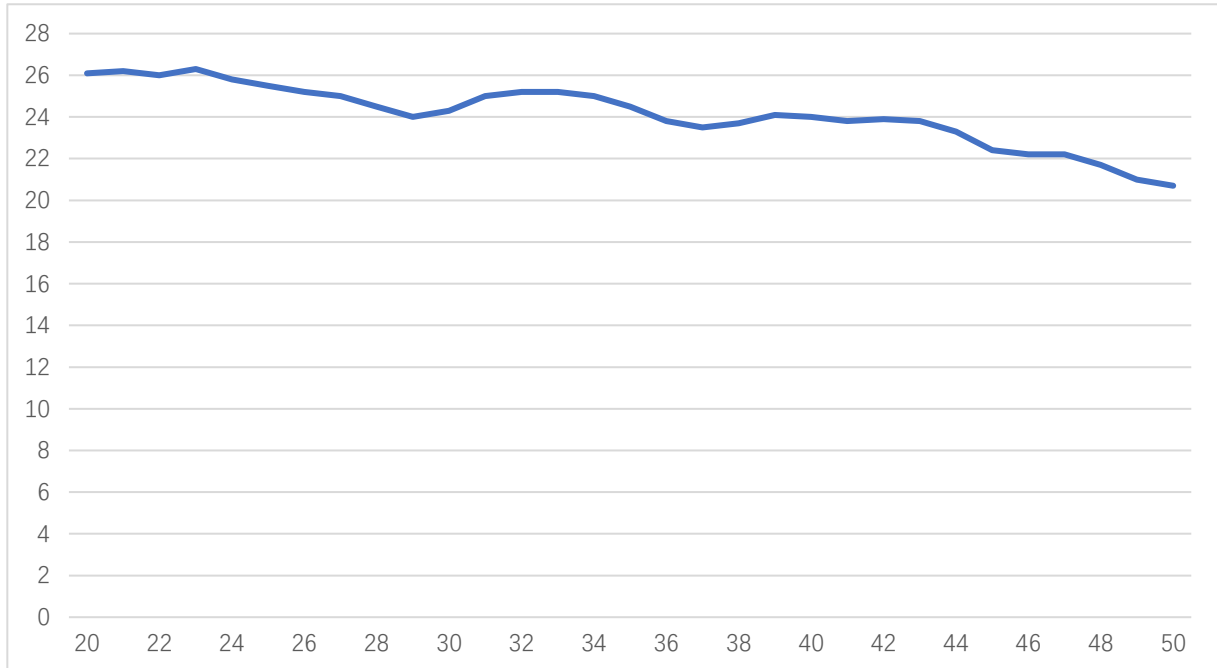
Input and Output Return Loss



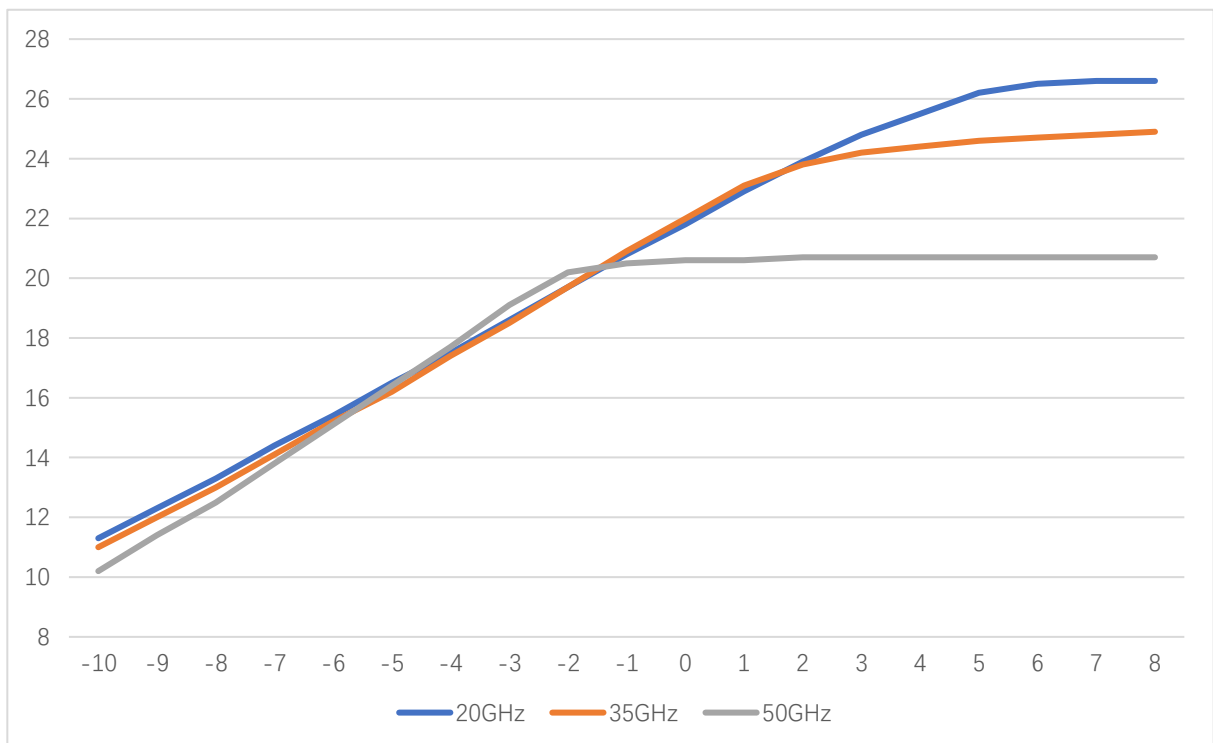


AT-PA-2050-2023T

20-50GHz Power Amplifier

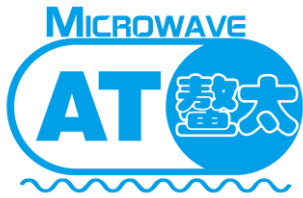


Psat vs Frequency



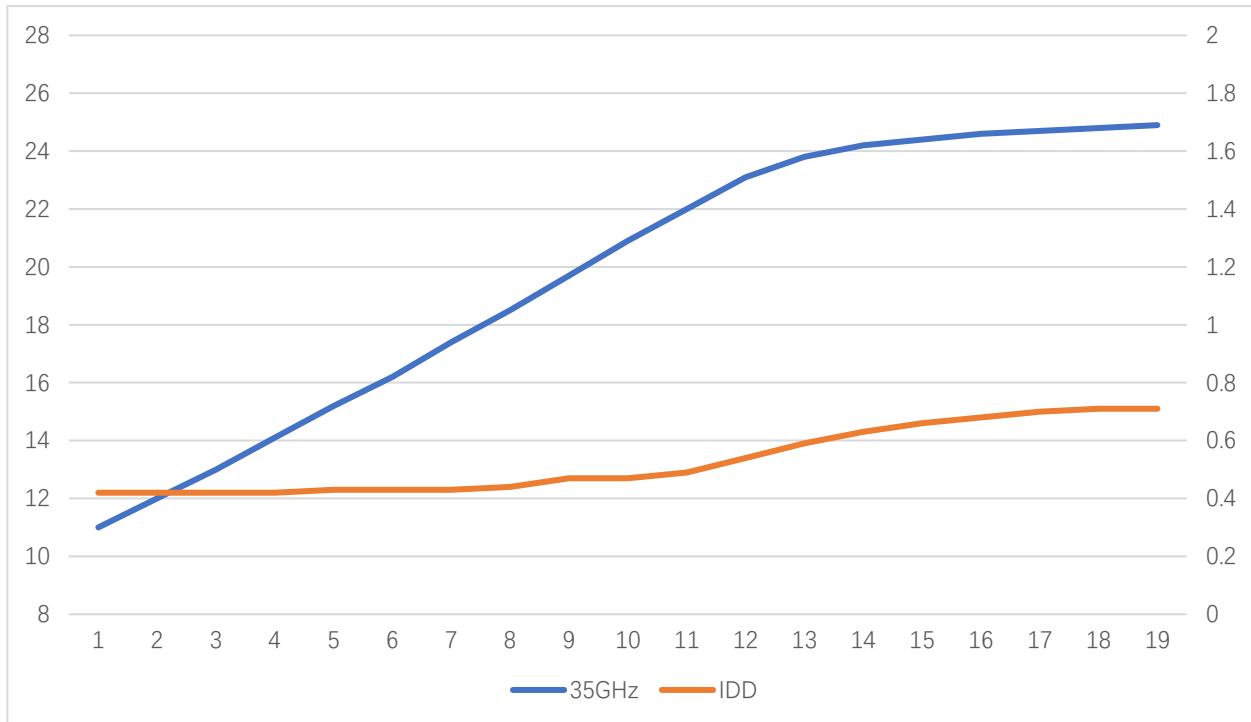
Pout Vs Pin at 20/35/50GHz





AT-PA-2050-2023T

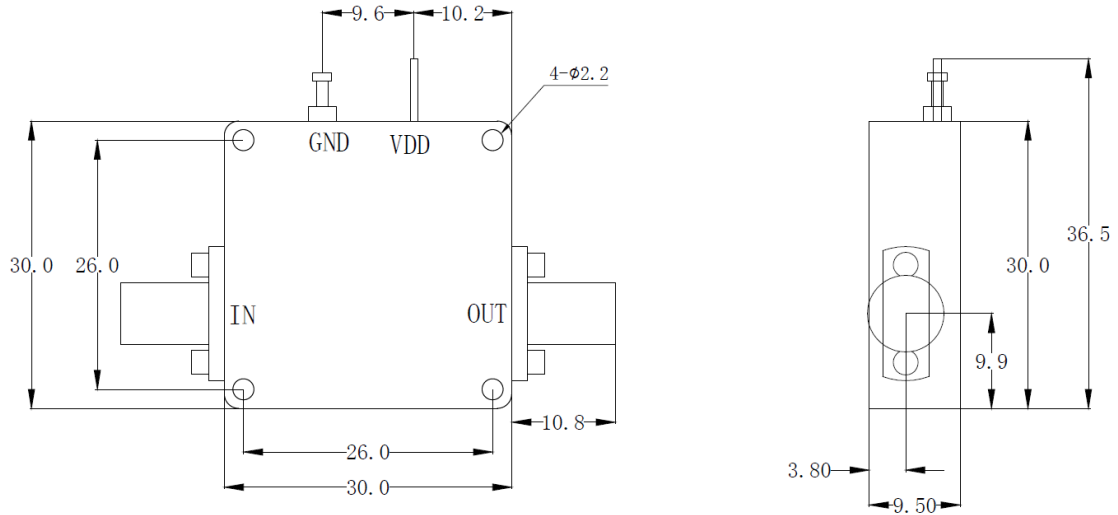
20-50GHz Power Amplifier



Pout and Idd vs Pin at 35GHz

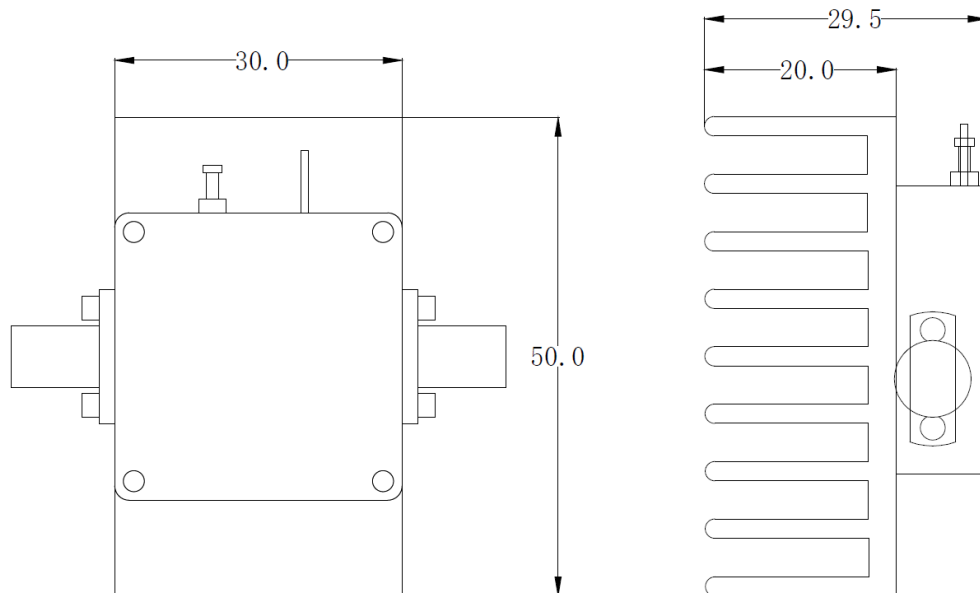


Dimension: (unit in mm)



	<26.5GHz	<40GHz	<50GHz	<67GHz
Connector	SMA	2.92mm	2.4mm	1.85mm
Lenth of a	9.4mm	9.5mm	10.8mm	11.3mm

Note: Female Default. Contact with us for other types.



Including a small heatsink without Fan if output Power higher than +20dBm.

Customers can removed it or use their own heatsink according to actual situation.

Heat Sink Required During Operation if case Temp higher than 50C

