Power Amplifier Module
0.1 – 10.0 GHz, 27dB, 5W

AM00110037SF-2H
May 2018
Rev 0

DESCRIPTION

AMCOM's AM00110037SF-2H is a broadband GaN Power Amplifier module. AM00110037SF-2H is a wideband power amplifier designed for general purpose applications. It operates from 0.1GHz to 10GHz and typically delivers 5 watts (37dBm) of CW output power and 27dB small signal gain. The amplifier module has 6 screw slots for mounting to a heat sink. This amplifier module is compact and light weight at 4" (L) x 3.2" (W) x 1.25" (H) and 1.25 lb (570g).

FEATURES

- Wide bandwidth from 0.1 to 10GHz
- 37dBm of saturated CW output power
- High gain, 27dB
- Input / Output matched to 50 Ohms

APPLICATIONS

- Radar
- Fixed microwave backhaul
- Instrumentation and measurements

TYPICAL PERFORMANCE * (Quiescent bias is +32V, I_{ddq}= 0.7A)

Parameters	Minimum	Typical **	Maximum
Frequency	0.5 –9.0GHz	0.1 – 10 GHz	
Small Signal Gain	22 dB	27 dB	32 dB
Gain Ripple		± 4.0 dB	± 6.0 dB
P_{3dB}		35 dBm	
P_{5dB}	33 dBm	37 dBm	
Current @ P_{5dB}		< 2.7A	
Noise Figure		< 8 dB	
IP3		44dBm	
Input Return Loss		> 10 dB	
Output Return Loss		> 6 dB	
Thermal Resistance		3 °C/W	
Heat Sensor Output (V)		T(Celsius) x 10mV/°C	
RF Detector Output (V)*		40mV/dBm	
TTL RF ON/OFF		0 for OFF 1 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
3- Detector is a log detector for Pout< 30dBm and consists of a simple resistor divider. (i.e. VSWR sensitive)

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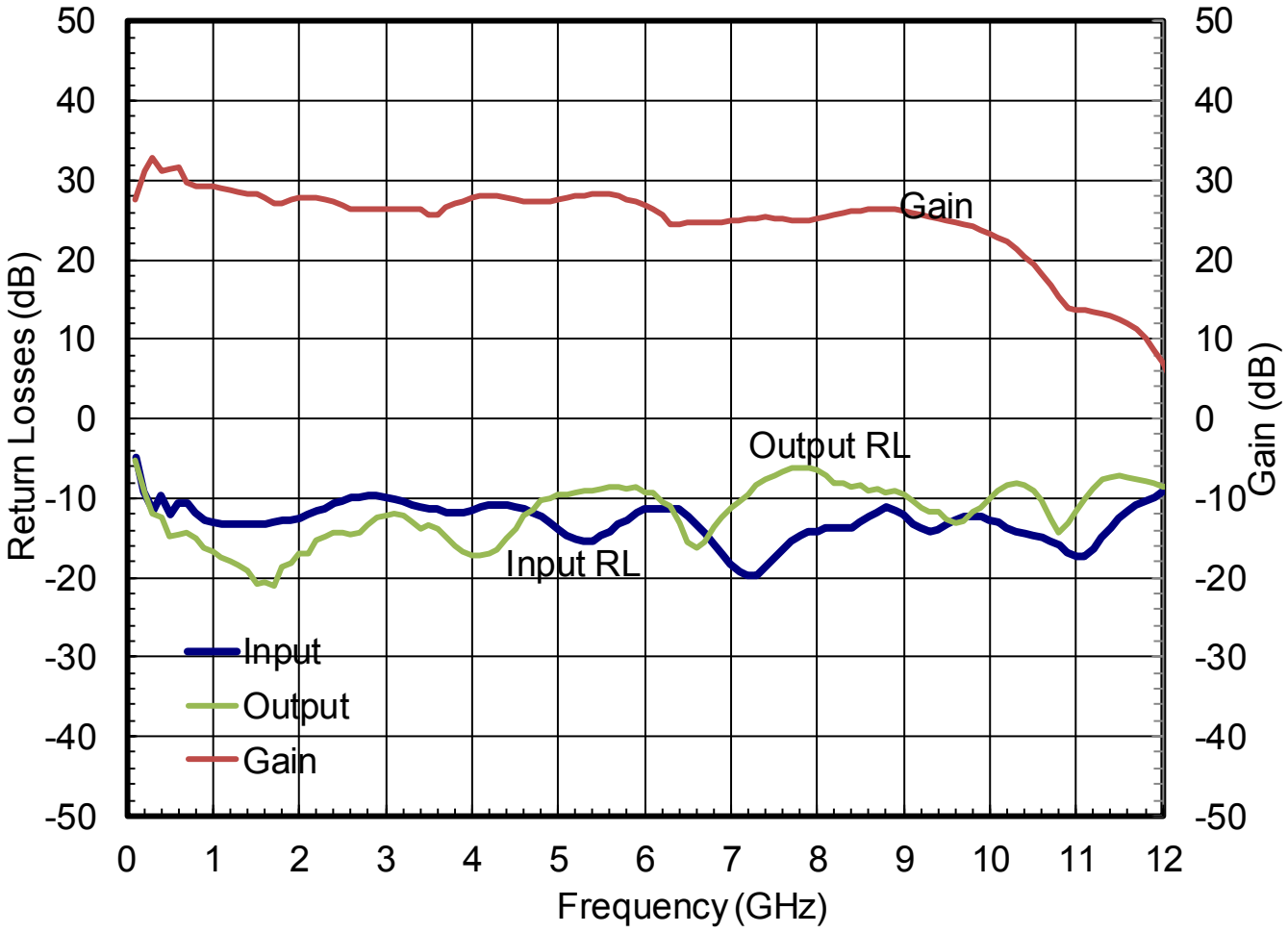
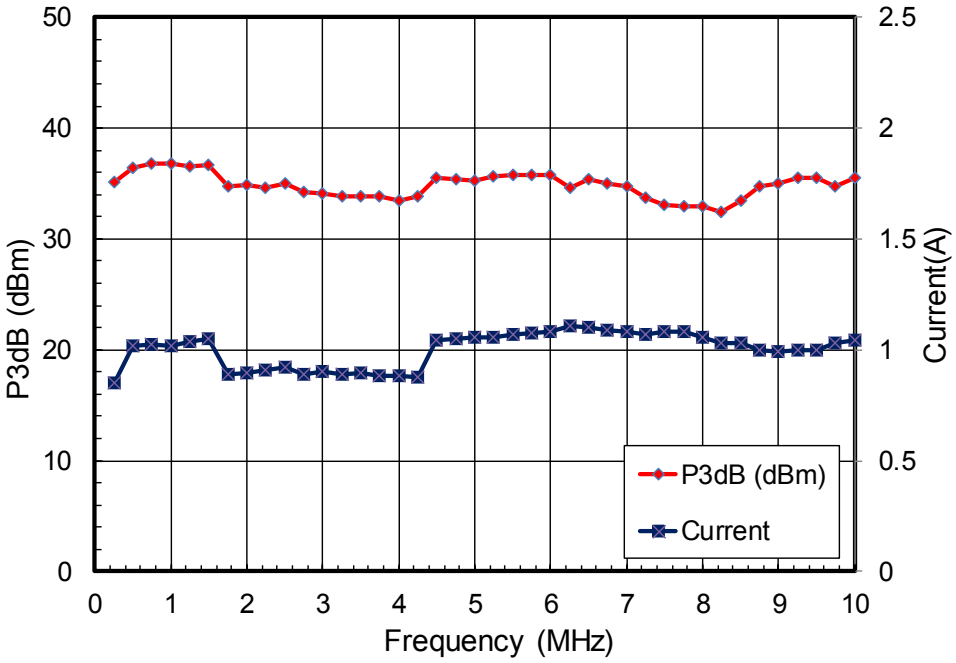
ABSOLUTE MAXIMUM RATING

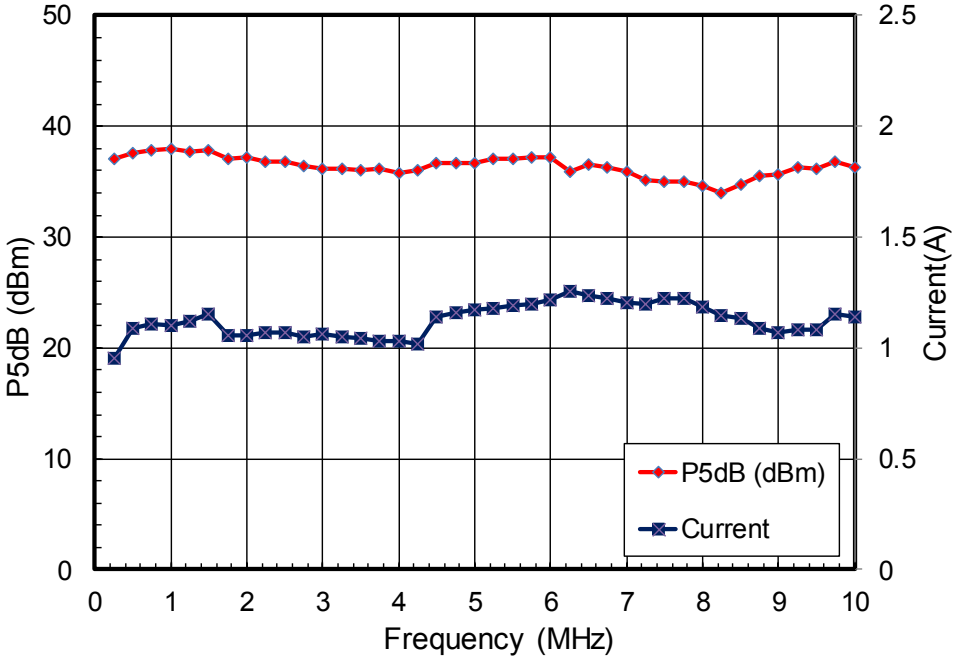
Parameters	Symbol	Rating
Drain source voltage	$V_{dd1,2}$	40V
Continuous dissipation at 25ºC	P_t	40W
Operating temperature	T_{op}	-40°C to +85°C
Storage temperature	T_{sto}	-55°C to +135°C

SMALL SIGNAL DATA

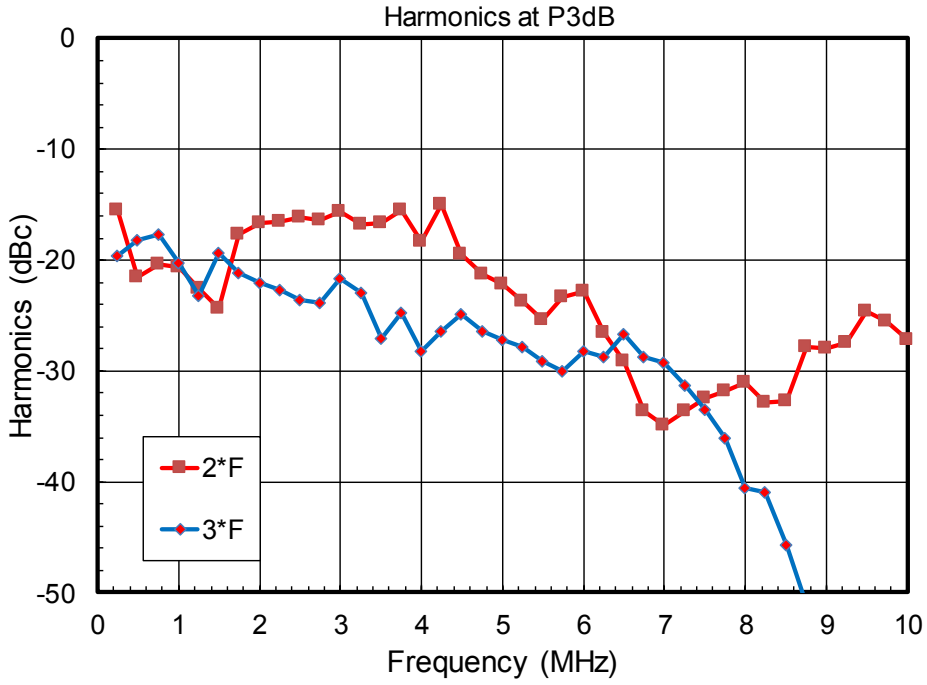


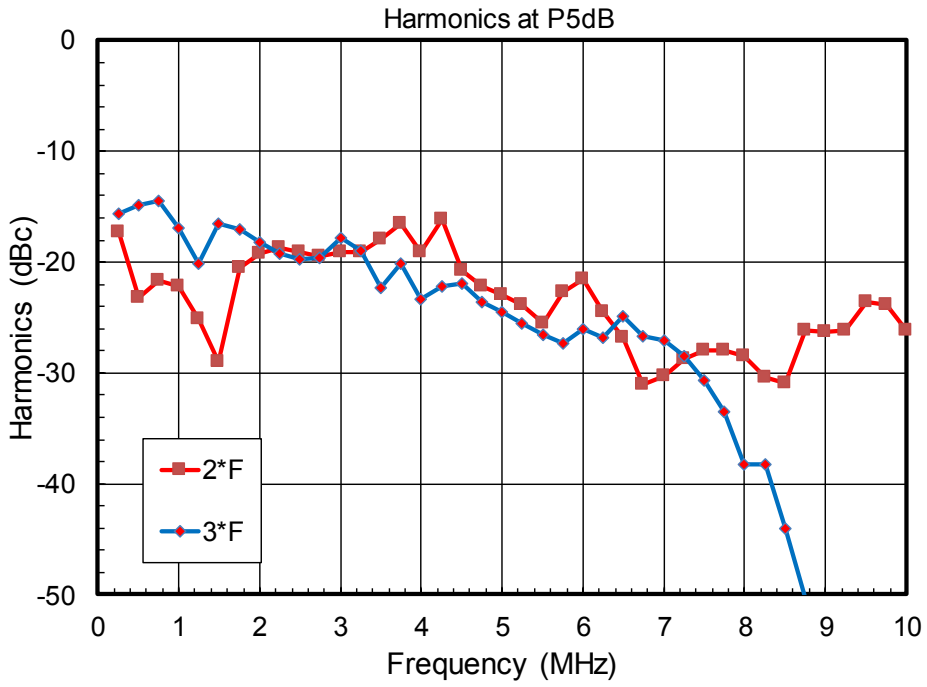
POWER DATA


P3dB (dBm)
Current(A)
Frequency (MHz)
P3dB (dBm)
Current

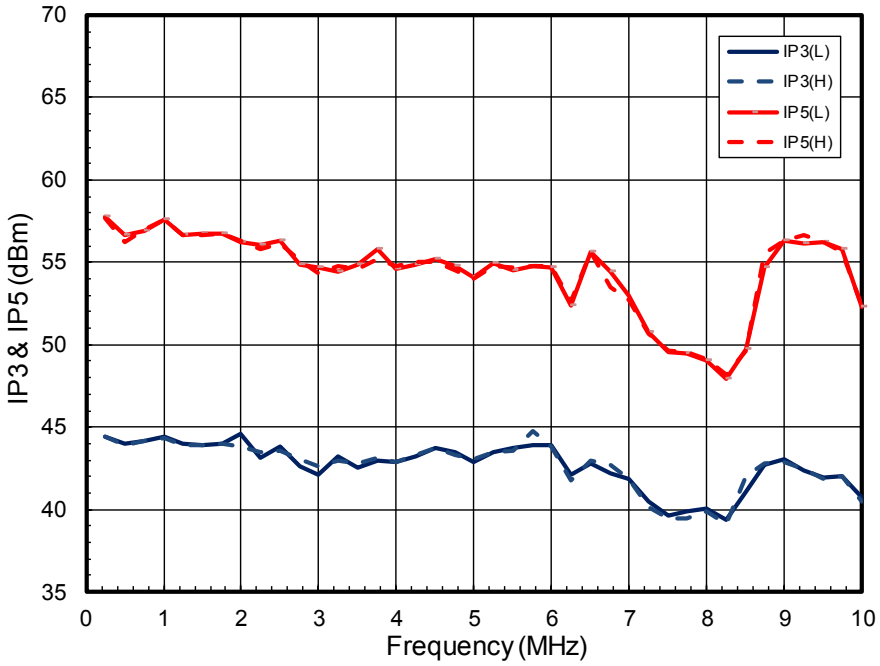

P5dB (dBm)
Current(A)
Frequency (MHz)
P5dB (dBm)
Current

HARMONICS

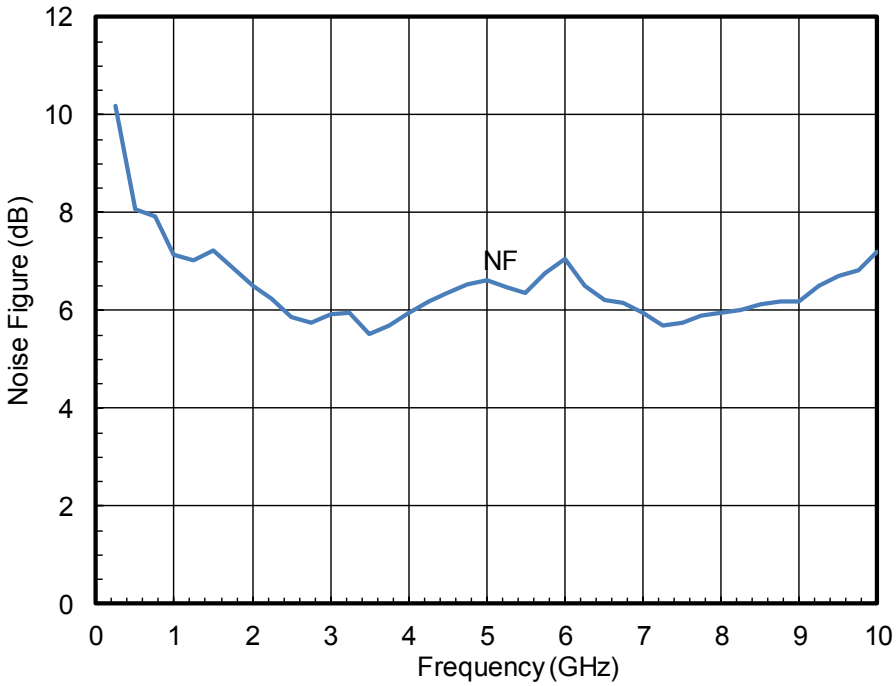

Harmonics at P3dB
Harmonics (dBc)
0
-10
-20
-30
-40
-50
0
1
2
3
4
5
6
7
8
9
10
Frequency (MHz)
2*F
3*F


Harmonics at P5dB
Harmonics (dBc)
0
-10
-20
-30
-40
-50
0
1
2
3
4
5
6
7
8
9
10
Frequency (MHz)
2*F
3*F

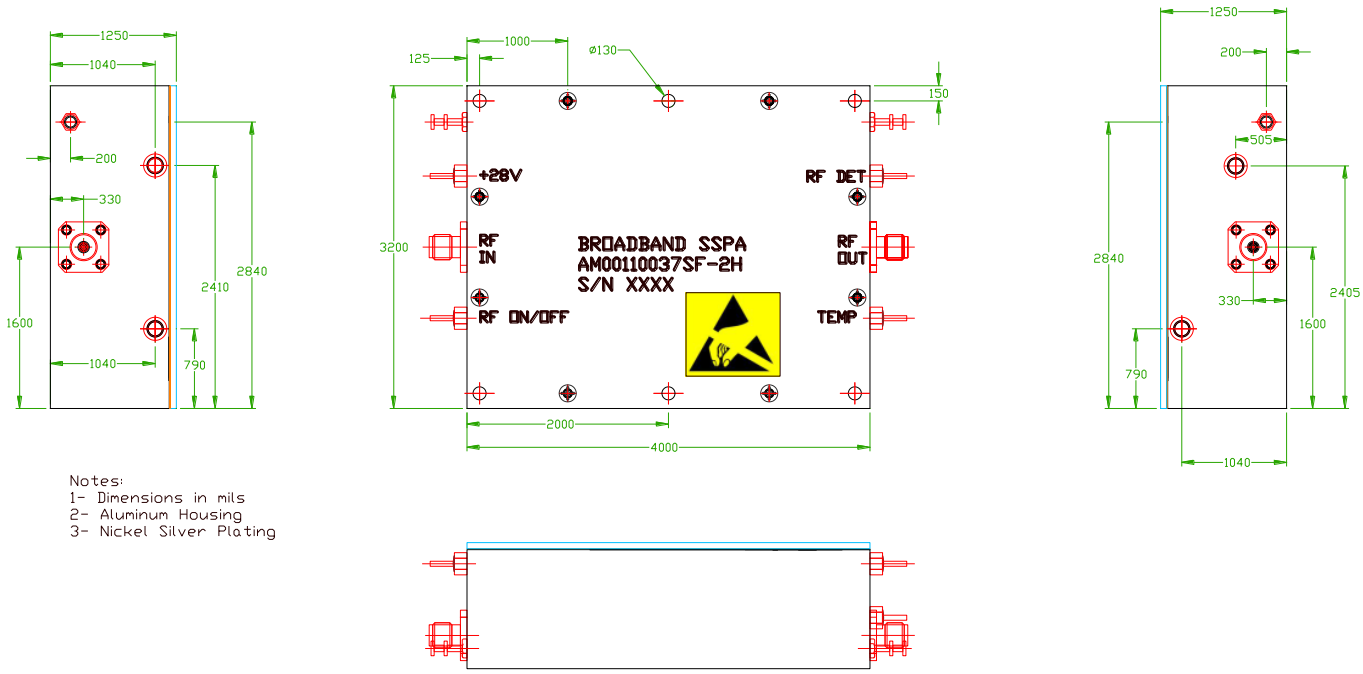
INTERMODULATION DISTORTION



NOISE FIGURE



PACKAGE OUTLINE



NOTES:

1- Use a heat sink to remove heat from the package
2- Female SMA for RF input and output