

DESCRIPTION

AMCOM's AM254051SF-5H is a GaN Solid state power amplifier designed for general purpose applications. It operates from 2.25 GHz to 4.25 GHz and typically delivers 120 watts (51dBm) of CW output power and 52dB small signal gain. The amplifier module has 6 screw slots for mounting to a heat sink. This amplifier module is compact and light weight at 6" (L) x 4" (W) x 0.75" (H).



FEATURES

- Wide bandwidth from 2.25 to 4.25 GHz
- Psat 51 dBm, Gain 52 dB
- Input / Output matched to 50 Ohms
- TTL control & Temperature monitor

APPLICATIONS

- Radar
- Fixed microwave backhaul
- Instrumentation and measurements
- Military and Aerospace

TYPICAL PERFORMANCE * (Quiescent bias is +28V, I_{ddq}= 10A)

Parameters	Minimum	Typical **	Maximum
Frequency	2.5-4 GHz	2.25-4.25 GHz	
Small Signal Gain	49 dB	52 dB	
Gain Ripple		± 2 dB	± 3.0 dB
Psat @ 24V	48 dBm	50.5dBm	
Psat @ 28V	49 dBm	51 dBm	
Current @ Psat		20 A	
Noise Figure		11 dB	
IP3		55 dBm	
Input Return Loss		15 dB	
Output Return Loss		12 dB	
Switching Time		<5 μS	
TTL RF ON/OFF	<1V for OFF , >2.5 V for ON		
Temperature Sensor Output (V)	$V_{out}=0.45V+(10_{mV} \times \text{Temp in Celsius})$ e.g for (50°C) : $V_{out}=0.45+0.01 \times 50=0.95V$		

* Notes:

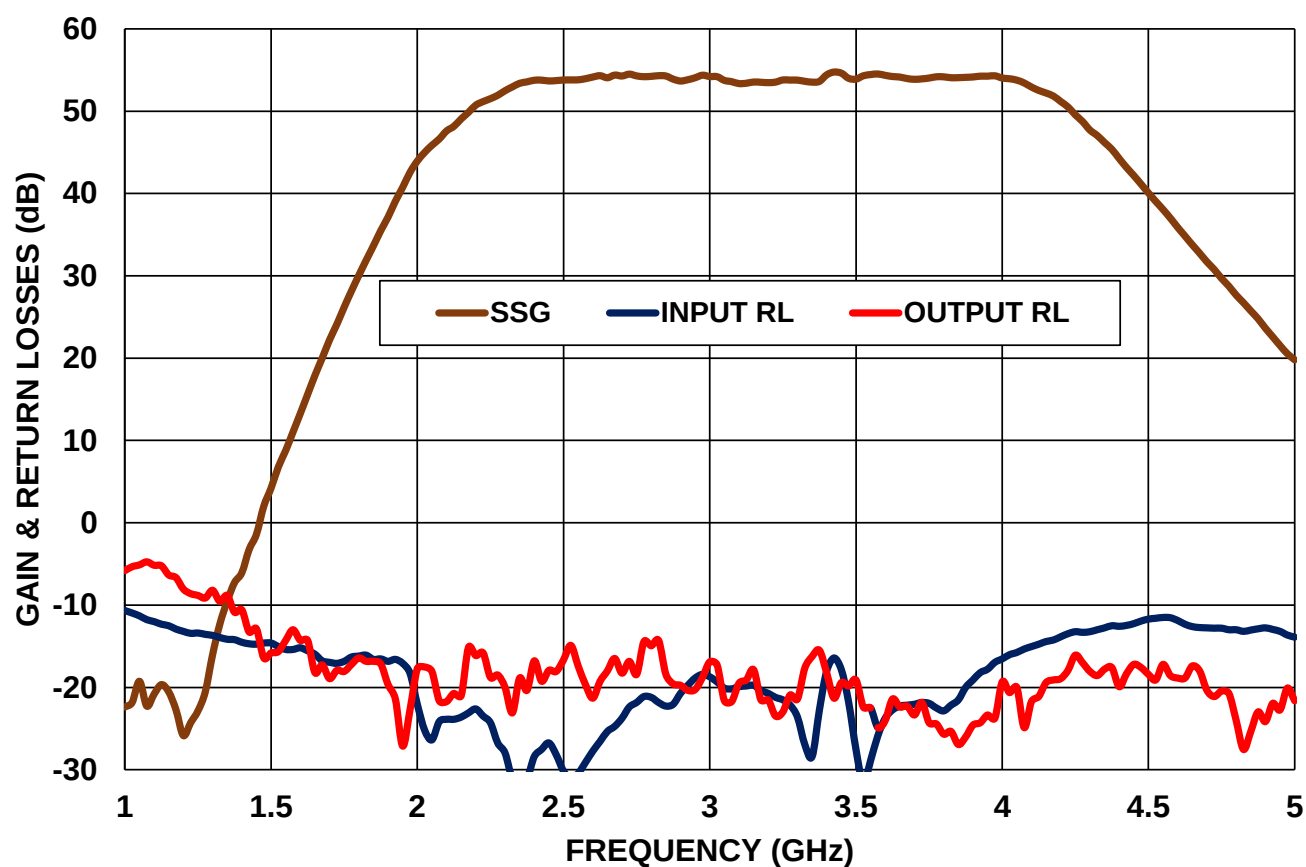
1- Specifications are subject to change without notice.

2- Proper heat sink should be used to remove heat from bottom of package.

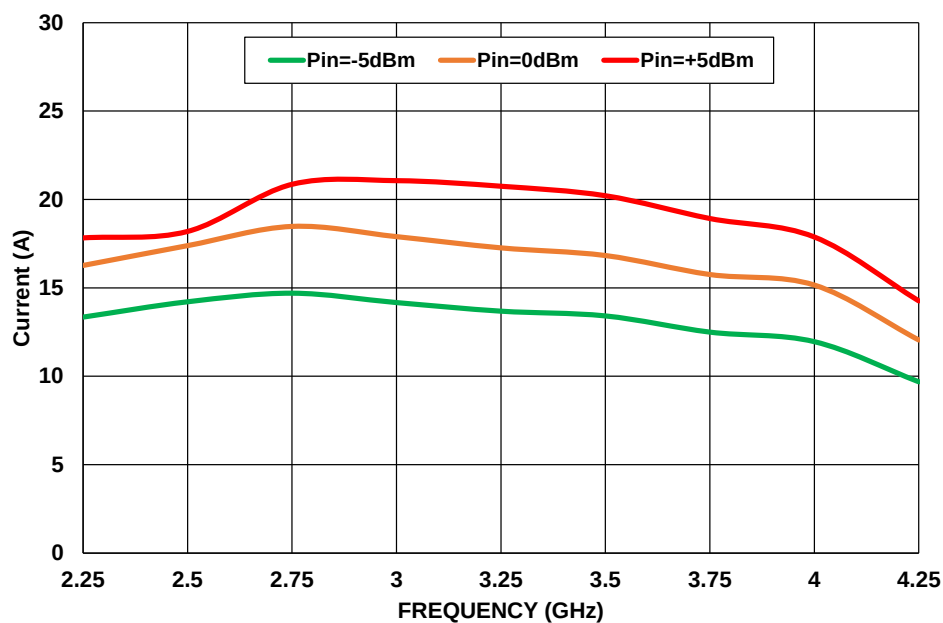
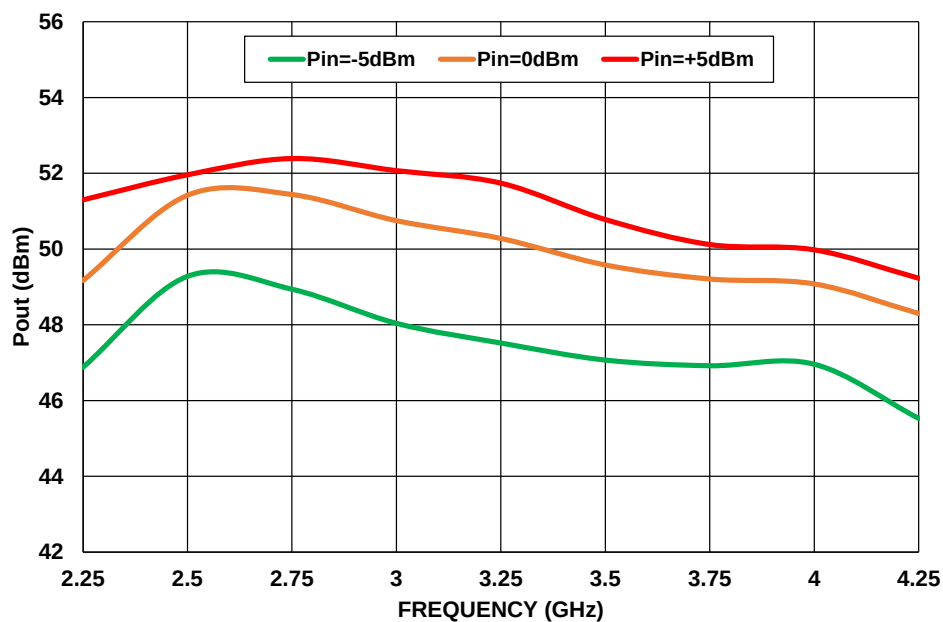
ABSOLUTE MAXIMUM RATING

Parameters	Symbol	Rating
Maximum RF input	RF _{in} Max	+6 dBm
Drain source voltage	V _{dd}	30V
TTL voltage	TTL	+6V
Continuous dissipation at 25°C	P _t	500W
Operating temperature	T _{op}	-40°C to +85°C
Storage temperature	T _{sto}	-55°C to +135°C

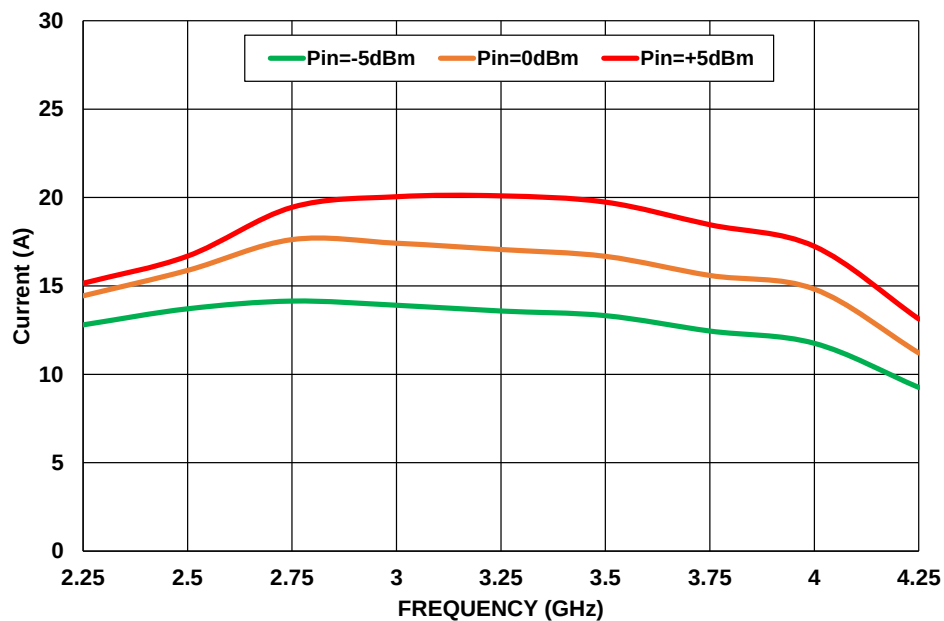
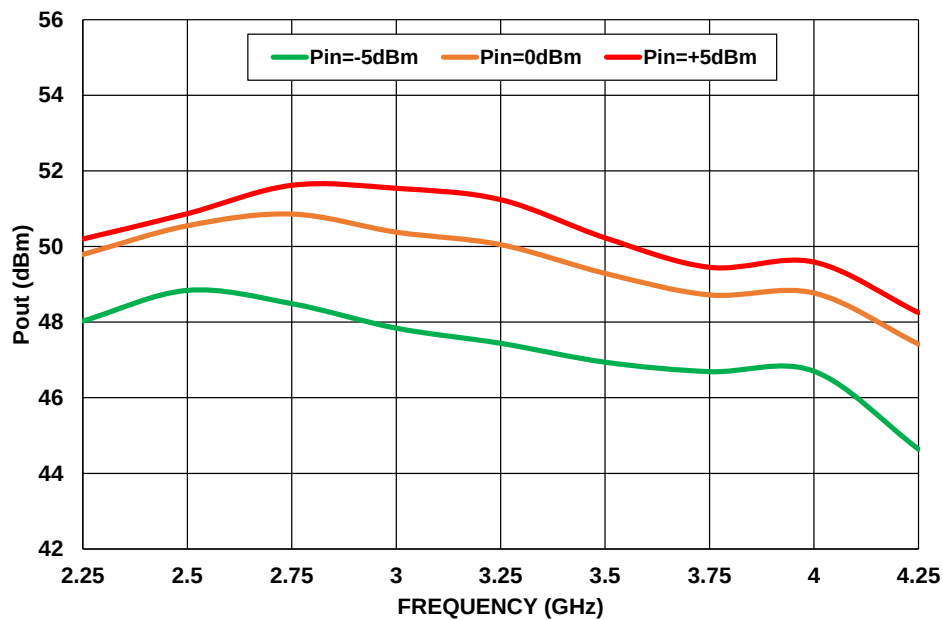
SMALL SIGNAL DATA



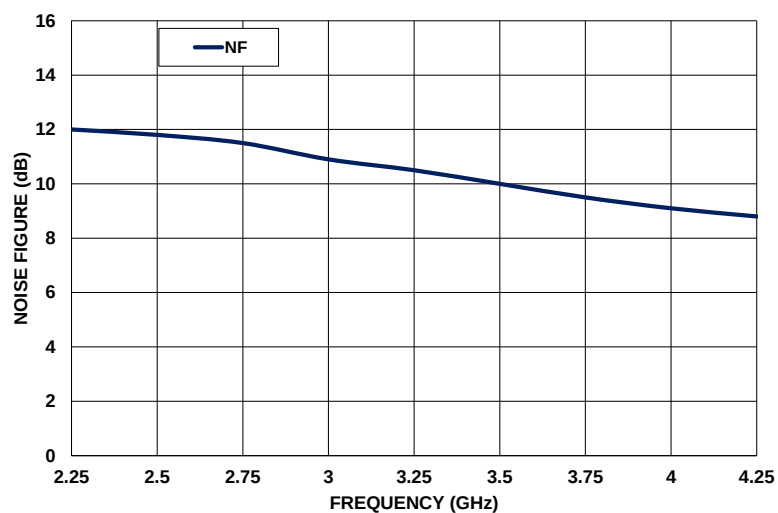
POWER DATA (+28V)



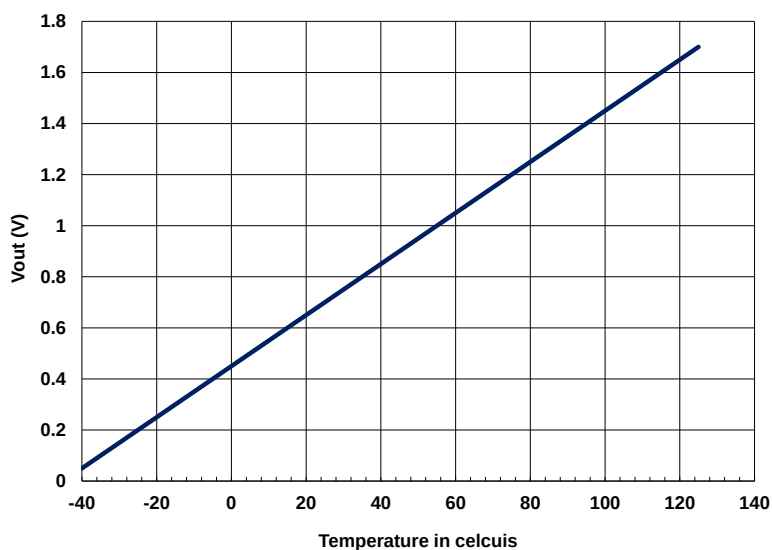
POWER DATA (+24V)



NOISE FIGURE

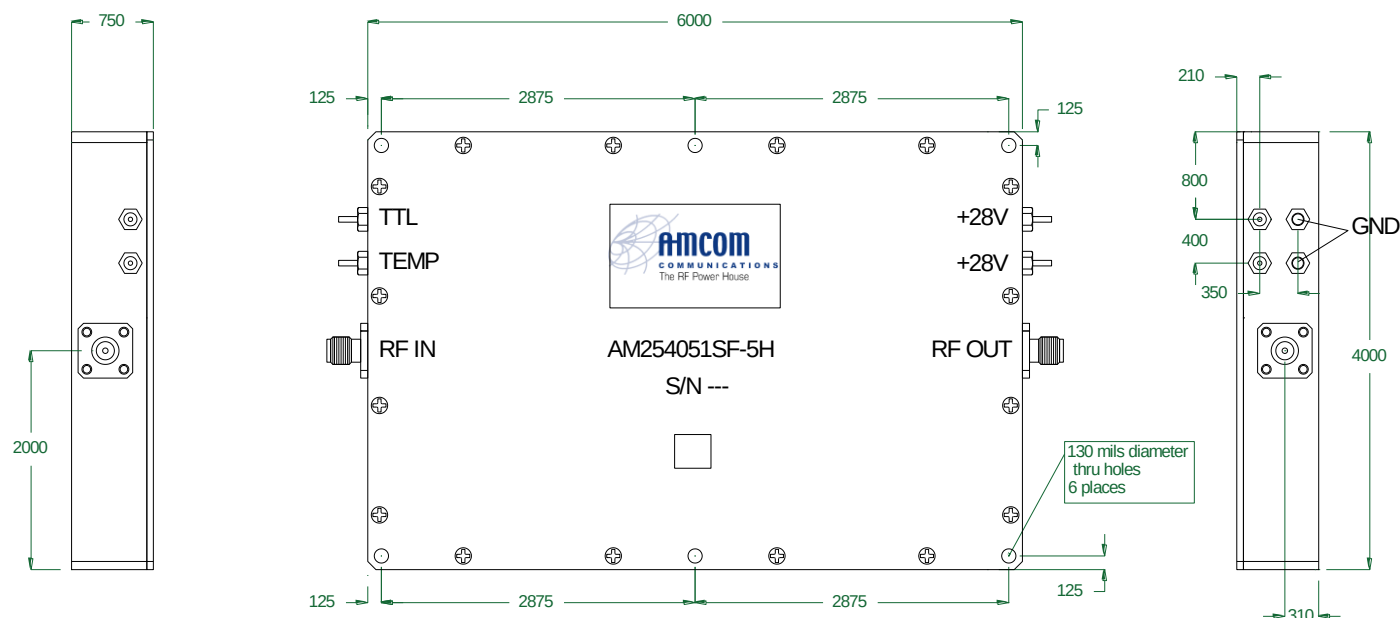


TEMPERATURE SENSOR



* $V_{out} = 0.45V + (T_{°C} \times 10mV)$, e.g for (50°C): $V_{out} = 0.45 + 0.01 \times 50 = 0.95V$

PACKAGE OUTLINE



NOTES:

- 1- Dimensions are in mils.
- 2- Aluminum housing with silver nickel plating.
- 3- Female SMA for RF input and output.
- 4- Use a heat sink to remove heat from the module.