

## DESCRIPTION

AM004042SF-2H is a wideband power amplifier designed for general purpose applications. It operates from 0.05GHz to 4.0GHz and typically delivers 15 watts (42dBm) of CW output power and 24dB small signal gain. The module uses one positive bias and is turn ON and OFF using a TTL pin. 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 0.99" (H) and 12oz (340g).



## FEATURES

- Wide bandwidth from 0.05 to 4.0GHz
- 42dBm of saturated CW output power
- High gain, 24dB with TTL Control
- Input matched to 50 Ohms

## APPLICATIONS

- Software Radio
- Gain block
- Instrumentation and measurements

## TYPICAL PERFORMANCE \* (Quiescent bias $V_{dd}$ is +50V, $I_{ddq}$ = 1.5A)

Parameters	Minimum	Typical **	Maximum
Frequency	0.25 – 3.0GHz	0.05 – 4.0 GHz	
Small Signal Gain	20 dB	24 dB	28 dB
Gain Ripple		± 2.0 dB	± 3.0 dB
$P_{1dB}$ 0.05 to 3GHz		40 dBm	
$P_{5dB}$ 0.05 to 3GHz	40 dBm	42 dBm	
Efficiency @ $P_{5dB}$		25%	
Noise Figure @ 2GHz		9 dB	
IP3		47dBm	
Input Return Loss		> 12 dB	
Output Return Loss		> 6 dB	
TTL Control "1" for ON 0" for OFF			

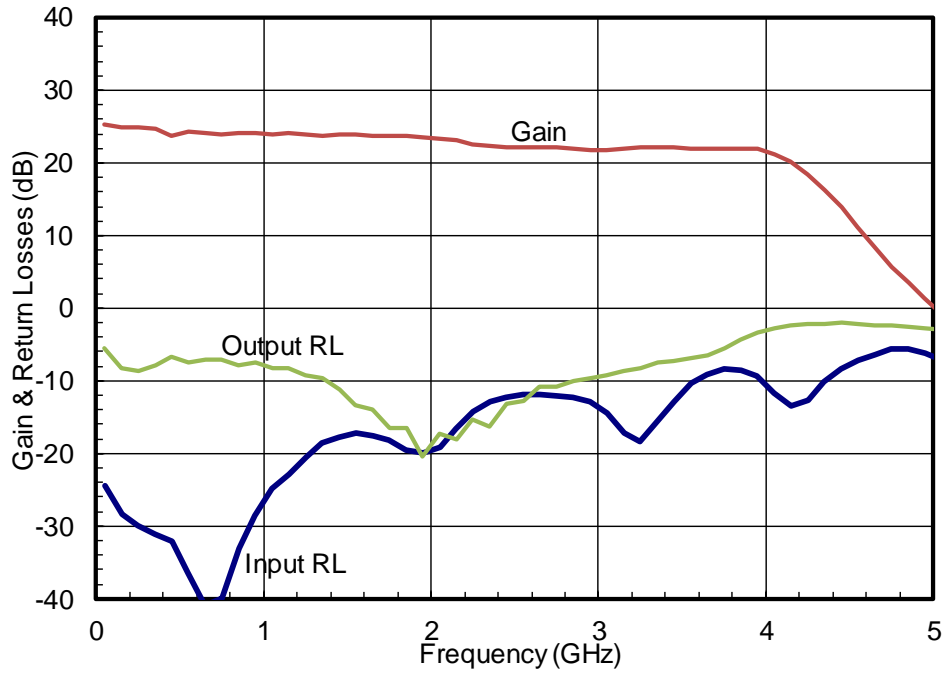
\* Notes:

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

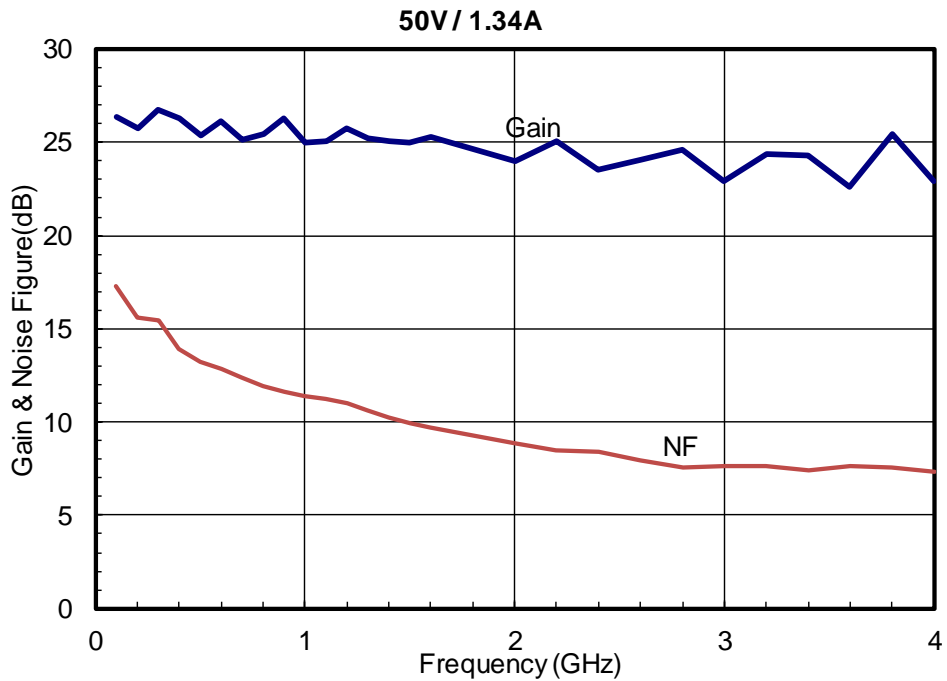
**ABSOLUTE MAXIMUM RATING**

Parameters	Symbol	Rating
Drain source voltage	$V_{dd1,2}$	55V
Continuous dissipation at 25°C	$P_t$	90W
Operating temperature	$T_{op}$	-40°C to +85°C
Storage temperature	$T_{sto}$	-55°C to +135°C

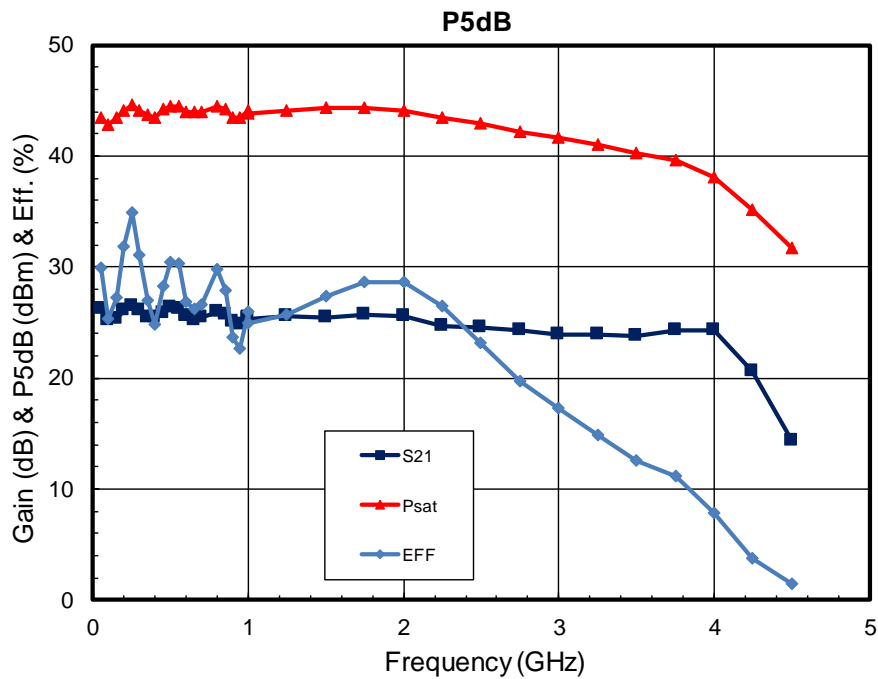
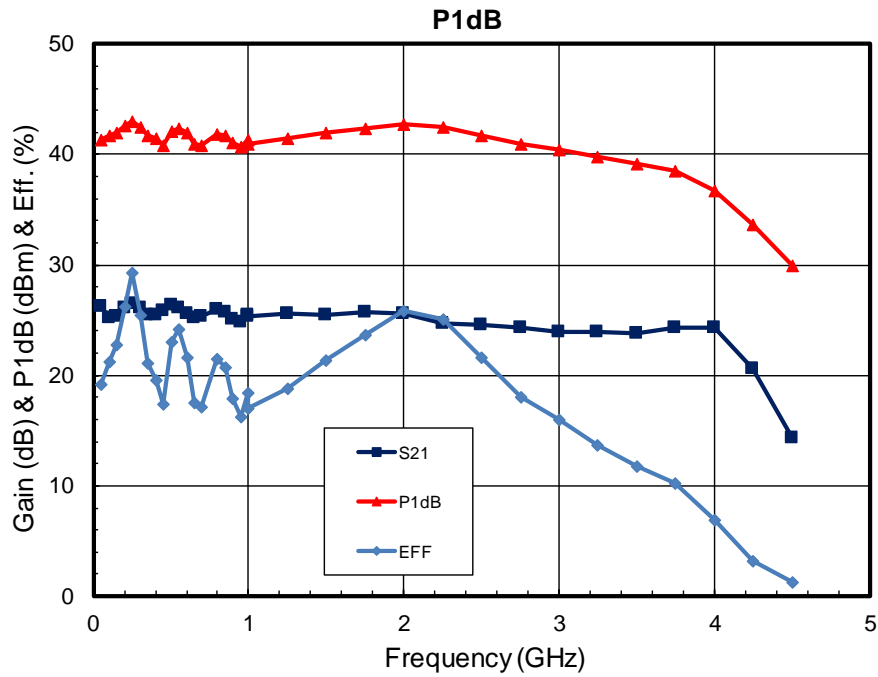
SMALL SIGNAL DATA



NOISE FIGURE

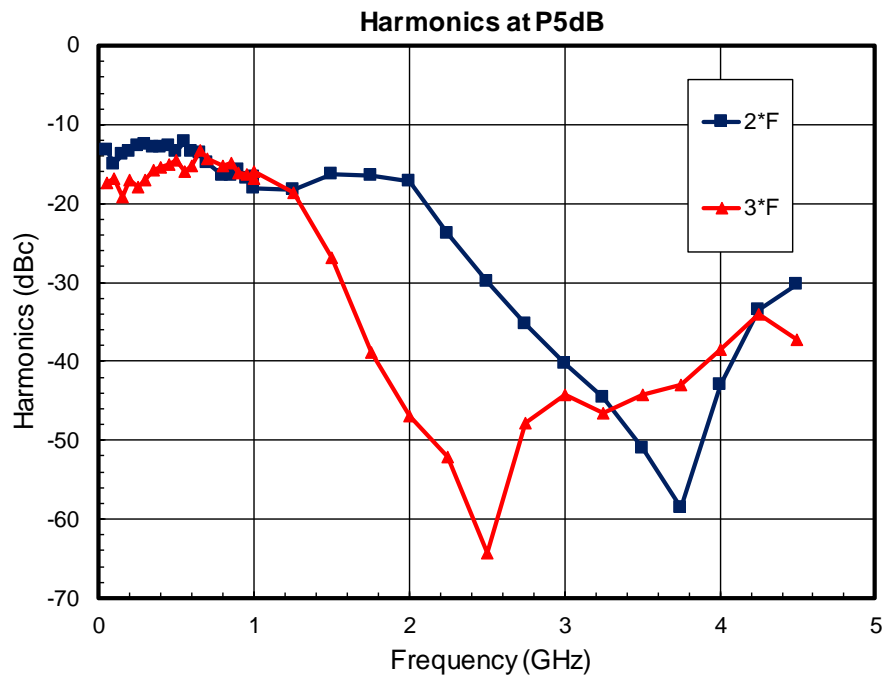
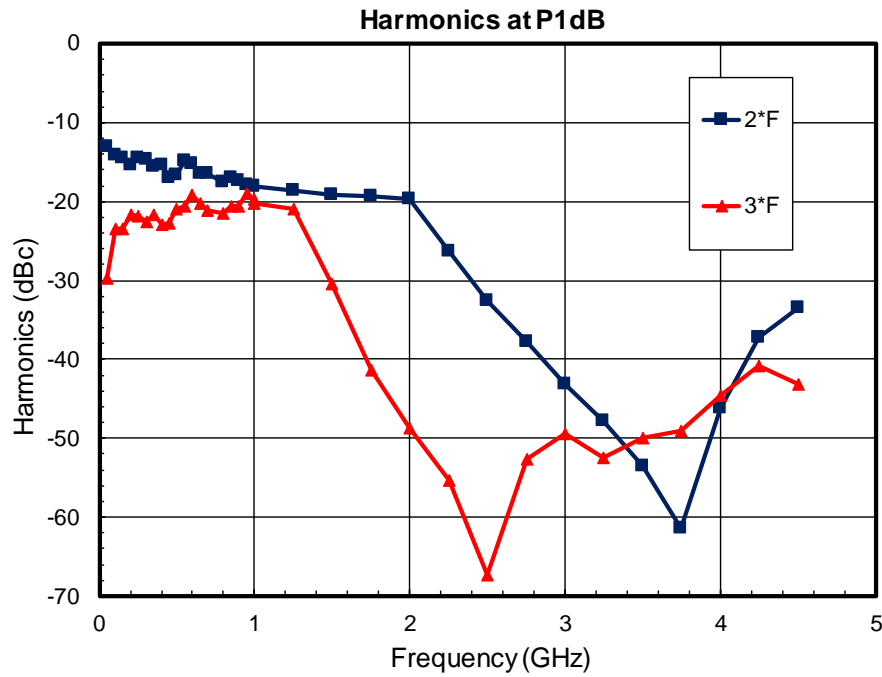


POWER DATA \*

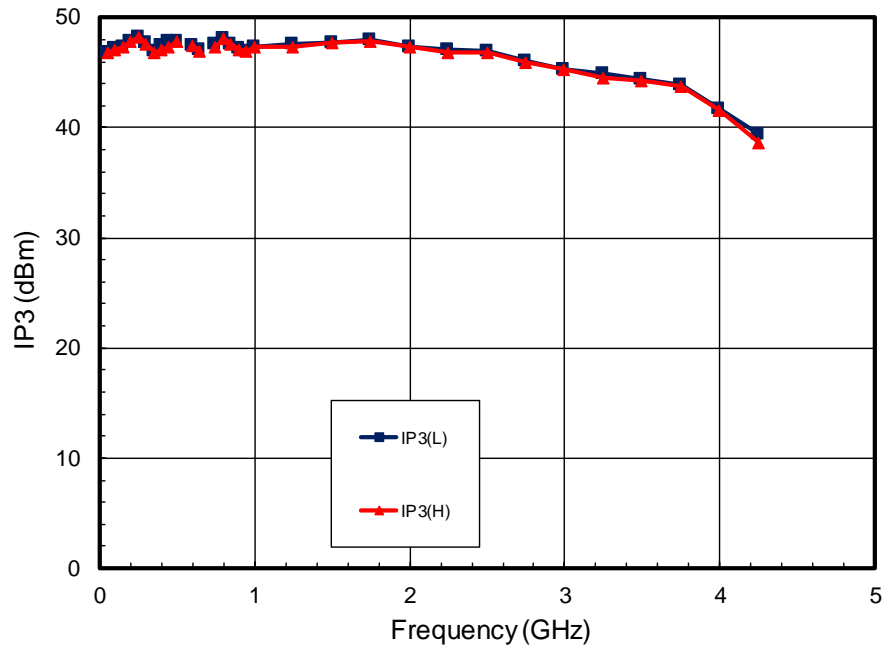


\* Data shown is for  $V_{dd}=+50V$ ,  $I_{ddq}=1.5A$

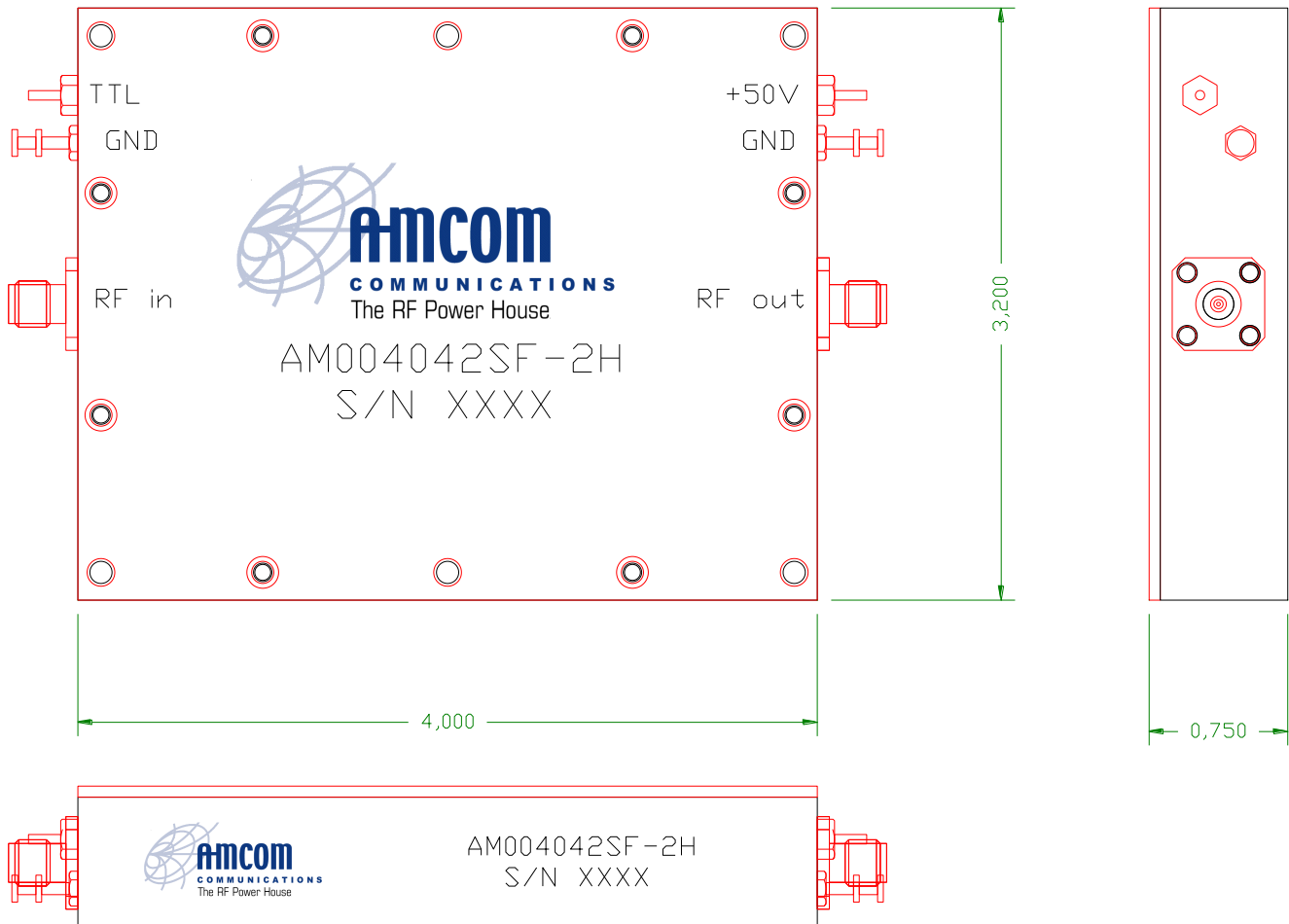
HARMONICS



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- TTL "0" SSPA is off, TTL "1" SSPA is ON