

DESCRIPTION

AMCOM's AM006040SF-2H is an ultra-broadband GaN MMIC power amplifier. It has 16dB gain, and >40dBm output power over the 0.05 to 6GHz band. This module is matched for best power below 3GHz but power tappers off above 3GHz. The module uses a single positive bias and is turned ON and OFF using a TTL control pin. The module needs a heat sink to dissipate the DC power. 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

- Ultra-wide bandwidth from 50MHz to 6GHz
- Saturated output power 42 dBm from 0.1 to 3GHz
- Small signal gain, 16dB
- Input matched to 50 Ohms

APPLICATIONS

- Software Radio, ECM
- Instrumentation
- Gain block

TYPICAL PERFORMANCE *

A) Bias Conditions**: $V_{dd} = +40V$, $I_{ddq} = 1400mA$

Parameters	Minimum	Typical **	Maximum
Frequency	0.1 – 5GHz	0.05 – 6GHz	
Small Signal Gain	10dB	16dB	22dB
Gain Ripple		± 3dB	± 5.0dB
P1dB @ 0.5GHz	40dBm	42dBm	
P1dB @ 3.0GHz	38dBm	40dBm	
P5dB @ 0.5GHz	41dBm	43dBm	
P5dB @ 3.0GHz	40dBm	42dBm	
P5dB Efficiency @ 0.5GHz		35%	
P5dB Efficiency @ 3.0GHz		24%	
Noise Figure @ 3GHz		15dB	
IP3 @ 3GHz		45dBm	
Input Return Loss	10dB	14dB	
Output Return Loss		5dB	
TTL Control "1" for ON 0" for OFF			

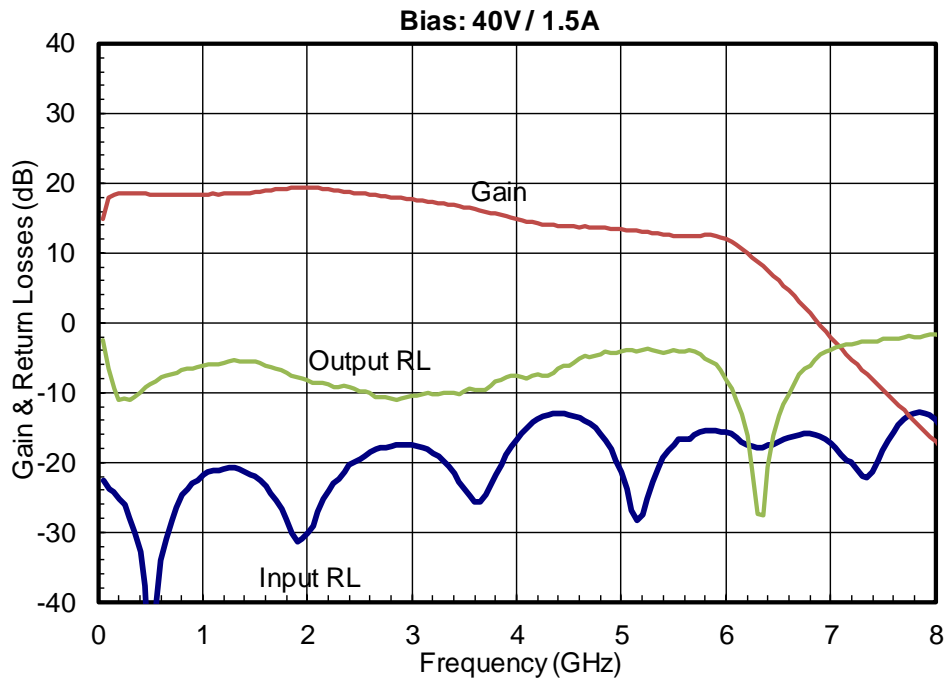
* Specifications subject to change without notice.

** Input RF power should not exceed 0.8W (29dBm).

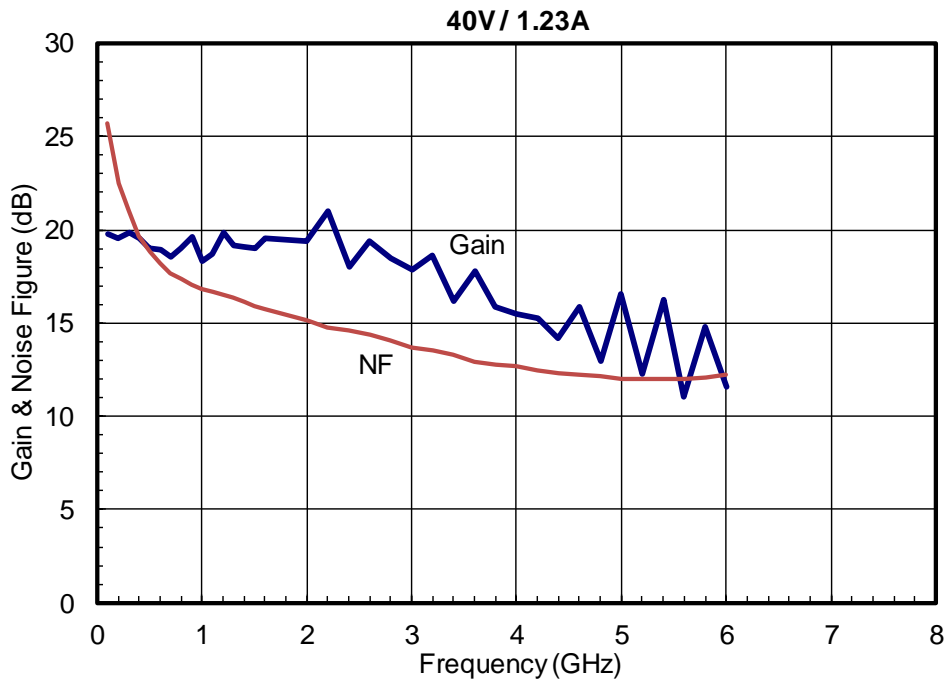
ABSOLUTE MAXIMUM RATING

Parameters	Symbol	Rating
Voltage	V_{dd}	50V
Continuous dissipation at 25°C	P_t	80W
Channel temperature	T_{ch}	175°C
Operating temperature	T_{op}	-30°C to +85°C
Storage temperature	T_{sto}	-55°C to +135°C
Maximum input RF power	P_{in}	0.80W

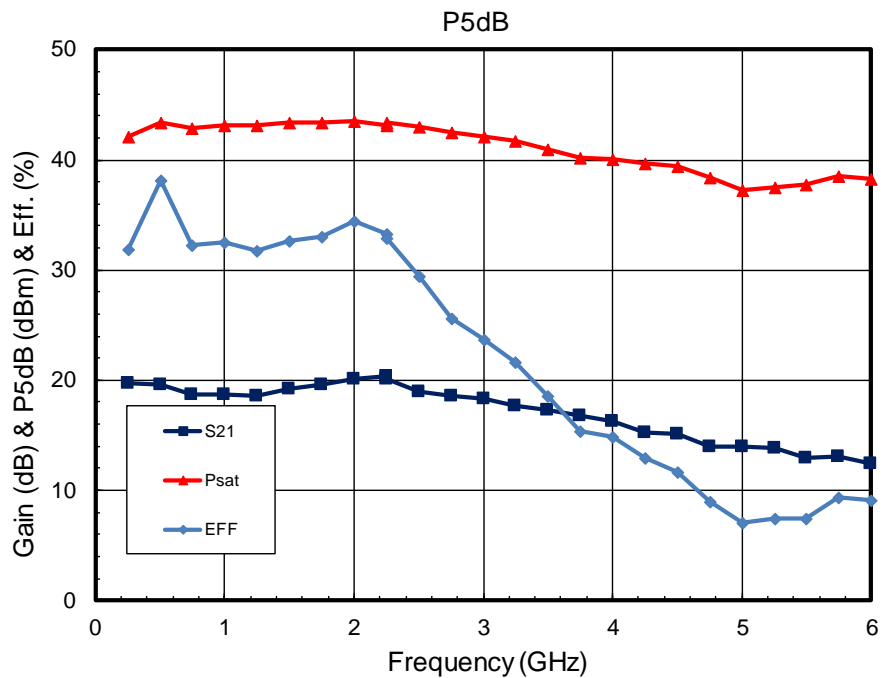
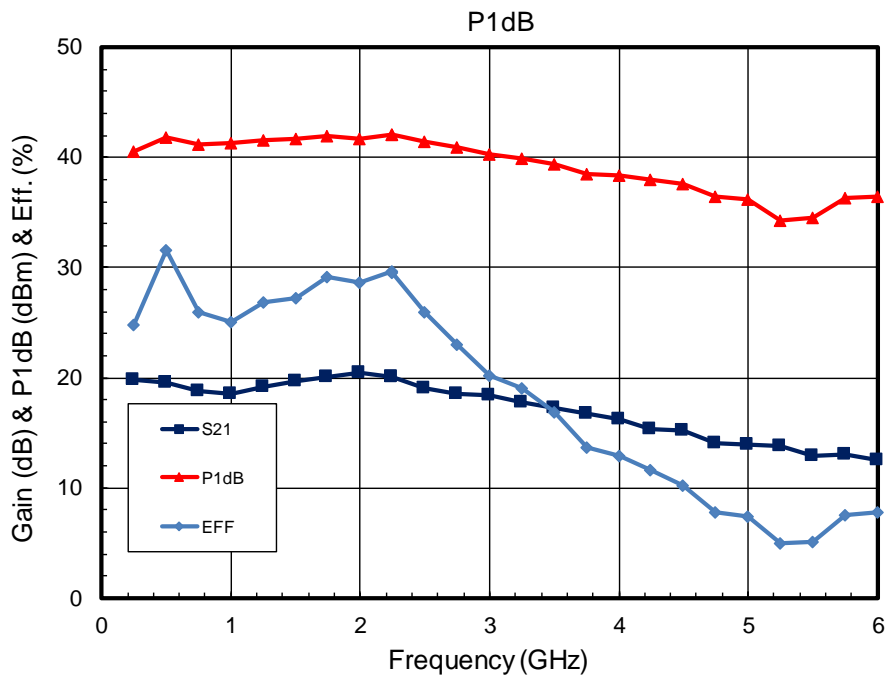
SMALL SIGNAL DATA



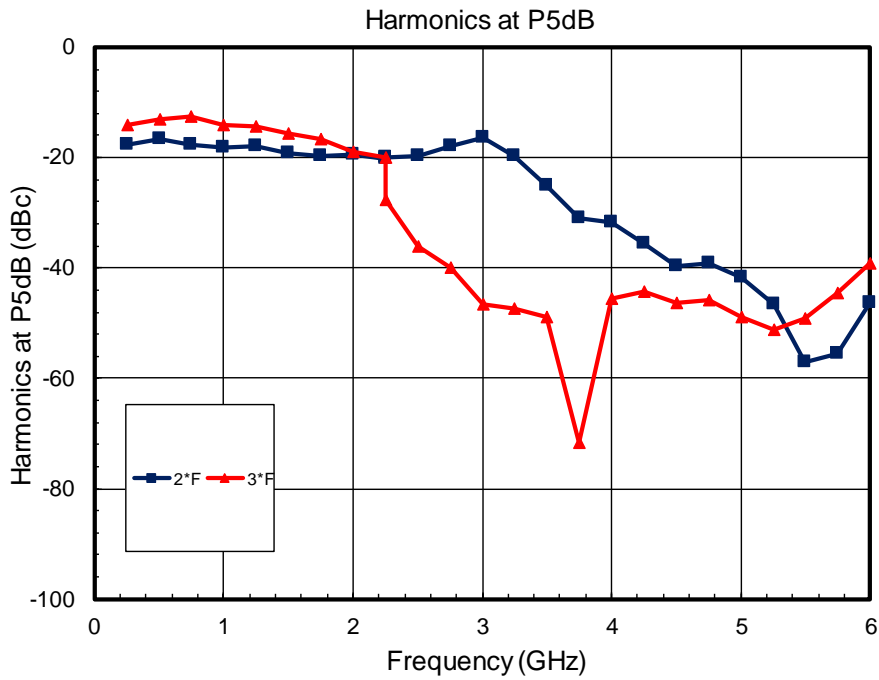
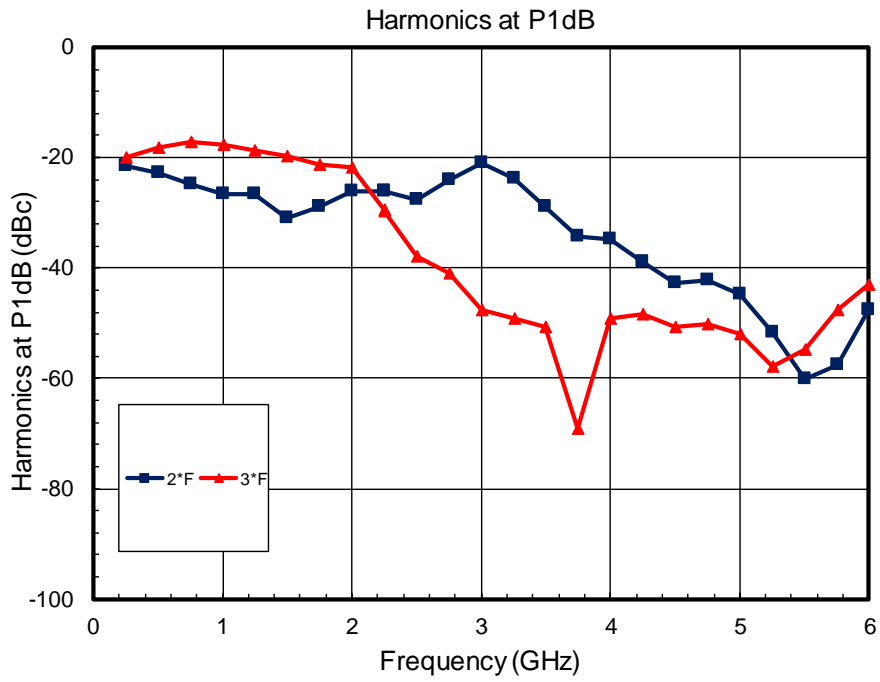
NOISE DATA



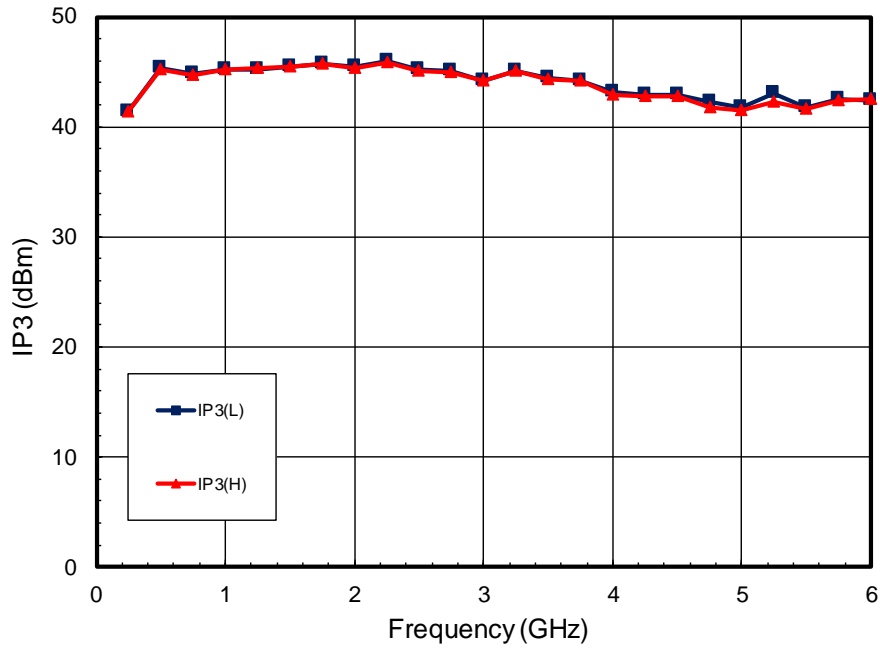
POWER DATA



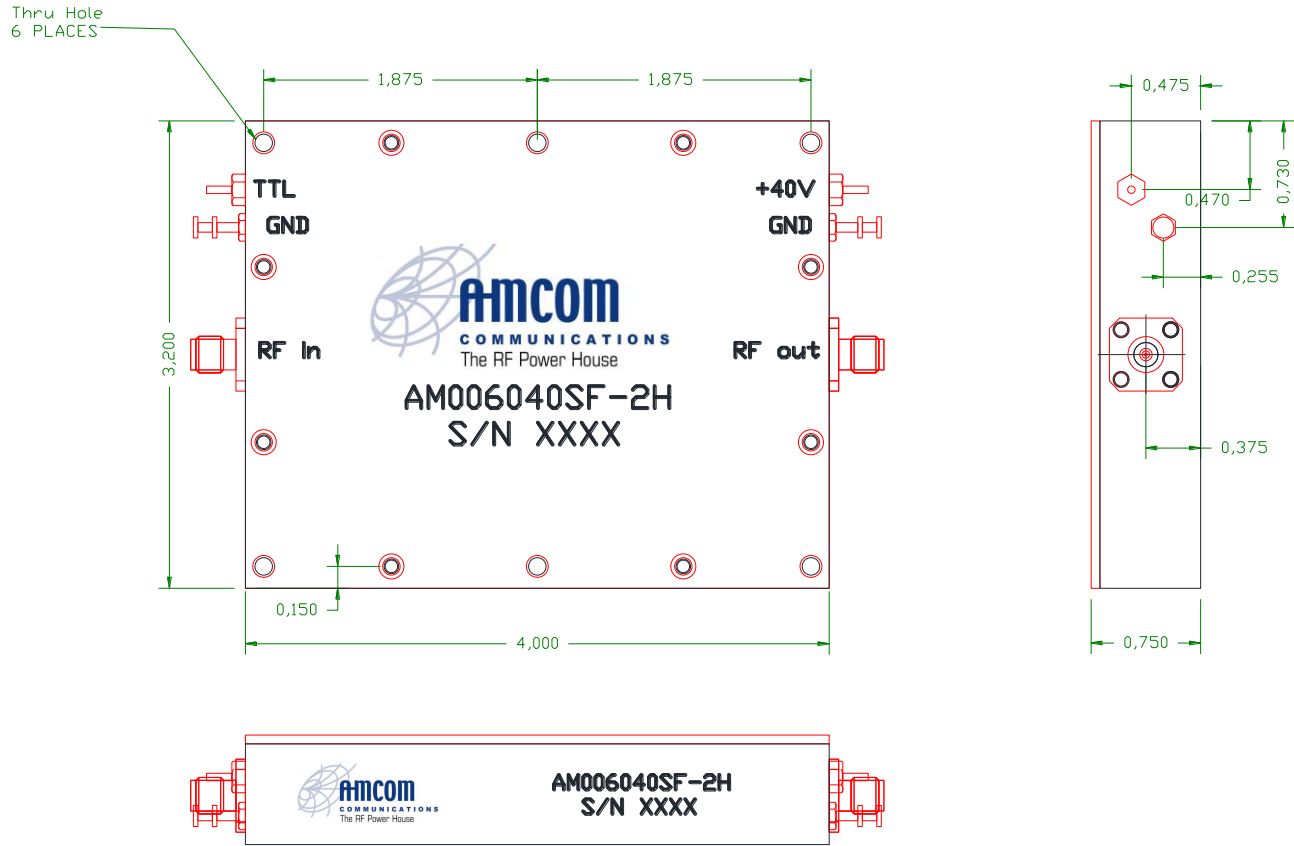
HARMONICS



INTERMODULATION



MODULE 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