Power Amplifier Module
7.5 – 11.2 GHz, 26dB, 14W

AM07511242SF-3H
March 2017
Rev 0

DESCRIPTION

AMCOM's AM07511242-3H is a broadband GaAs Power Amplifier module. It is designed for general purpose applications. It operates from 7.5GHz to 11.2GHz and typically delivers 14 watts (41.5dBm) of CW output power and 22.5dB small signal gain. The amplifier module has 6 screw slots for mounting to a heat sink, and operates using a single +12V to +15V supply. This amplifier module is compact at 6.0" (L) x 3.6" (W) x 0.75" (H).

FEATURES

- Wide bandwidth from 7.5 to 11.2 GHz
- 41.5dBm of saturated CW output power
- Gain, 22.5dB
- Input / Output matched to 50 Ohms

APPLICATIONS

- Radar
- Fixed microwave backhaul
- Instrumentation

TYPICAL PERFORMANCE * (Quiescent bias is (+12V to +15V), I_{dq}= 5.6A)

Parameters	Minimum	Typical **	Maximum
Frequency	8 –10.5GHz	7.8-11.2 GHz	
Small Signal Gain	20 dB	22.5 dB	26 dB
Gain Ripple		± 2.0 dB	
P_{1dB}		40.5 dBm	
P_{3dB}	39.5 dBm	41.5 dBm	
Ids @ P_{1dB}		9A	
Ids @ P_{3dB}		10A	
Noise Figure		11 dB	
IP3		45 dBm	
Harmonics (2*F @ P1dBdBm)		-60 dBc	
Input Return Loss		10 dB	
Output Return Loss		10 dB	

* 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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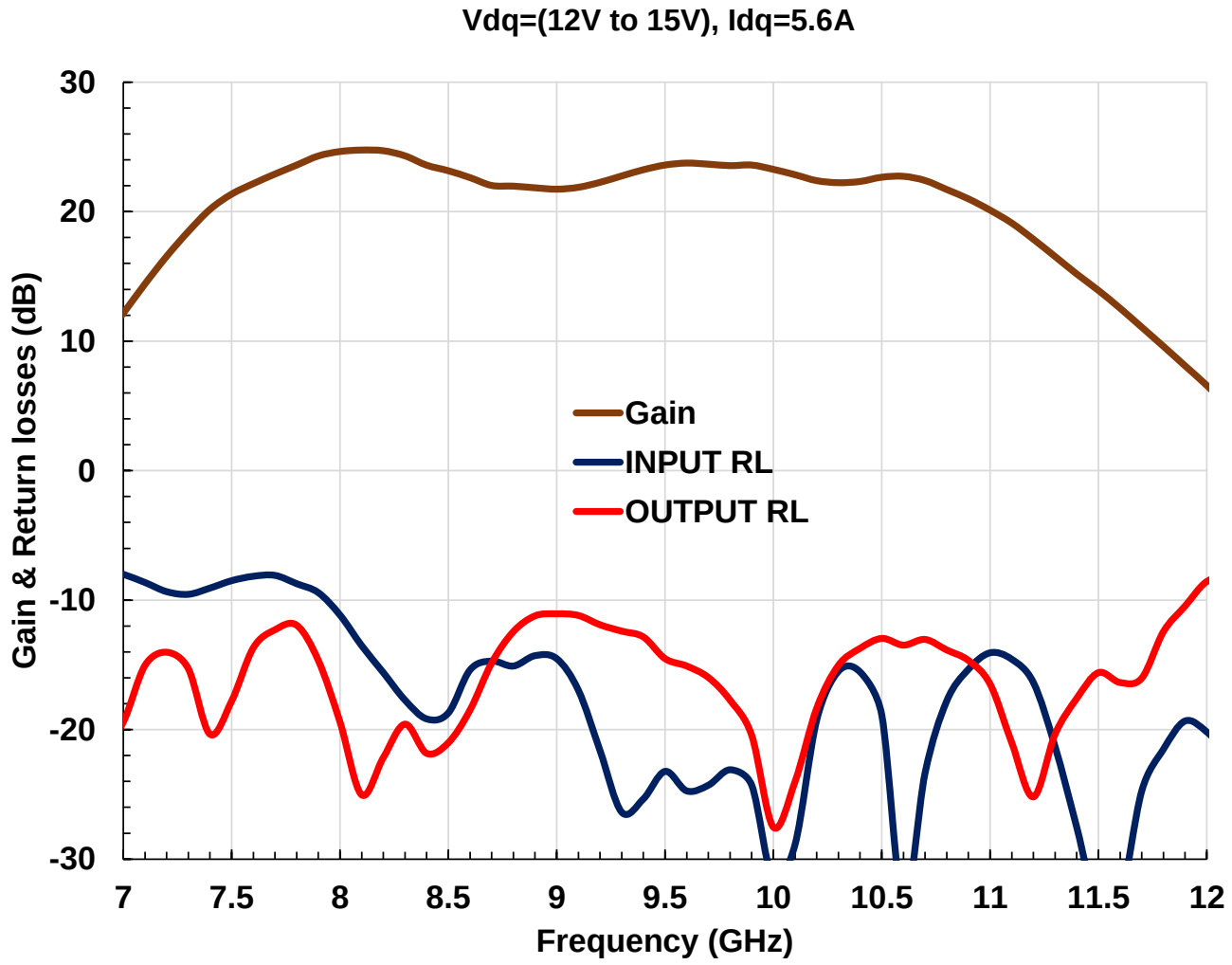
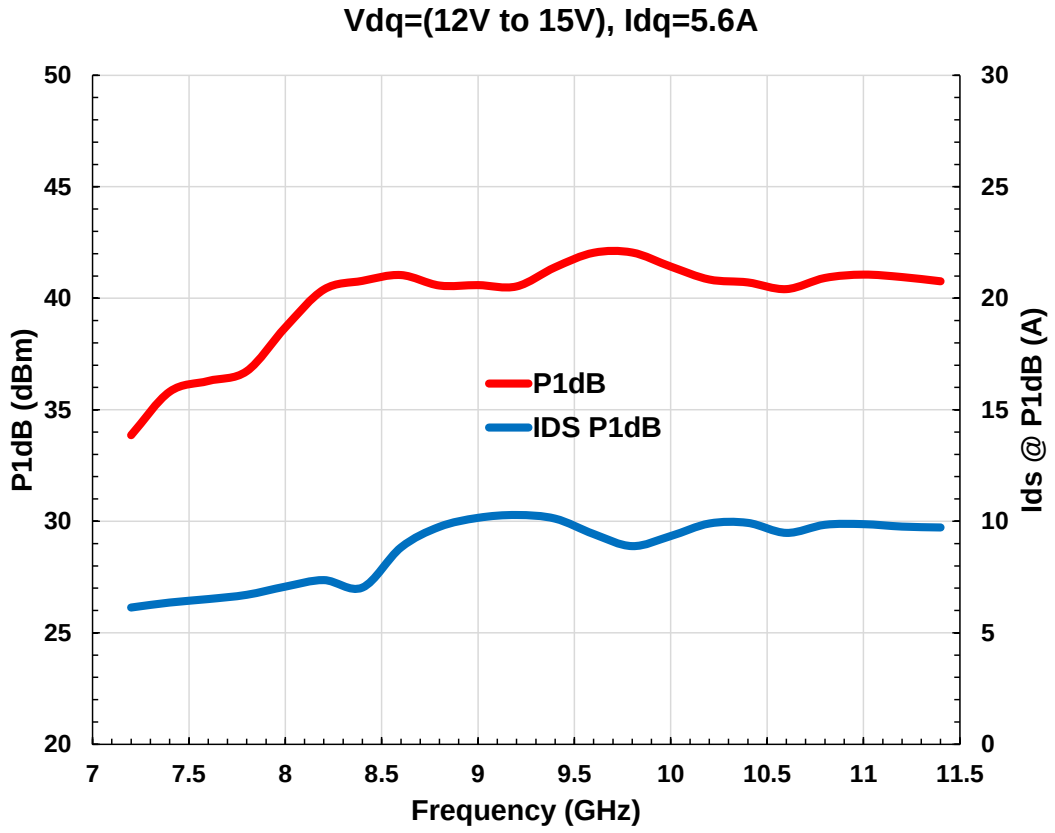
ABSOLUTE MAXIMUM RATING

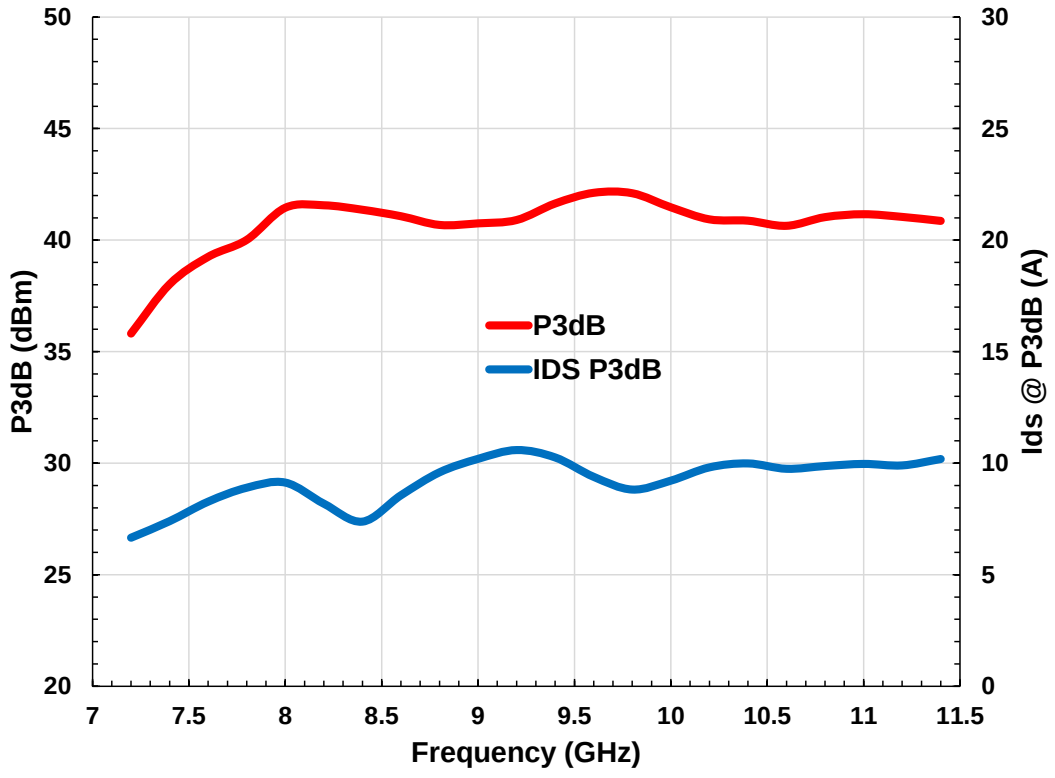
Parameters	Symbol	Rating
Drain source voltage	V_{dq}	15V
Continuous dissipation at 25ºC	P_t	150W
Operating temperature	T_{op}	-40°C to +85°C
Storage temperature	T_{sto}	-55°C to +135°C

SMALL SIGNAL DATA

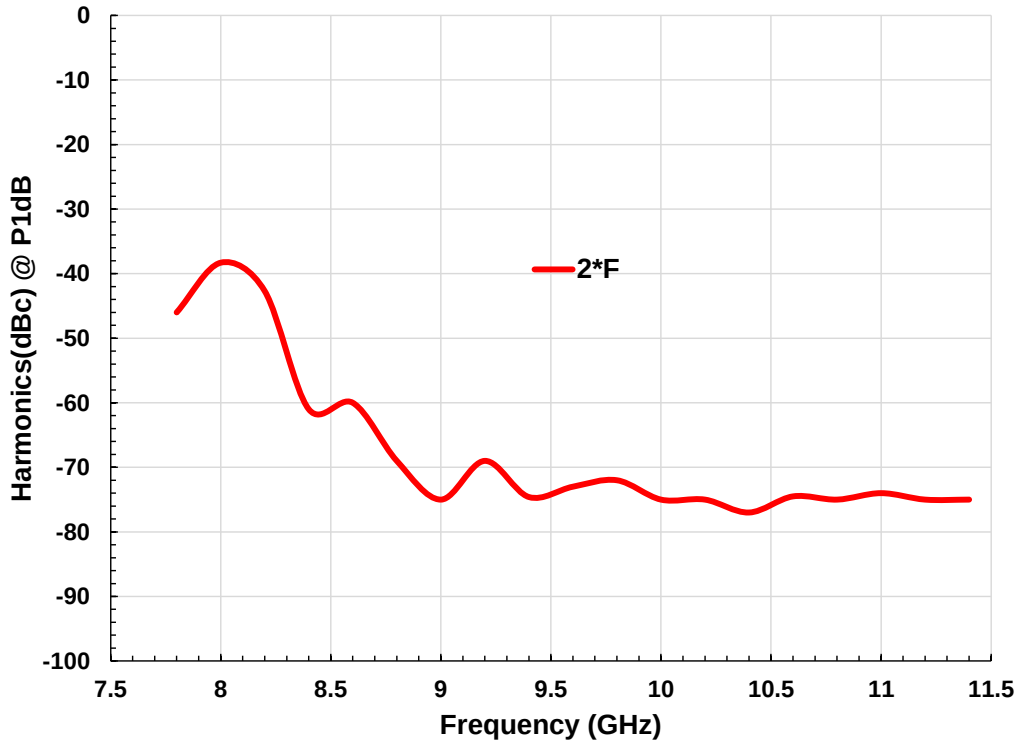


POWER DATA *

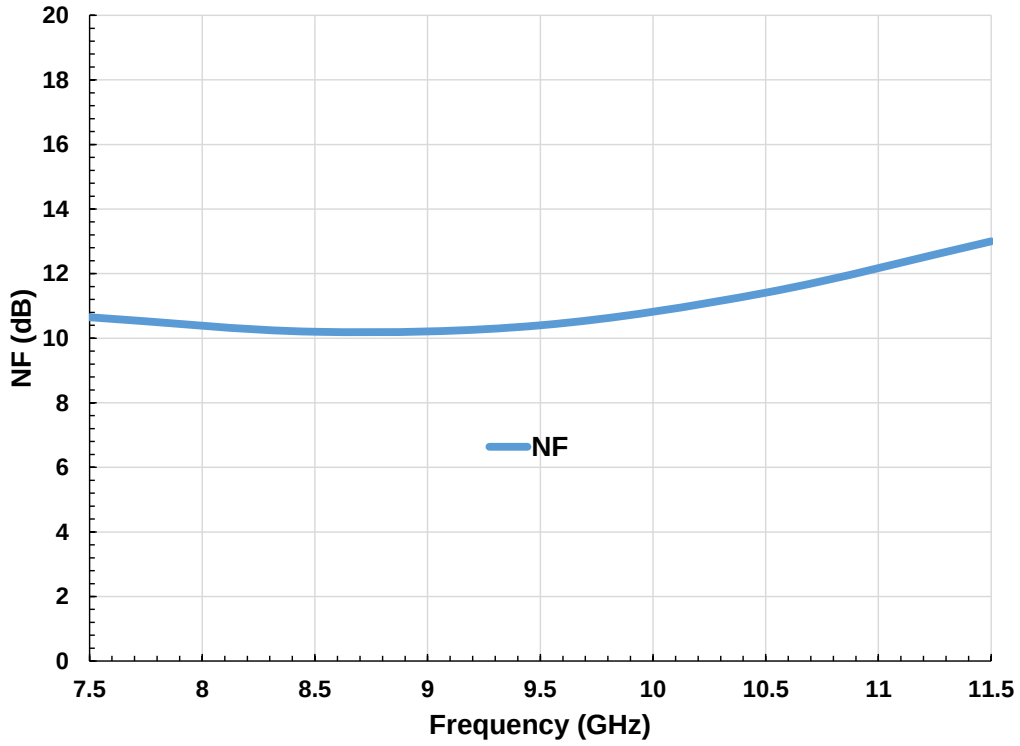

Vdq=(12V to 15V), Idq=5.6A
P1dB (dBm)
Ids @ P1dB (A)
P1dB
IDS P1dB
Frequency (GHz)
50
45
40
35
30
25
20
30
25
20
15
10
5
0
7
7.5
8
8.5
9
9.5
10
10.5
11
11.5


P3dB (dBm)
Ids @ P3dB (A)
P3dB
IDS P3dB
Frequency (GHz)
50
45
40
35
30
25
20
30
25
20
15
10
5
0
7
7.5
8
8.5
9
9.5
10
10.5
11
11.5

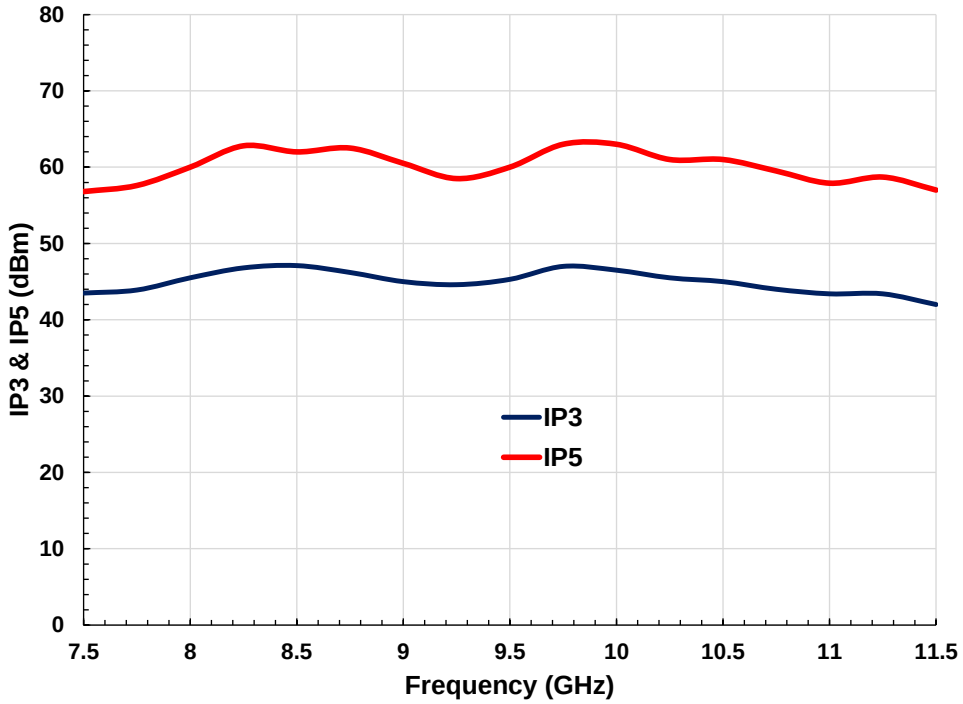
HARMONICS



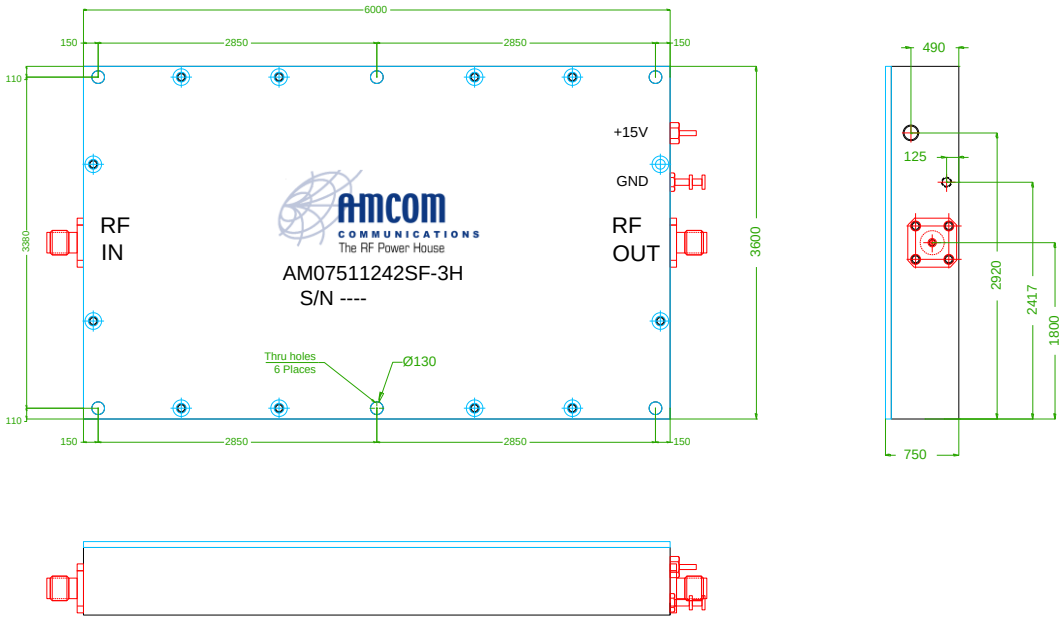
NOISE FIGURE



INTERMODULATION DISTORTION



PACKAGE OUTLINE



NOTES:

1- Use a heat sink to remove heat from the package bottom.
2- Female SMA for RF input and output.
3- Dimensions in mils