

DESCRIPTION

AMCOM's AM07512042MD-3H is a broadband GaN Power Amplifier module designed for general purpose applications. It operates from 7.5 GHz to 12 GHz and typically delivers 15 watts (42dBm) of CW output power and 28 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 7.5 to 12 GHz
- Psat 42dBm, Gain 28 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 +32V, I_{ddq}= 1.6A)

Parameters	Minimum	Typical **	Maximum
Frequency	8 - 11.5 GHz	7.5 - 12 GHz	
Small Signal Gain	25 dB	28 dB	31 dB
Gain Ripple		± 1.5 dB	± 3.0 dB
P _{1dB}		37 dBm	
P _{5dB}	40 dBm	42 dBm	
Current @ P _{5dB}		2.6A	
Noise Figure		8.5 dB	
IP3		47dBm	
Input Return Loss		10 dB	
Output Return Loss		7 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		

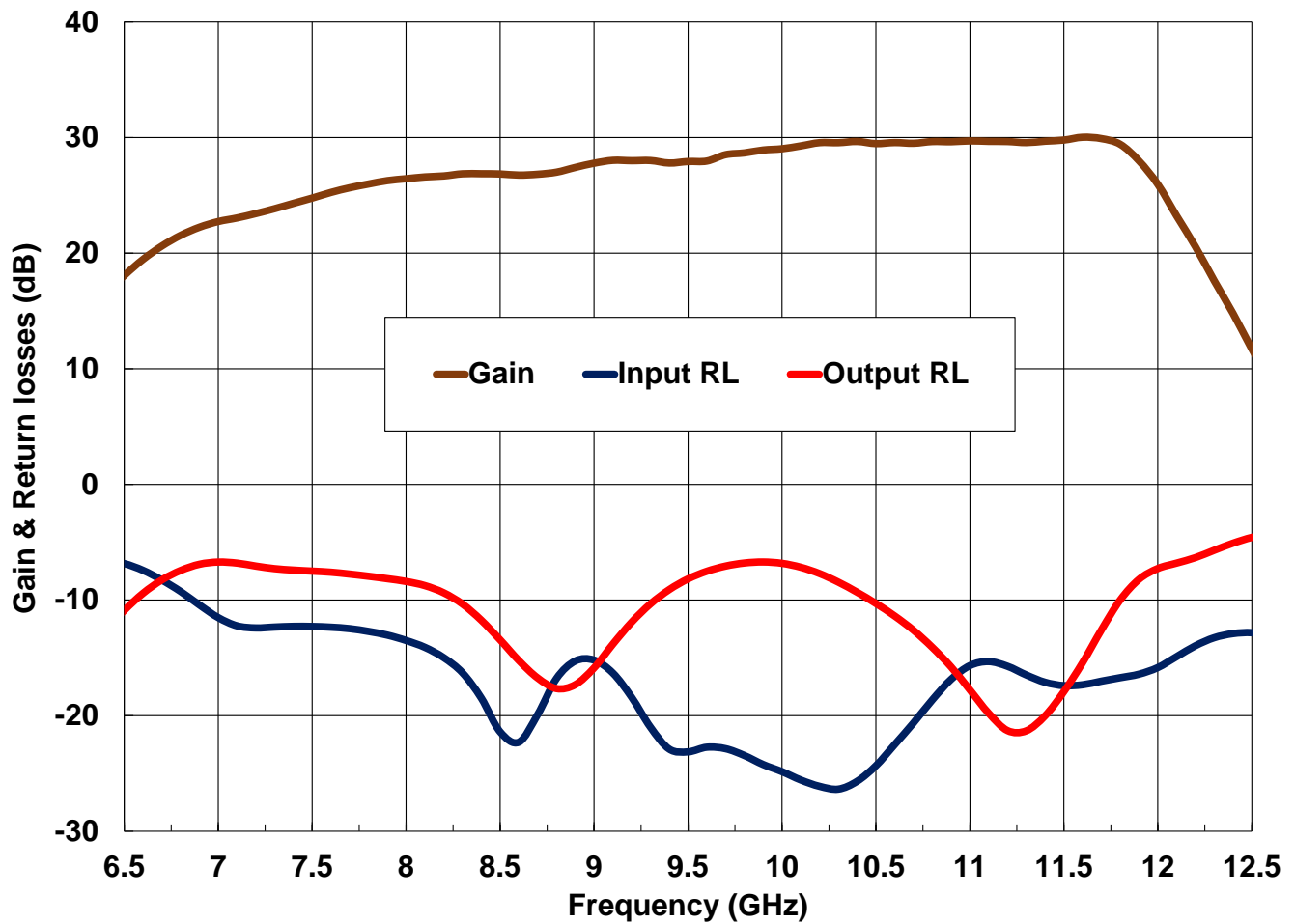
* Notes:

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

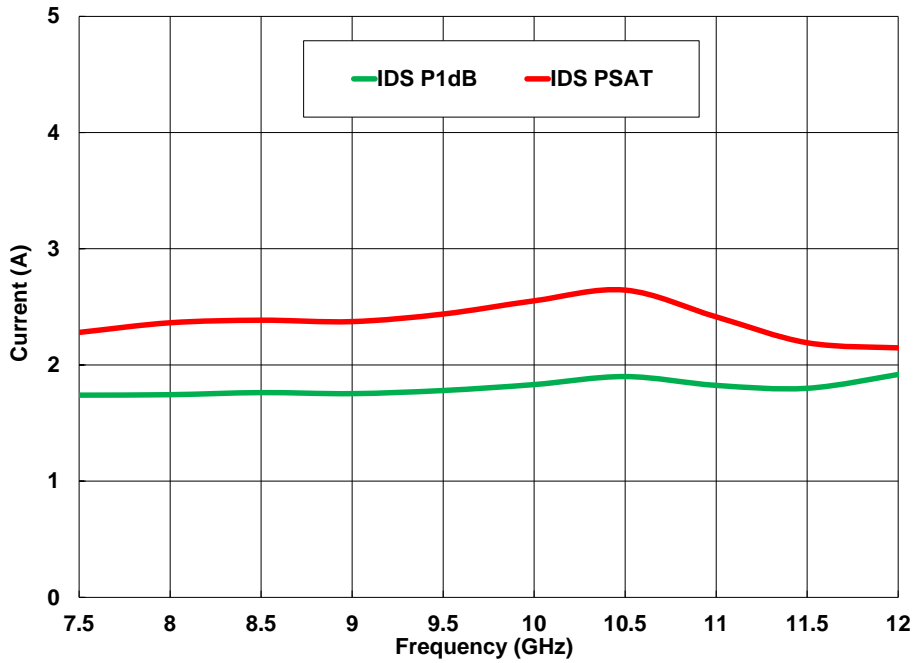
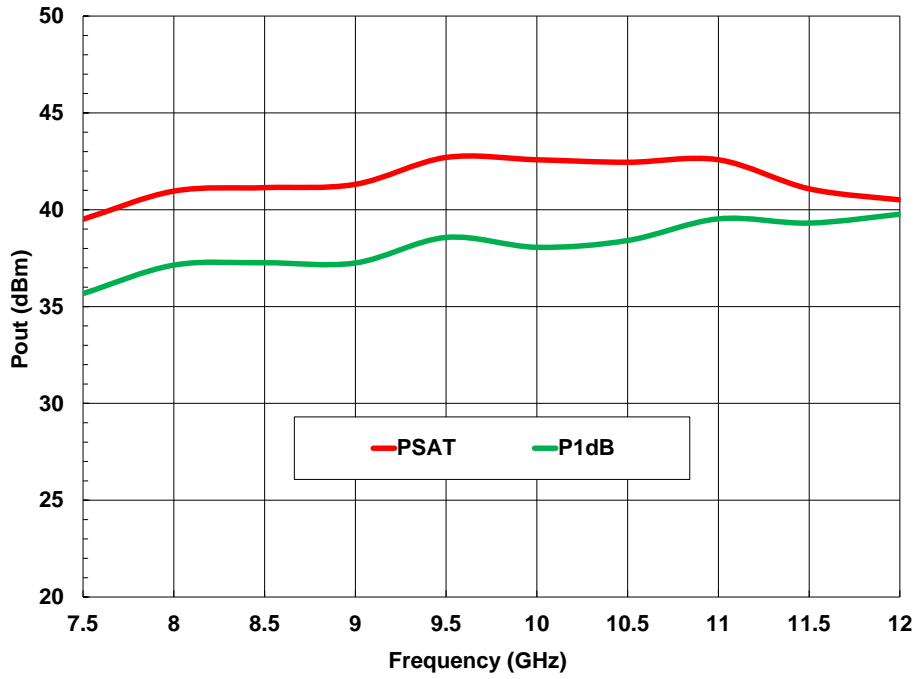
ABSOLUTE MAXIMUM RATING

Parameters	Symbol	Rating
Drain source voltage	V _{dd}	36V
Continuous dissipation at 25°C	P _t	100W
Operating temperature	T _{op}	-40°C to +85°C
Storage temperature	T _{sto}	-55°C to +135°C

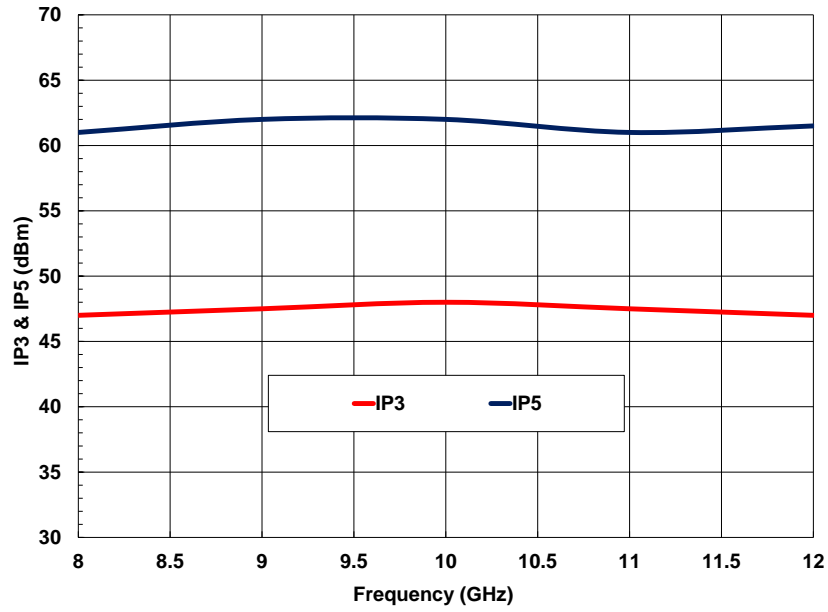
SMALL SIGNAL DATA



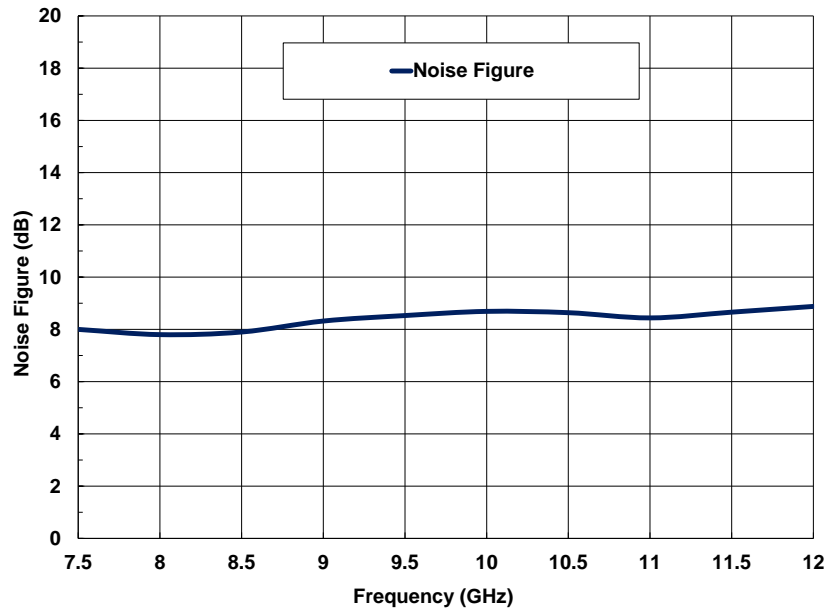
POWER DATA



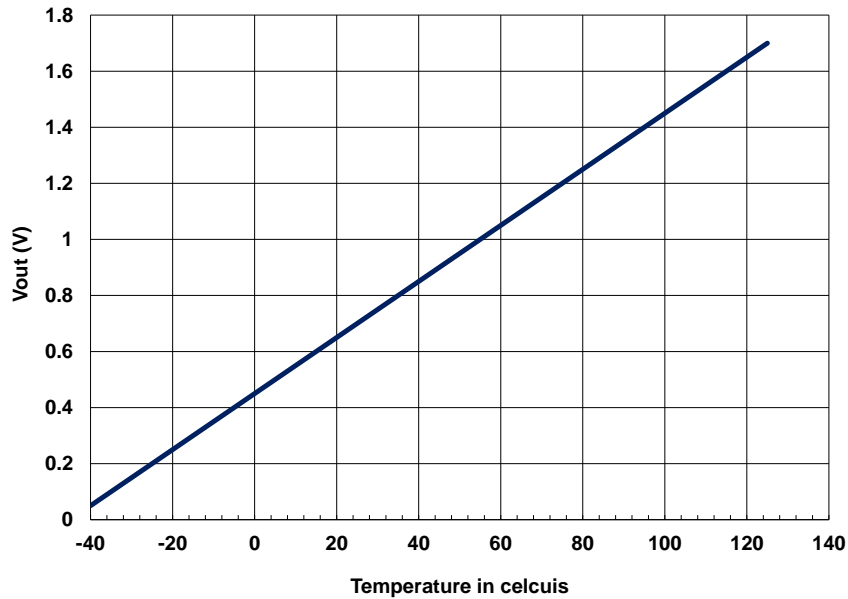
INTERMODULATION DISTORTION



NOISE FIGURE



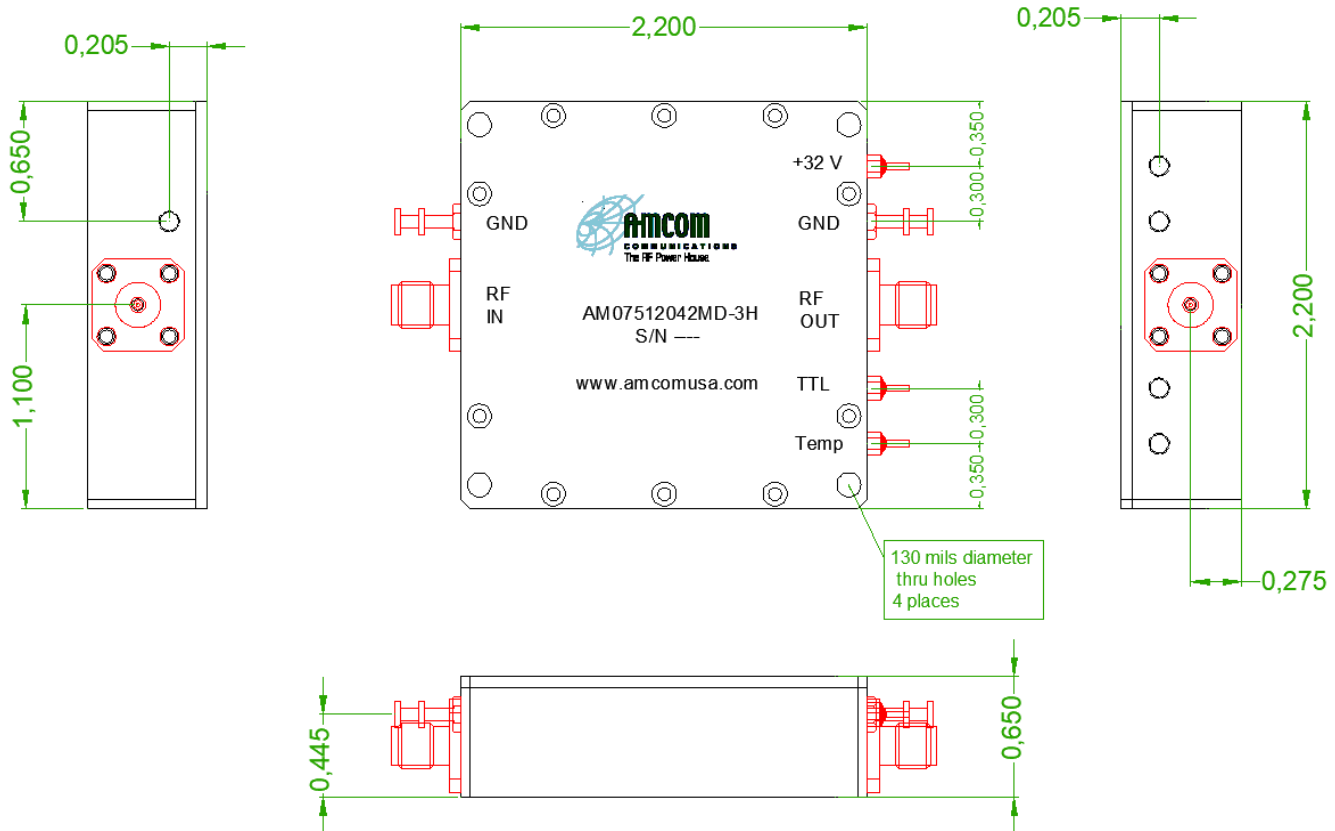
TEMPERATURE SENSOR



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