

## DESCRIPTION

AMCOM's AM004040MD-2H is a broadband GaN Power Amplifier module designed for general purpose applications. It operates from 0.05 GHz to 4 GHz and typically delivers 10 watts (40dBm) of CW output power and 24 dB 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 0.05 to 4 GHz
- Psat 40dBm, Gain 24 dB
- Input / Output matched to 50 Ohms
- TTL control
- Temperature monitor
- Thermal Shutdown for Temp > 95°C

## APPLICATIONS

- Software Radio
- Broadband Communications
- Instrumentation and measurements
- Military and Aerospace

## TYPICAL PERFORMANCE \* (Quiescent bias is +40V, I<sub>ddq</sub>= 1 A)

Parameters	Minimum	Typical **	Maximum
Frequency	0.1 – 3.5 GHz	0.05 - 4.0 GHz	
Small Signal Gain	21 dB	24 dB	
Gain Ripple		± 1.5 dB	± 3.0 dB
P <sub>1dB</sub>		36 dBm	
P <sub>5dB</sub>	38 dBm	40 dBm	
Current @ P <sub>5dB</sub>		1.4 A	
Noise Figure		TBD	
IP3		TBD	
Input Return Loss		15 dB	
Output Return Loss		5 dB	
Temperature Sensor Output (V)	V <sub>out</sub> =0.45V+(10 <sub>mV</sub> x Temp in Celsius) e.g for (50°C) : V <sub>out</sub> =0.45+.01x50=0.95V		
TTL RF ON/OFF	<1V for OFF , >2.5 V for ON		

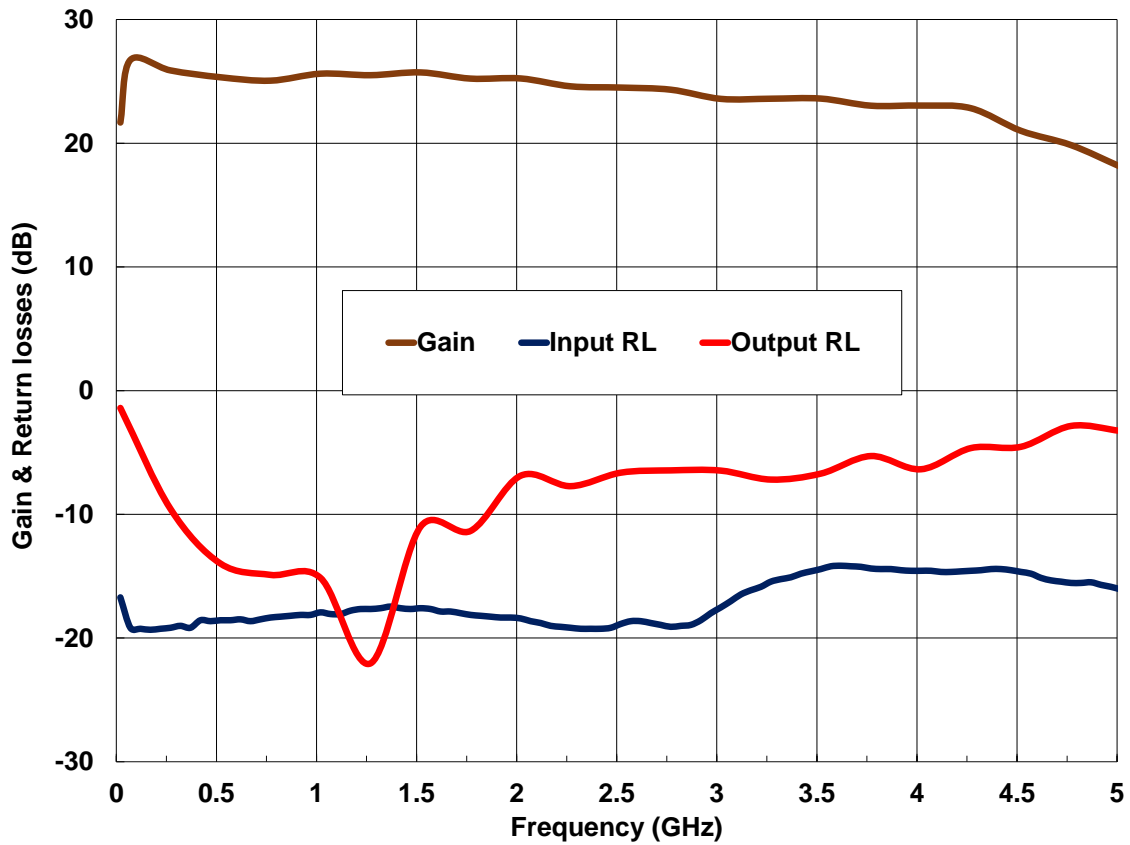
\* Notes:

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

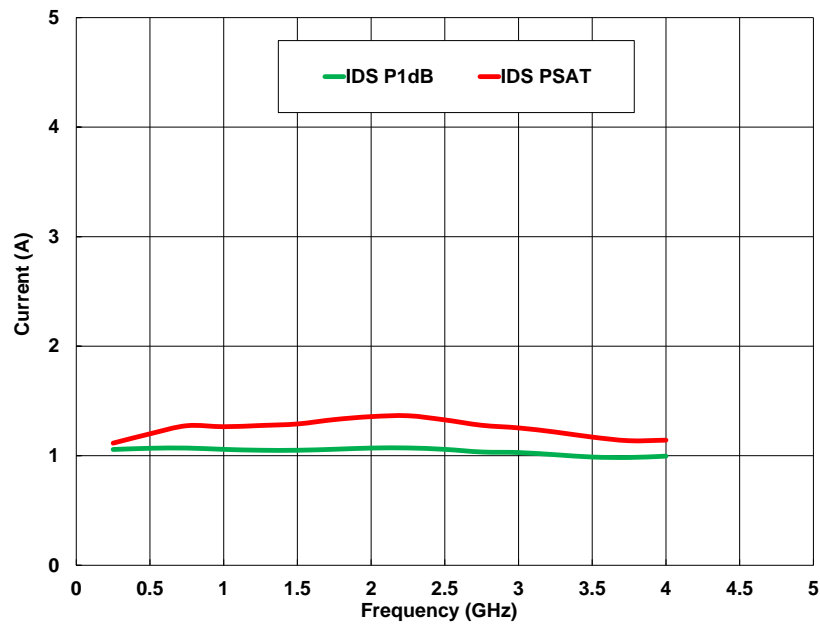
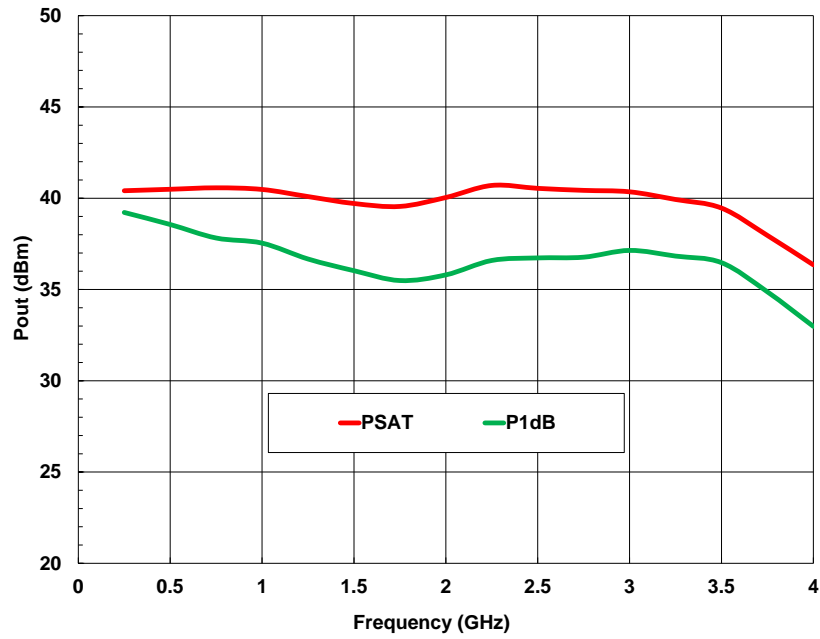
**ABSOLUTE MAXIMUM RATING**

Parameters	Symbol	Rating
Drain source voltage	V <sub>dd</sub>	45V
Continuous dissipation at 25°C	P <sub>t</sub>	100W
Operating temperature	T <sub>op</sub>	-40°C to +85°C
Storage temperature	T <sub>sto</sub>	-55°C to +135°C

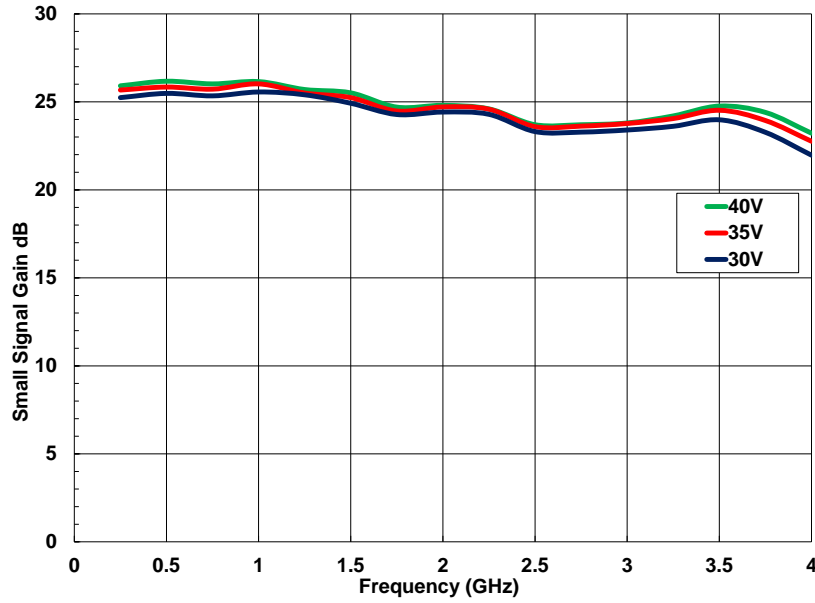
**SMALL SIGNAL DATA**



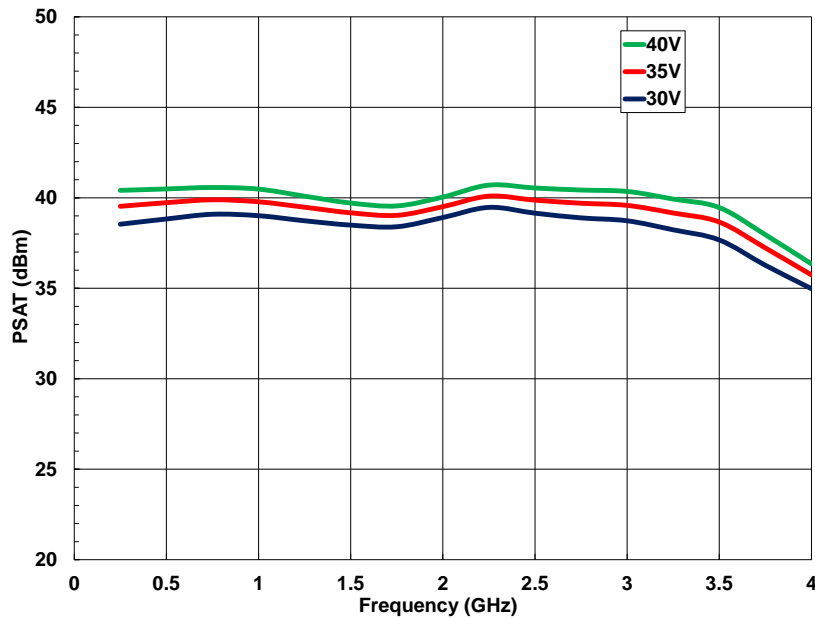
POWER DATA (40V / 1A)



Small Signal Gain Vs  $V_{dd}$

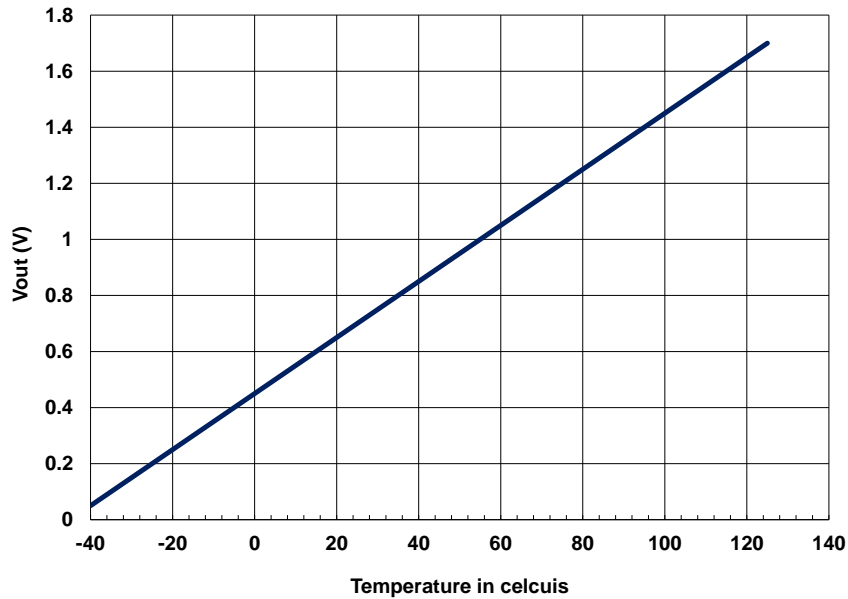


$P_{out}$  Vs  $V_{dd}$



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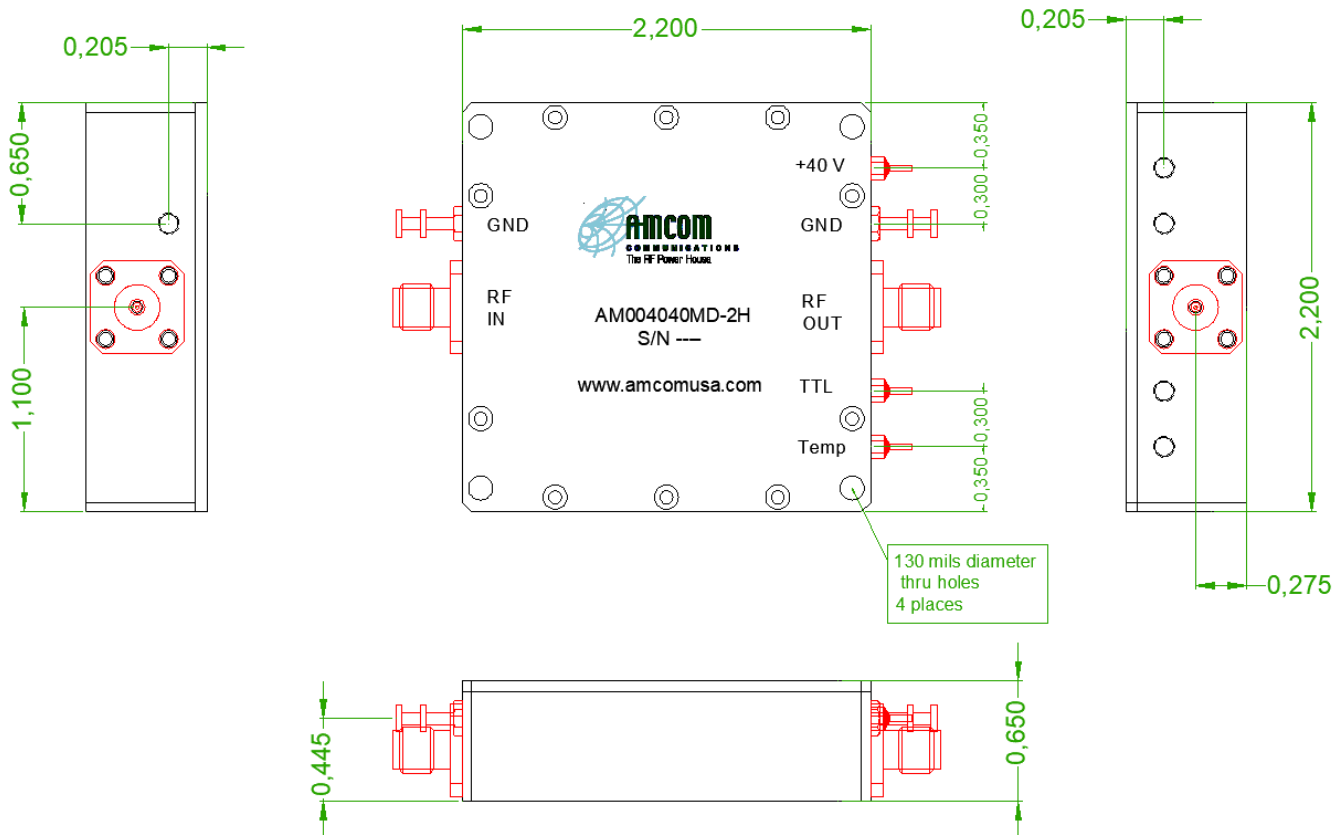
TEMPERATURE SENSOR



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