

DESCRIPTION

AMCOM's AM052050SF-3H is a GaN Solid state power amplifier designed for general purpose applications. It operates from 0.4 GHz to 2.2 GHz and typically delivers 100 watts (50dBm) of CW output power and 47dB 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 7" (L) x 4" (W) x 0.75" (H).



REPRESENTATION ONLY

FEATURES

- Wide bandwidth from 0.4 to 2.2 GHz
- Psat 50 dBm, Gain 47 dB
- Input / Output matched to 50 Ohms
- TTL control & Temperature monitor

APPLICATIONS

- Radar
- Communication systems
- Instrumentation and measurements
- Military and Aerospace

TYPICAL PERFORMANCE * (Quiescent bias is +28V, I_{ddq}= 5.5A)

| Parameters | Minimum | Typical ** | Maximum |
|-------------------------------|---|-------------|----------|
| Frequency | 0.5-2 GHz | 0.4-2.2 GHz | |
| Small Signal Gain | 43 dB | 47 dB | |
| Gain Ripple | | ± 2 dB | ± 4.0 dB |
| Psat | 48.5 dBm | 50.5 dBm | |
| Current @ Psat | | 12.5 A | |
| IP3 | | 55 dBm | |
| Input Return Loss | | 10 dB | |
| Output Return Loss | | 10 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} x Temp in Celsius) e.g for (50°C) : V _{out} =0.45+0.01x50=0.95V | | |

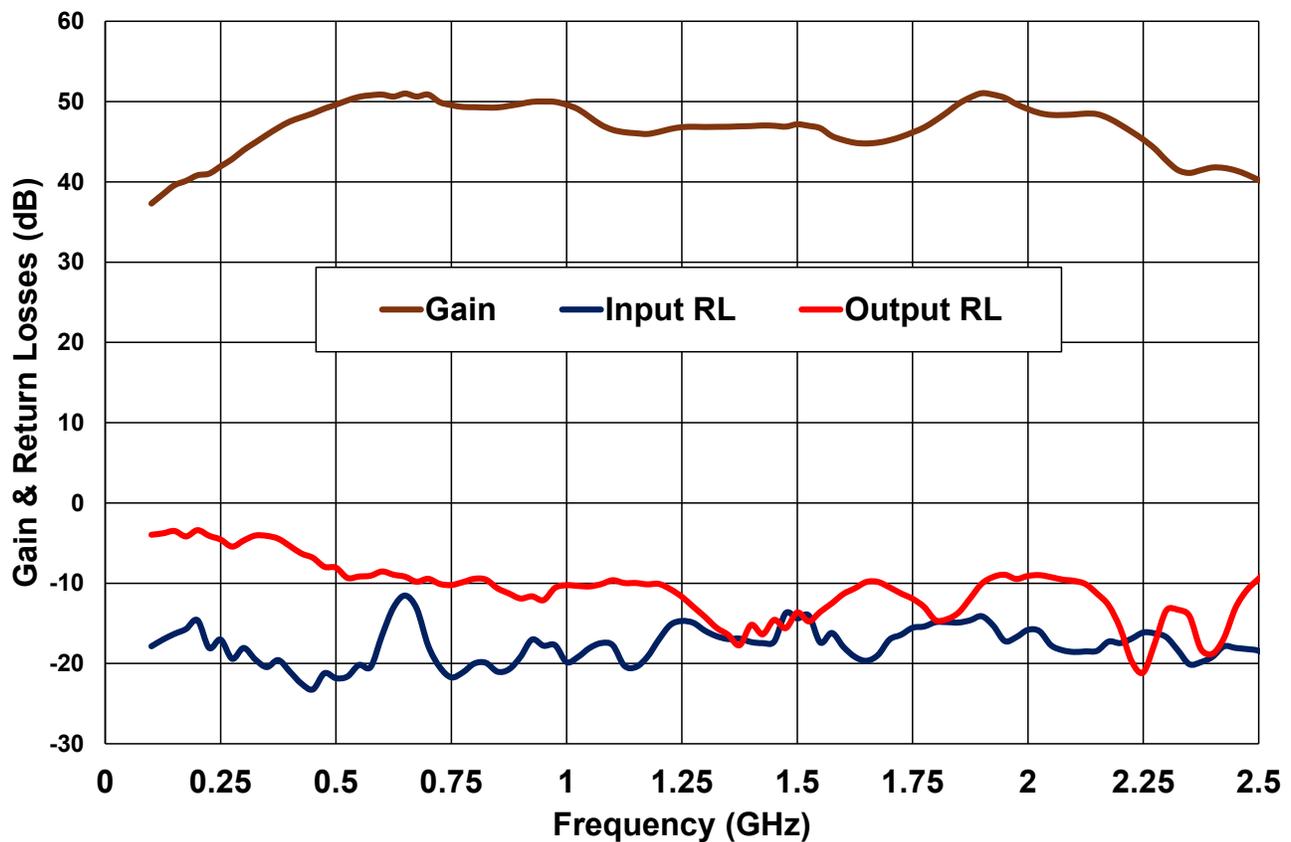
* Notes:

- 1- Specifications are subject to change without notice.
- 2- Proper heat sink should be used to remove heat from bottom of package.

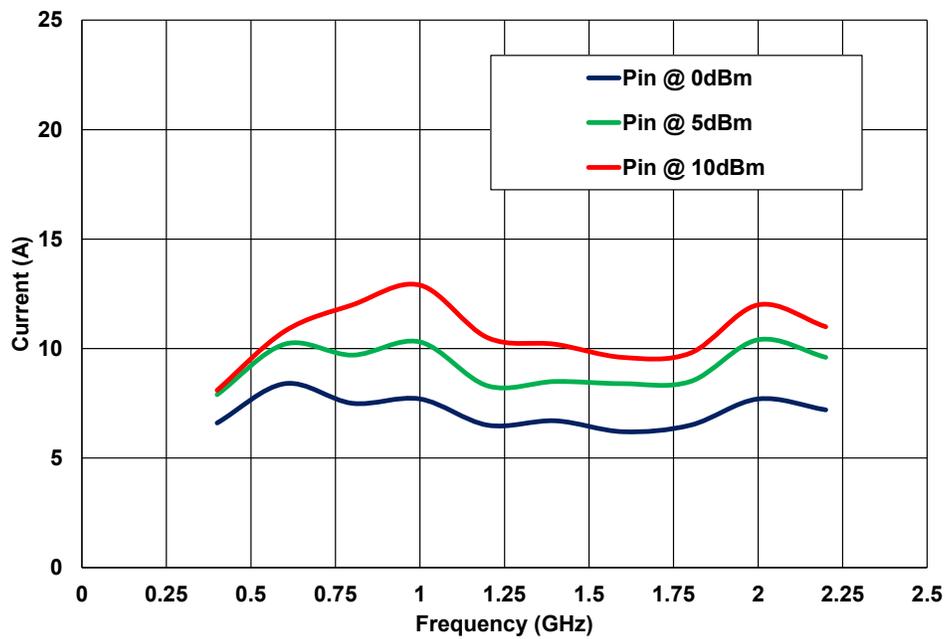
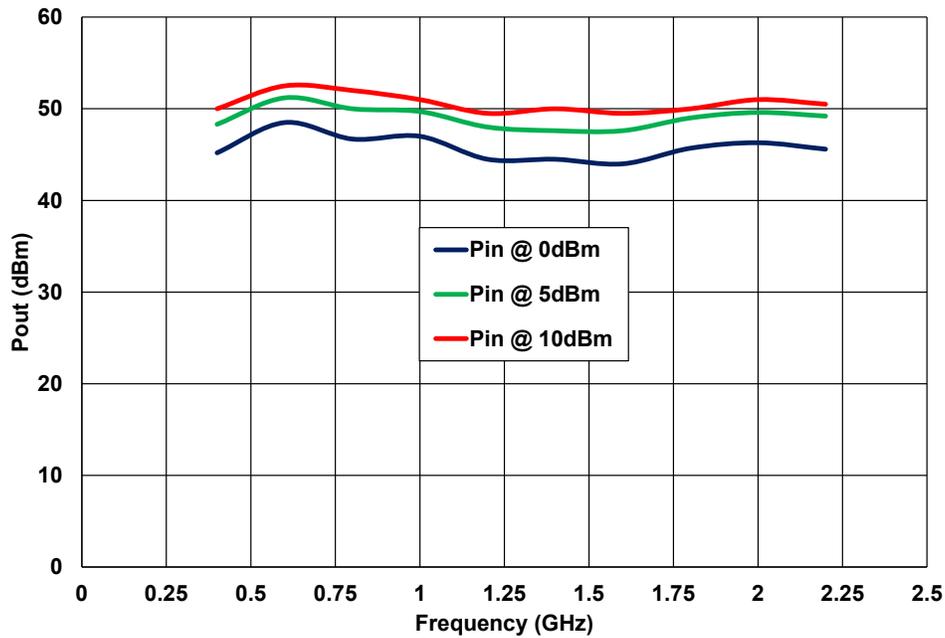
ABSOLUTE MAXIMUM RATING

| Parameters | Symbol | Rating |
|--------------------------------|----------------------|-----------------|
| Maximum RF input | RF _{in} Max | +12 dBm |
| Drain source voltage | V _{dd} | 30V |
| TTL voltage | TTL | +6V |
| Continuous dissipation at 25°C | P _t | 300W |
| Operating temperature | T _{op} | -40°C to +85°C |
| Storage temperature | T _{sto} | -55°C to +135°C |

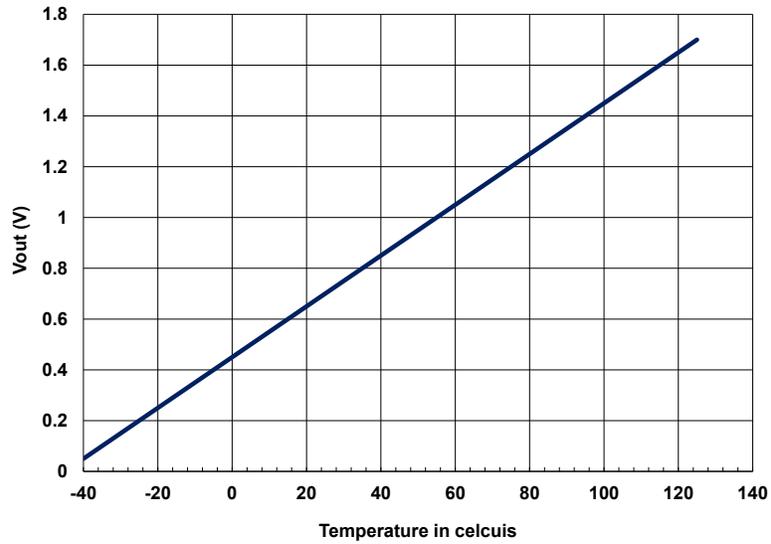
SMALL SIGNAL DATA



POWER DATA (+28V)

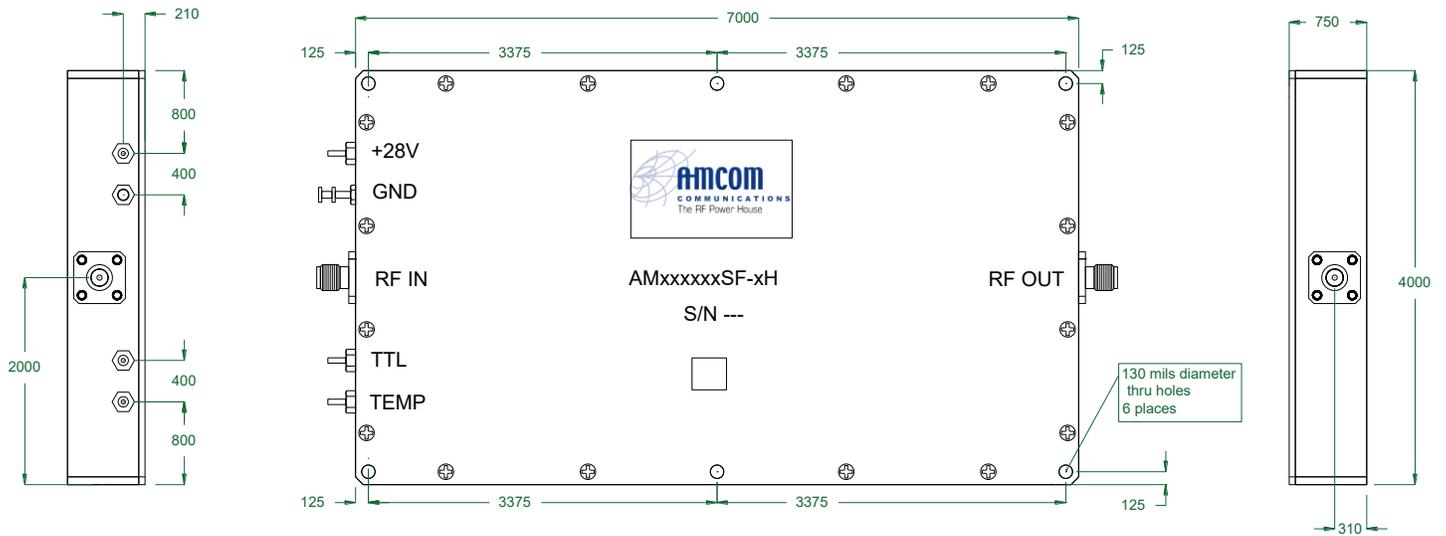


TEMPERATURE SENSOR



* $V_{out} = 0.45V + (T_{°C} \times 10mV)$, 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.