

DESCRIPTION

AMCOM's AM559038MD-3H is a broadband GaAs Power Amplifier module designed for general purpose applications. It operates from 5.5GHz to 9.0GHz and typically delivers 7watts (38.5dBm) of CW output power and 24dB small signal gain. The amplifier module has 4 screw slots for mounting to a heat sink. This amplifier module is compact and light weight at 2.2" (L) x 2.2" (W) x 0.65" (H).



FEATURES

- Wide bandwidth from 5.5 to 9.0GHz
- Psat 38.5dBm, Gain 24 dB
- Input / Output matched to 50 Ohms
- TTL control
- Temperature monitor
- Thermal Shutdown for Temp > 95°C

APPLICATIONS

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

TYPICAL PERFORMANCE * (Quiescent bias is +12V, I_{ddq}= 2.6 A)

| Parameters | Minimum | Typical ** | Maximum |
|-------------------------------|--|----------------|----------|
| Frequency | 6 – 9 GHz | 5.5 – 9.25 GHz | |
| Small Signal Gain | 20 dB | 24 dB | 29 dB |
| Gain Ripple | | ± 2.5 dB | ± 5.0 dB |
| P _{1dB} | | 37 dBm | |
| P _{3dB} | 36 dBm | 38 dBm | |
| Current @ P _{3dB} | | 3.7A | |
| Noise Figure | | 10 dB | |
| IP3 | | 48dBm | |
| Input Return Loss | | 10 dB | |
| Output Return Loss | | 6 dB | |
| Temperature Sensor Output (V) | V _{out} =0.45V+(10 _{mV} x Temp in Celsius) e.g for (50°C) : V _{out} =0.45+.01x50=0.95V | | |
| TTL RF ON/OFF | <1V for OFF , >2.5 V for ON | | |

* Notes:

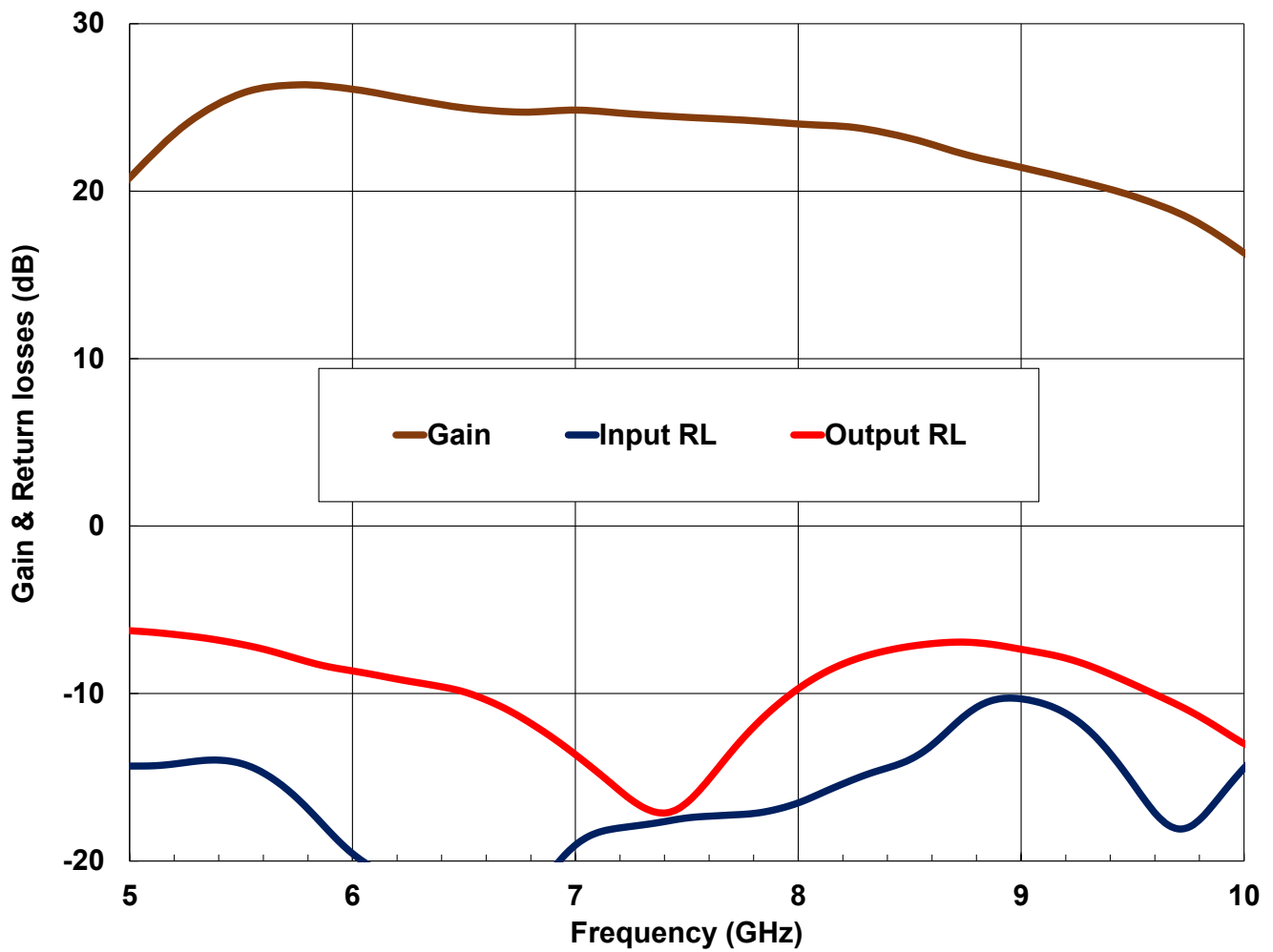
1- Specifications are subject to change without notice.

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

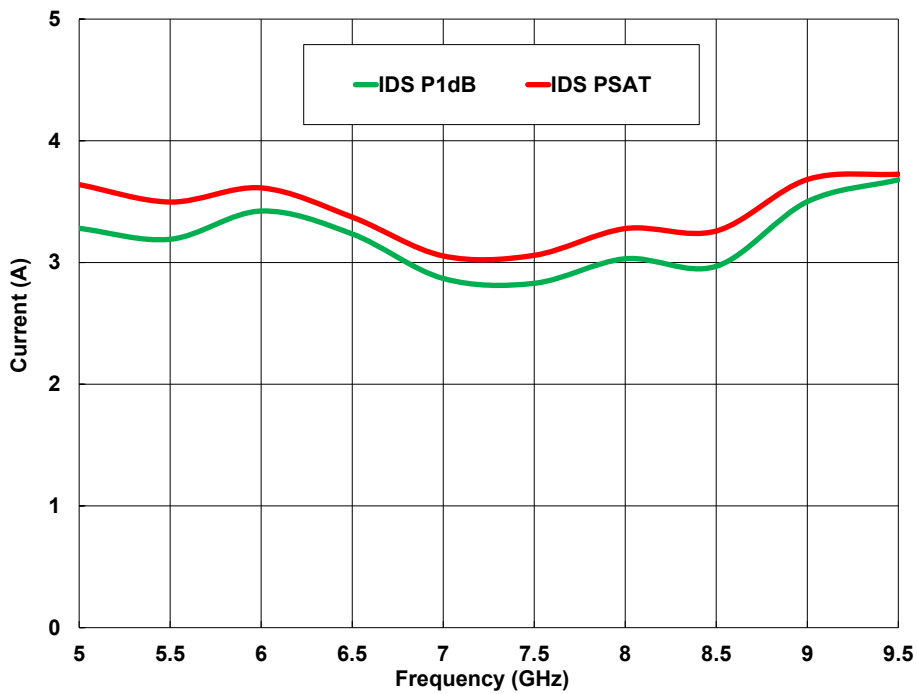
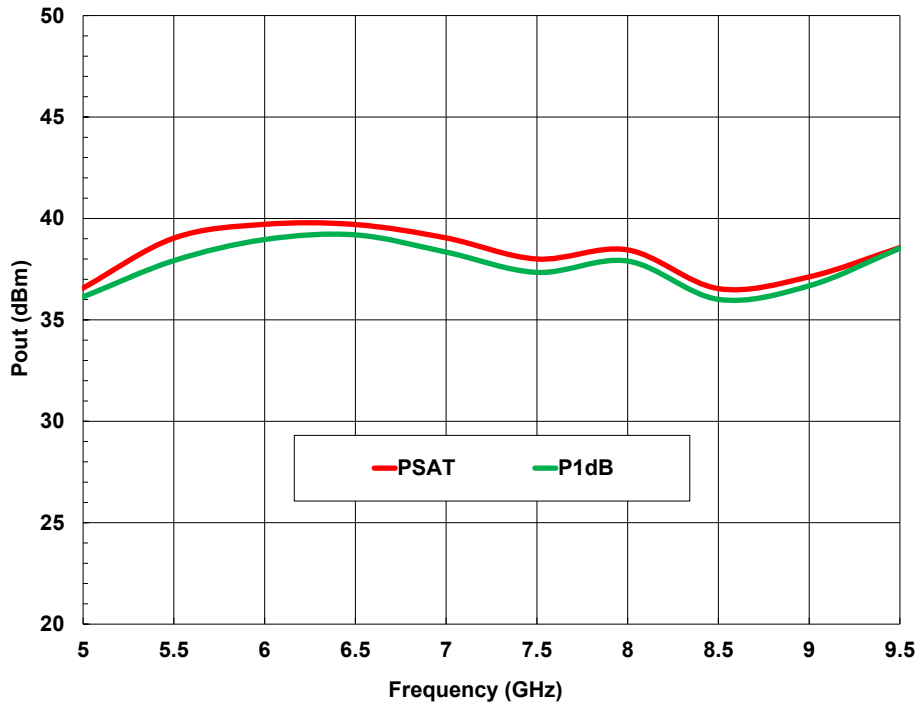
ABSOLUTE MAXIMUM RATING

| Parameters | Symbol | Rating |
|--------------------------------|-----------|-----------------|
| Drain source voltage | V_{dd} | 15V |
| Continuous dissipation at 25°C | P_t | 55W |
| Operating temperature | T_{op} | -40°C to +85°C |
| Storage temperature | T_{sto} | -55°C to +135°C |

SMALL SIGNAL DATA

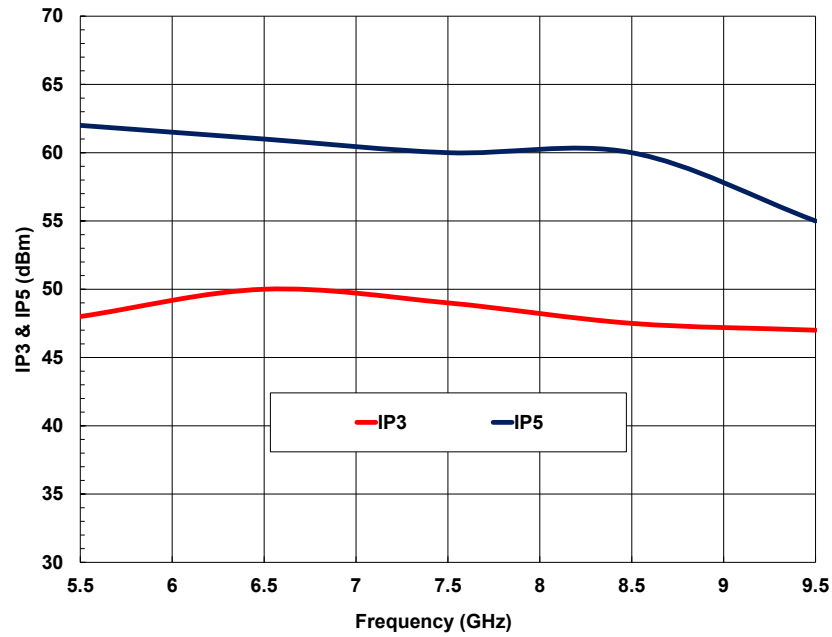


POWER DATA

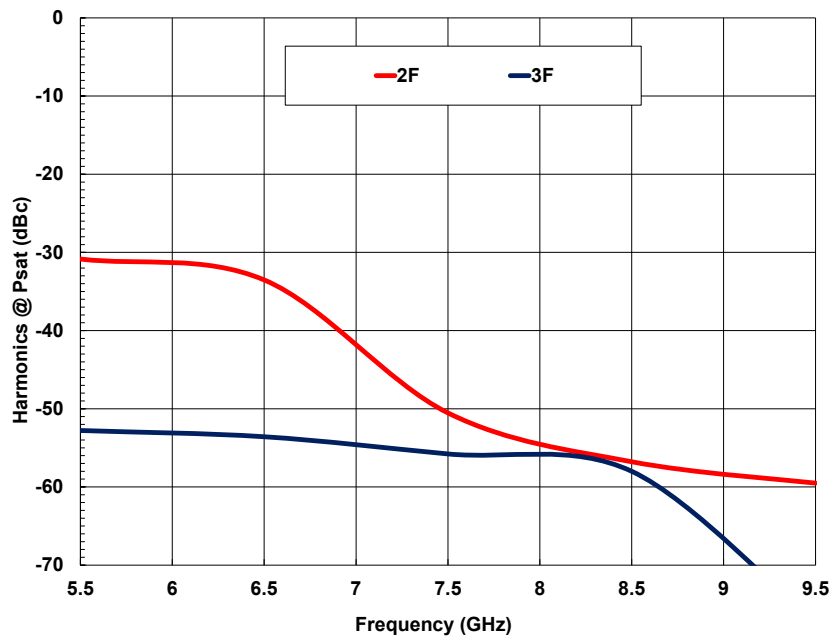


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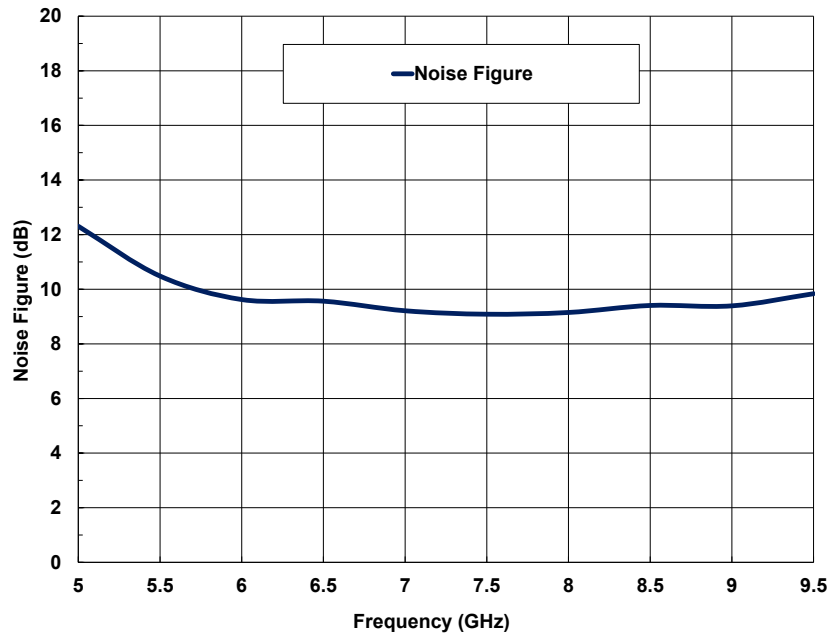
INTERMODULATION DISTORTION



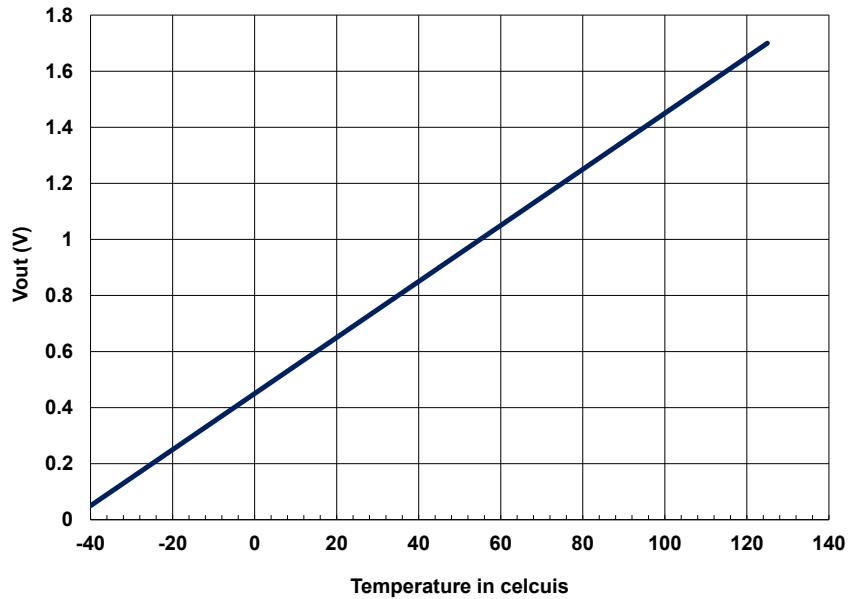
HARMONICS



NOISE FIGURE



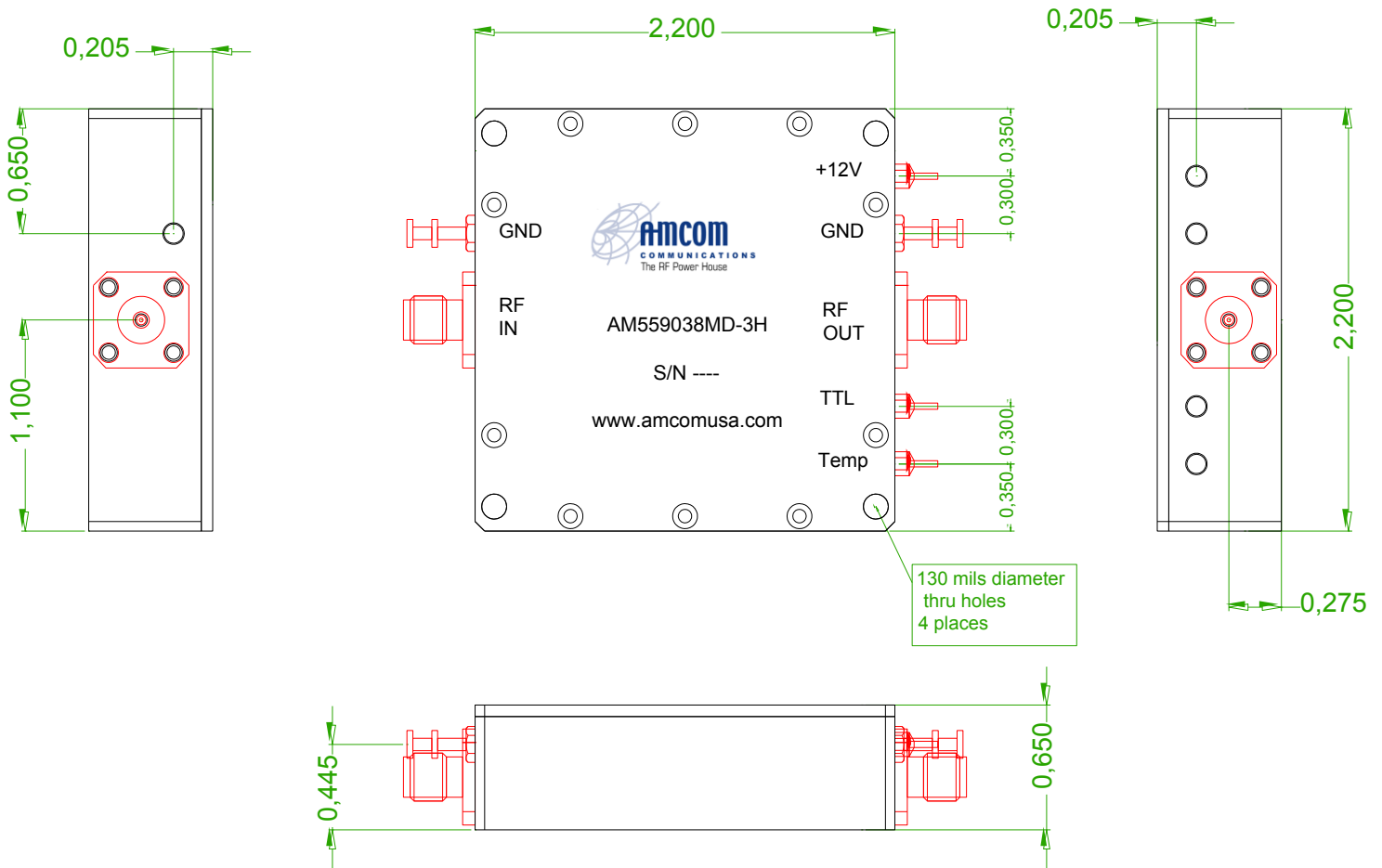
TEMPERATURE SENSOR



* $V_{out} = 0.45V + (T_{C} \times 10mV)$, e.g for (50°C) : $V_{out} = 0.45 + .01 \times 50 = 0.95V$.

* Thermal shutdown protection for high temperatures > 95°C.

PACKAGE OUTLINE



NOTES:

- 1- Dimensions are in inches.
- 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.