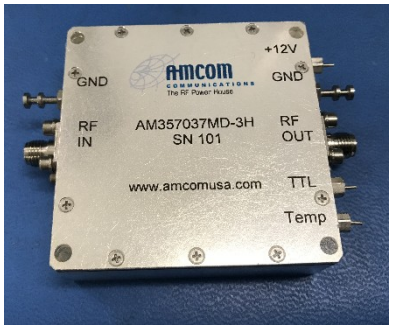
Power Amplifier Module
3.5 – 7.0 GHz, 24dB, 6W

AM357037MD-3H
March 2019
Rev 0

DESCRIPTION

AMCOM's AM357037MD-3H is a broadband GaAs Power Amplifier module designed for general purpose applications. It operates from 3.5GHz to 7.0 GHz and typically delivers 6 watts (38dBm) 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 3.5 to 7.0 GHz
- Psat 38 dBm, Gain 24dB
- 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}= 2.1A)

Parameters	Minimum	Typical **	Maximum
Frequency	4.0 –6.5 GHz	3.5 – 7.0 GHz	
Small Signal Gain	20 dB	24 dB	29 dB
Gain Ripple		± 1.5 dB	± 3 dB
P_{1dB}		36 dBm	
P_{3dB}	35.5 dBm	37.5 dBm	
Current @ P_{3dB}		3.3 A	
Noise Figure		11 dB	
IP3		45dBm	
Input Return Loss	10	15 dB	
Output Return Loss		5 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

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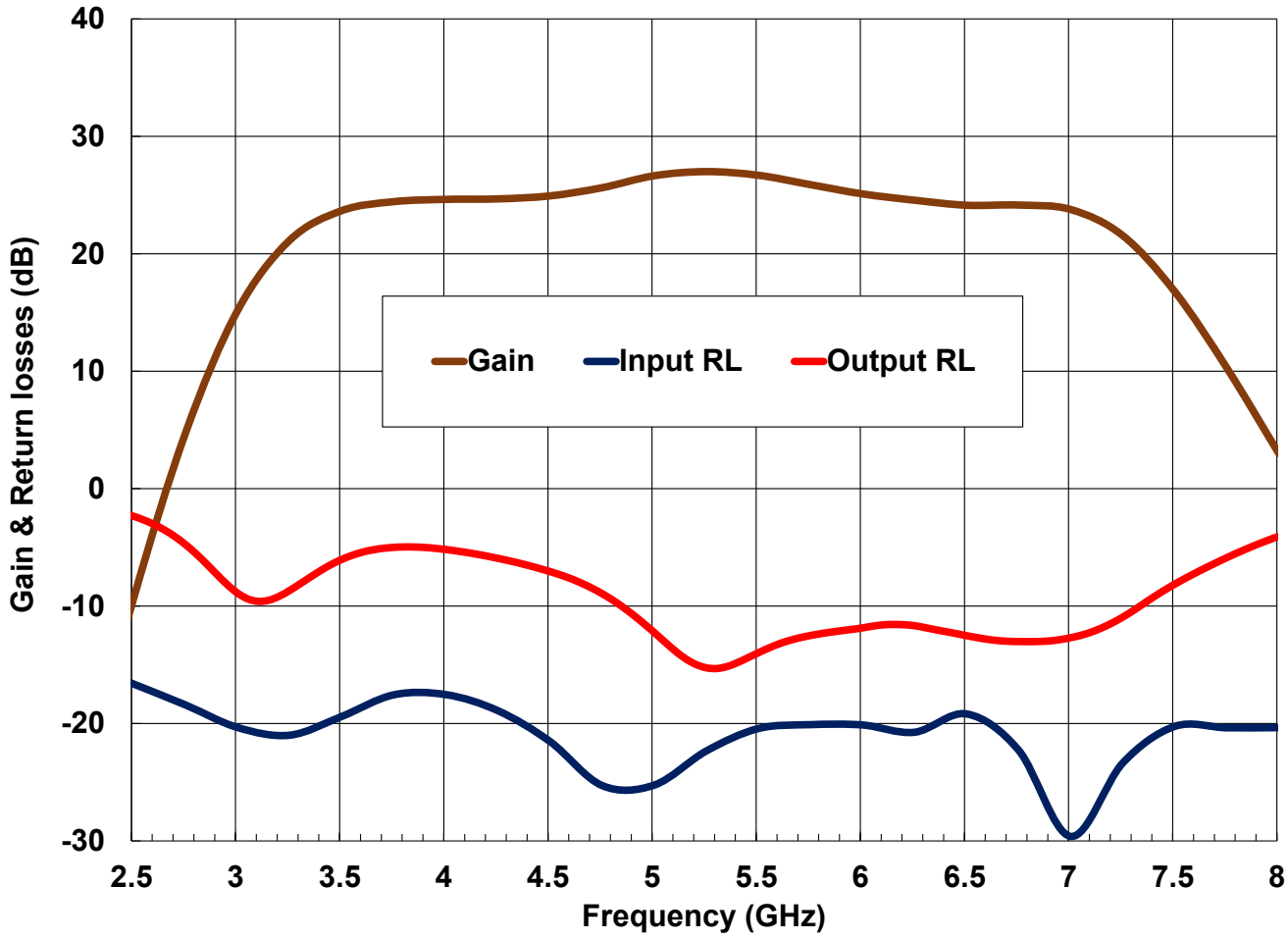
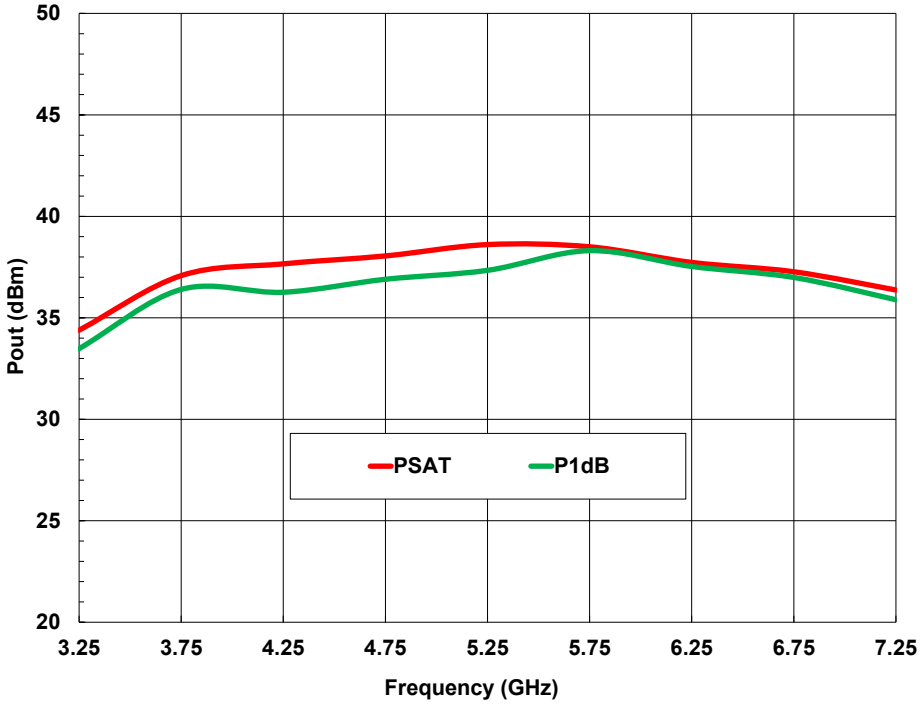
ABSOLUTE MAXIMUM RATING

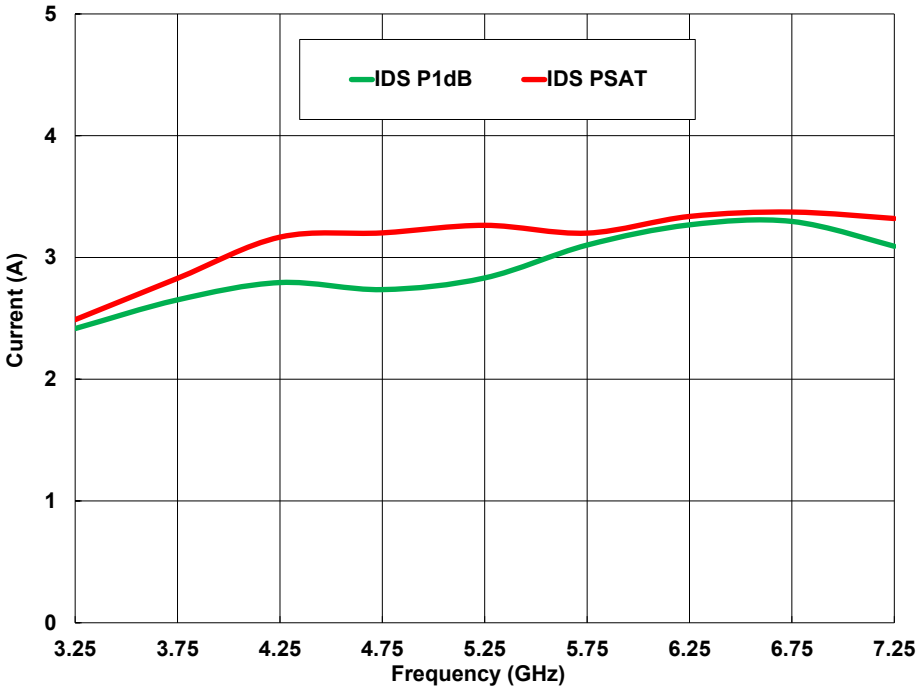
Parameters	Symbol	Rating
Drain source voltage	V_{dd}	15V
Continuous dissipation at 25ºC	P_t	50W
Operating temperature	T_{op}	-40°C to +85°C
Storage temperature	T_{sto}	-55°C to +135°C

SMALL SIGNAL DATA

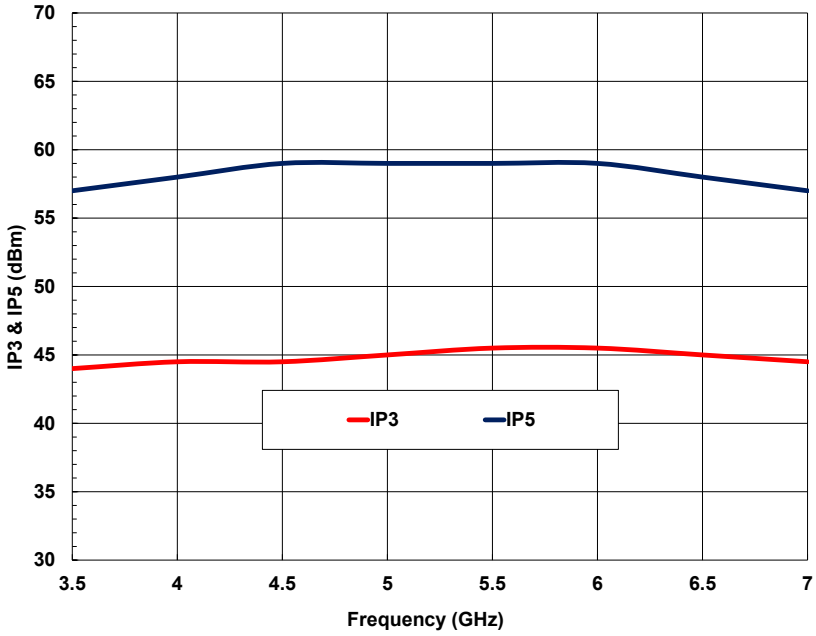


POWER DATA

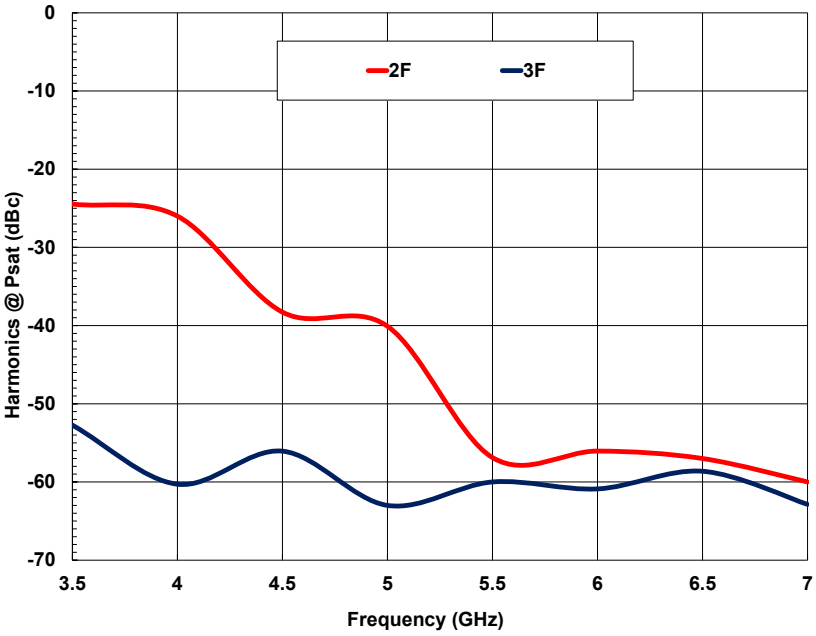

50
45
40
35
30
25
20
Pout (dBm)
PSAT
P1dB
3.25
3.75
4.25
4.75
5.25
5.75
6.25
6.75
7.25
Frequency (GHz)


5
4
3
2
1
0
Current (A)
IDS P1dB
IDS PSAT
3.25
3.75
4.25
4.75
5.25
5.75
6.25
6.75
7.25
Frequency (GHz)

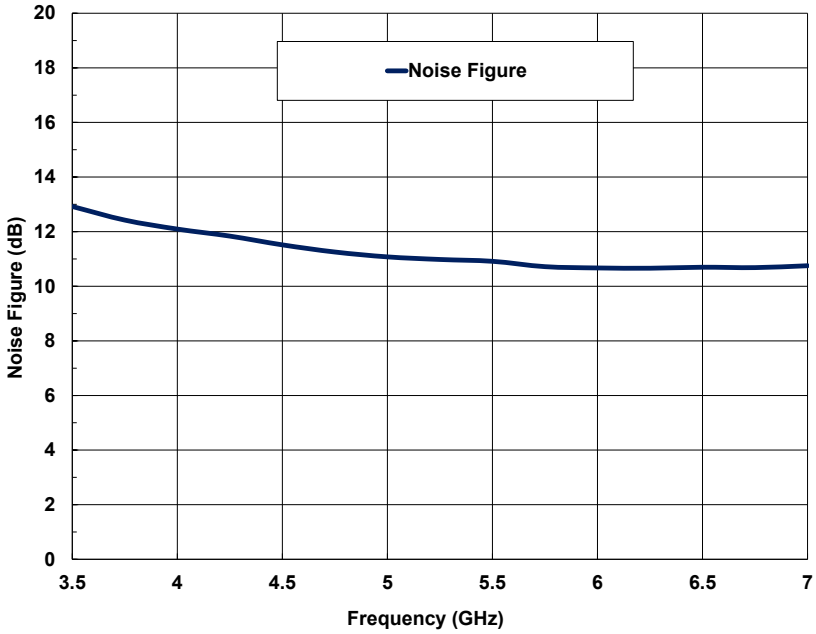
INTERMODULATION DISTORTION



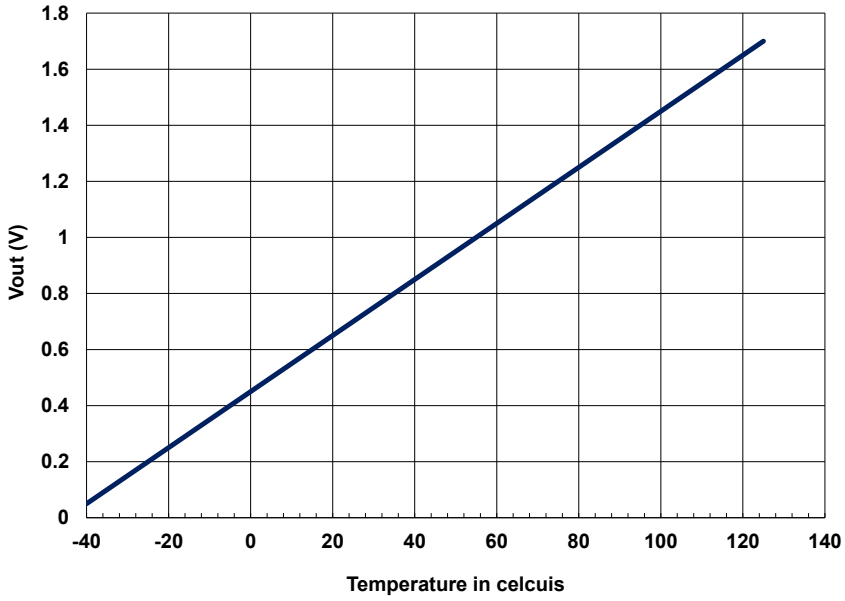
HARMONICS



NOISE FIGURE

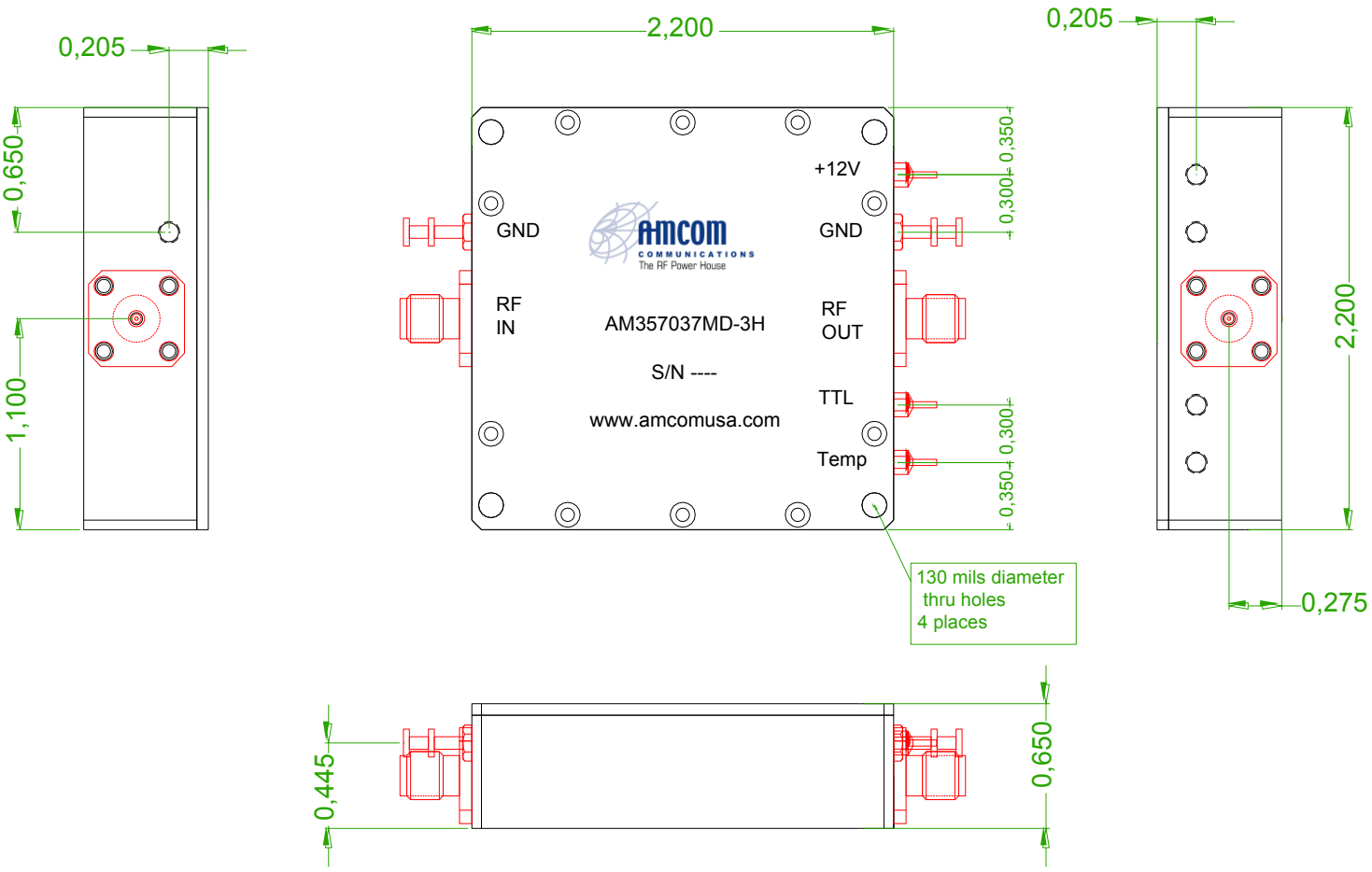


TEMPERATURE SENSOR



* V_{out}= 0.45V + ($T_{°C}$ x 10mV) , e.g for (50°C) : V_{out}=0.45+.01x50=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.