

DESCRIPTION

AM003040SF-4H is an ultra-broadband High Power Amplifier designed for instrumentation, communication and Jamming applications. It operates from 50 MHz to 3000 MHz and typically delivers more than 15 watts (42dBm) CW output power and 43 dB small signal gain. The module has a built-in DC voltage regulator and a negative voltage generator. It can be biased from a 24V to 28V single supply. The amplifier module has 8 screw holes for mounting to a heat sink.

FEATURES

- Broadband design from 50 to 3000 MHz
- High Gain and High Power, $P_{\text{sat}} = 42\text{dBm}$, Gain = 43dB
- +24 to + 28V DC Single Bias.

APPLICATIONS

- Instrumentation
- Broadband communication
- Broadband Jammer

PERFORMANCE

($V_{\text{dd}} = +24\text{V}$, $I_{\text{dq}} = 3.5\text{A}$, $T_{\text{a}} = 25^{\circ}\text{C}$)

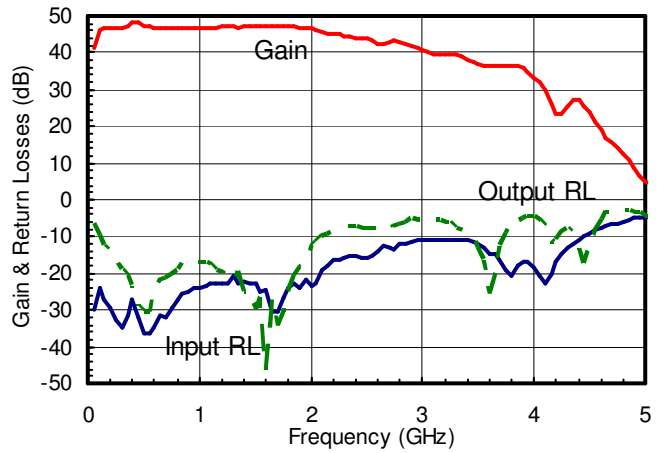
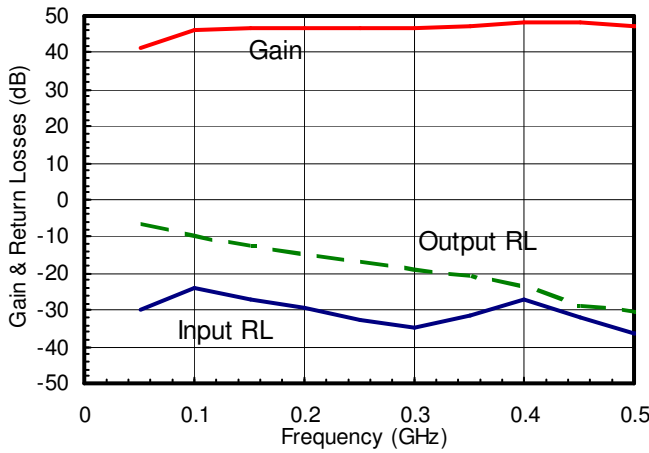
Parameters	Minimum	Typical	Maximum
Frequency	100 – 2800 MHz	50 – 3000 MHz	
Small signal Gain	38 dB	43 dB	
Gain Ripple		± 3 dB	± 5 dB
P1dB @ 1GHz	38 dBm	41 dBm (12.5W)	
Psat @ 1 GHz	39 dBm	42 dBm (15.8W)	
1GHz Efficiency @ P3dB	15%	18%	
IP3 at 1 GHz		55dBm	
Noise Figure		8dB	
Input VSWR		2 : 1	2.5 : 1
Output VSWR		3 : 1	4 : 1

ABSOLUTE MAXIMUM RATING

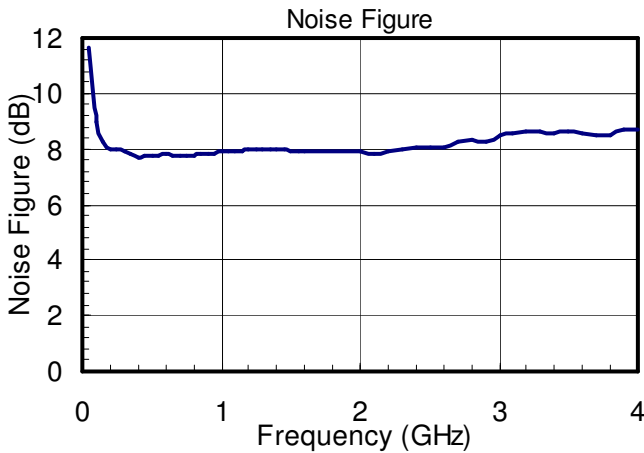
Parameter	Symbol	Rating
Supply voltage	V_{dd}	30 V
Continuous dissipation at room temperature	P_{t}	100 W
Operating ambient temp	T_{a}	-40°C to 85 °C
Storage temperature	T_{sto}	-60°C to +150°C

LINEAR DATA ($V_{dd} = +24V$, $I_{dq} = 3.5A$, $T_a = 25^\circ C$)

A) Small Signal Gain and Input/Output Return Loss

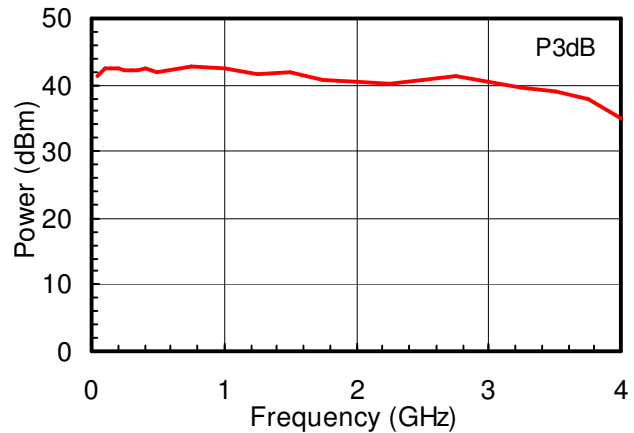
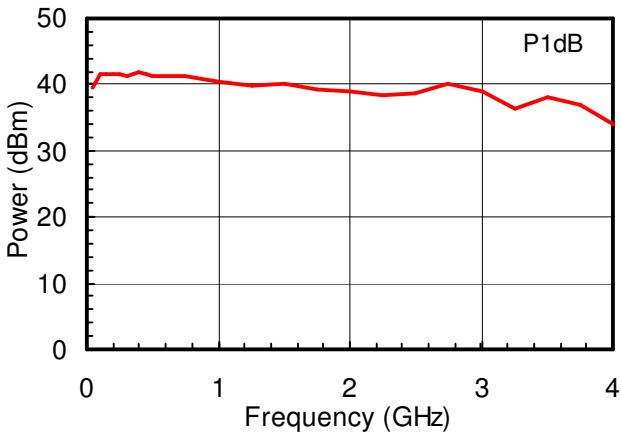


B) Noise Figure

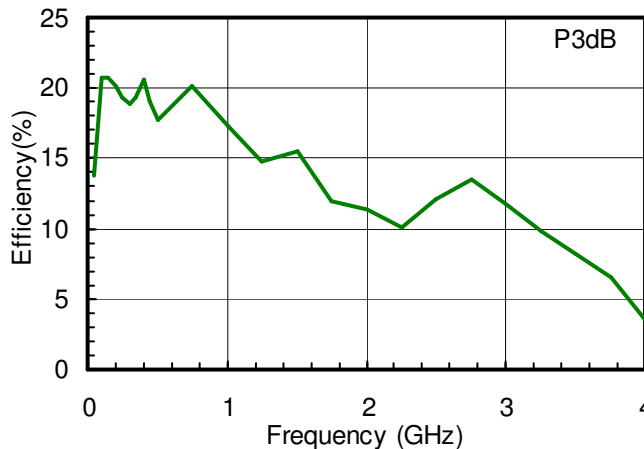
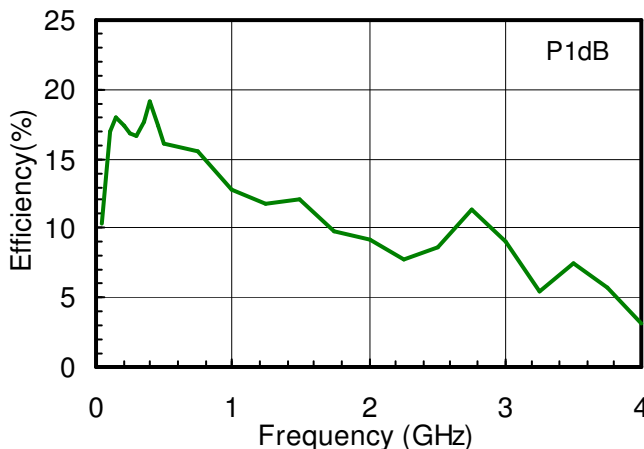


POWER DATA ($V_{dd} = +24V$, $I_{dq} = 3.5A$, $T_a = 25^\circ C$)

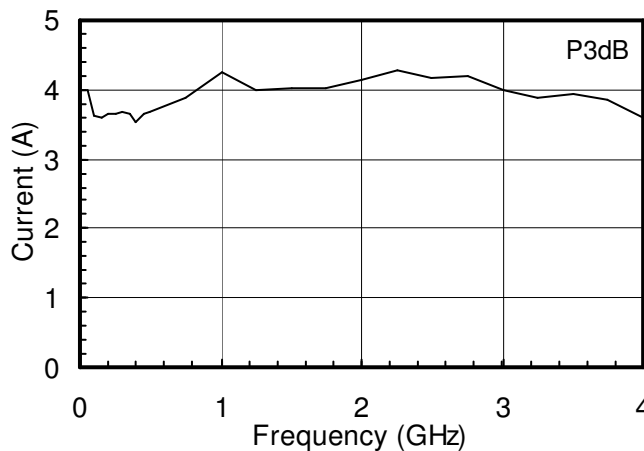
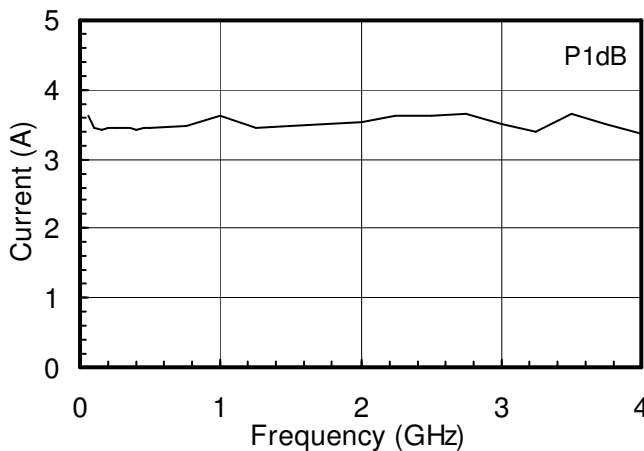
A) Output Power at 1dB and 3dB Gain Compression



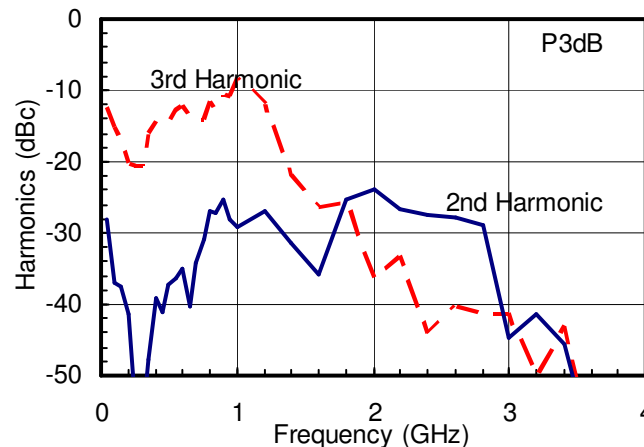
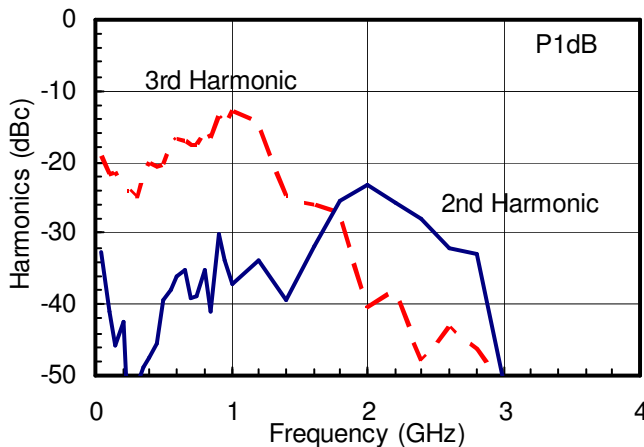
B) Efficiency at 1dB and 3dB Gain Compression



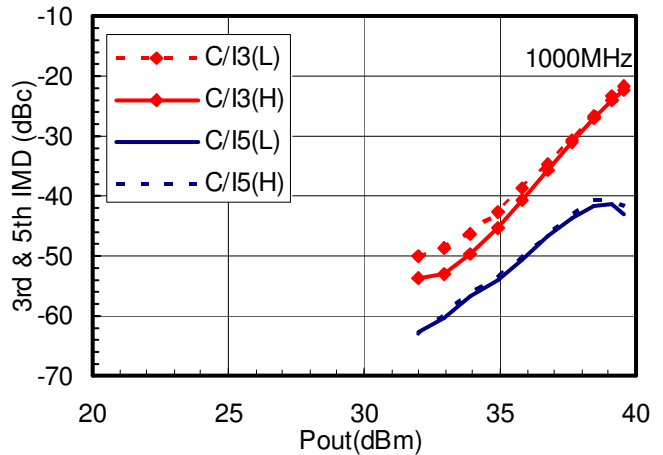
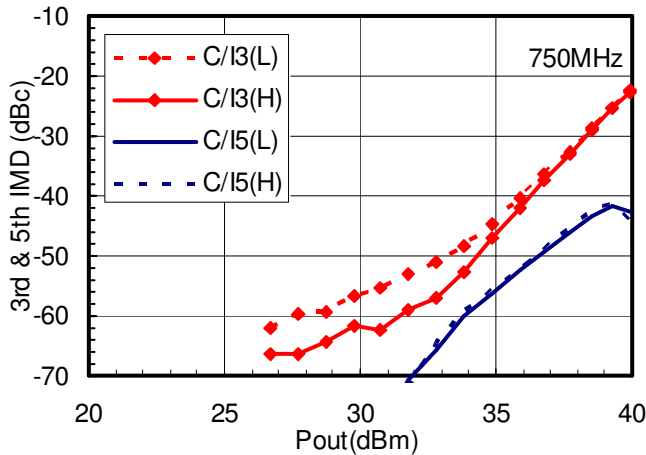
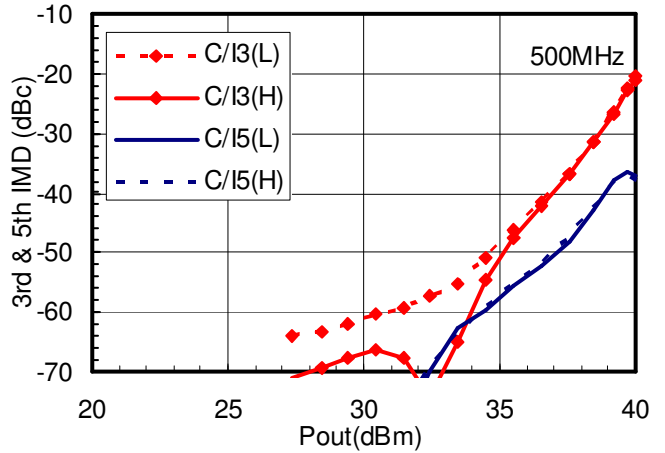
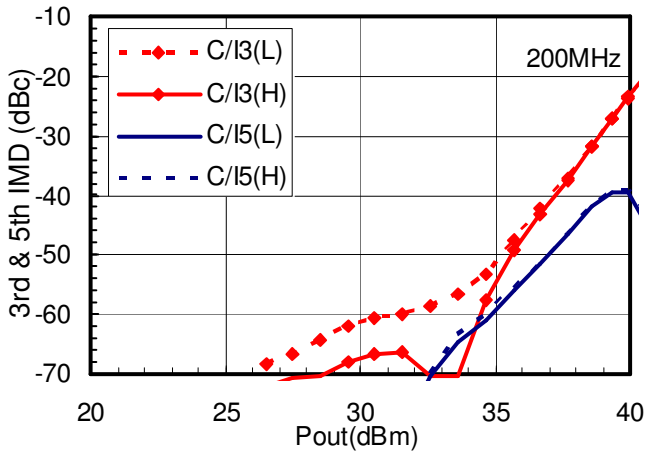
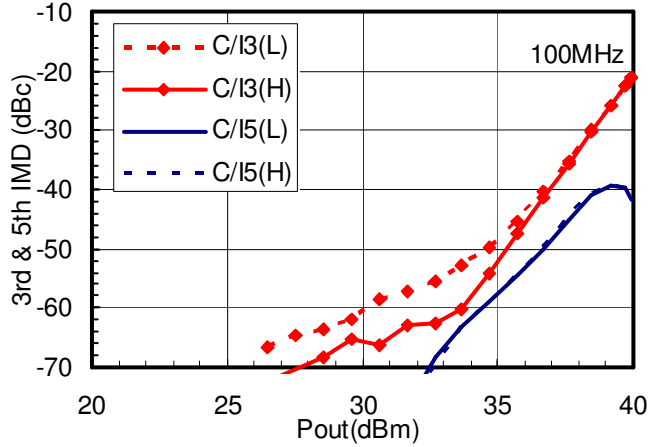
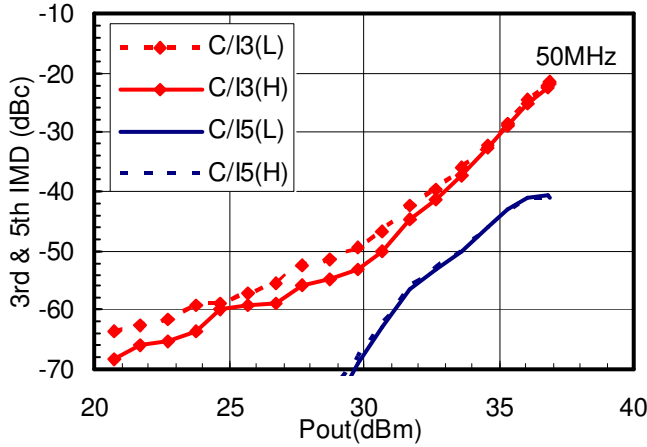
C) Current at 1dB and 3dB Gain Compression

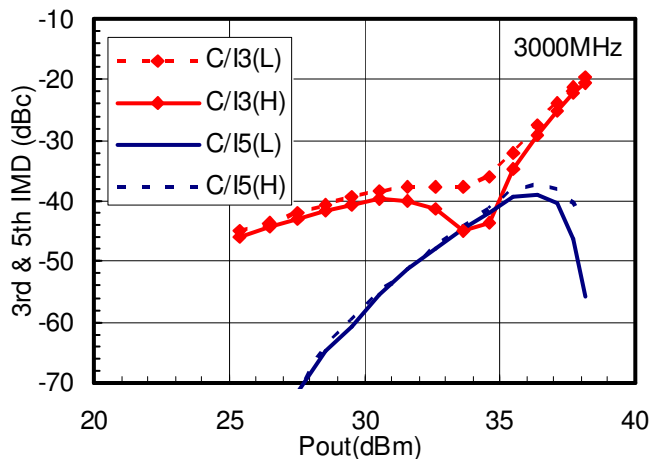
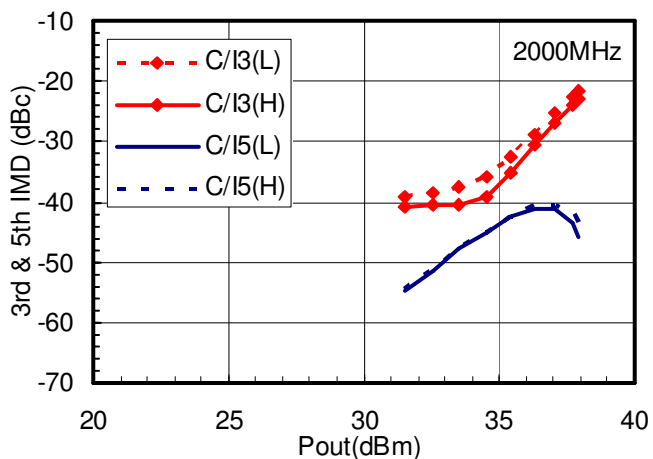


D) 2nd and 3rd Harmonics at 1dB and 3dB Gain Compression

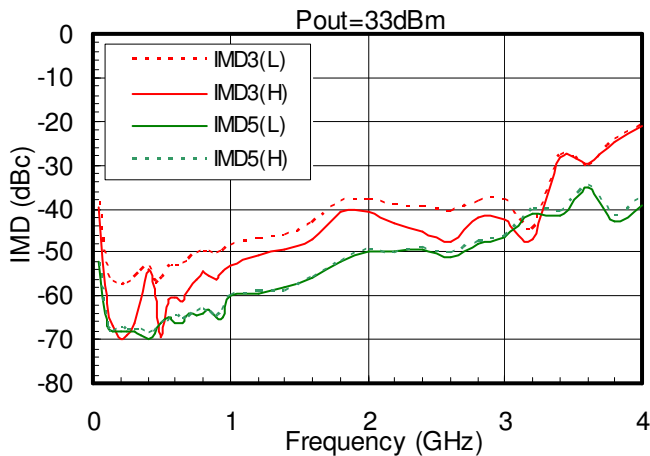
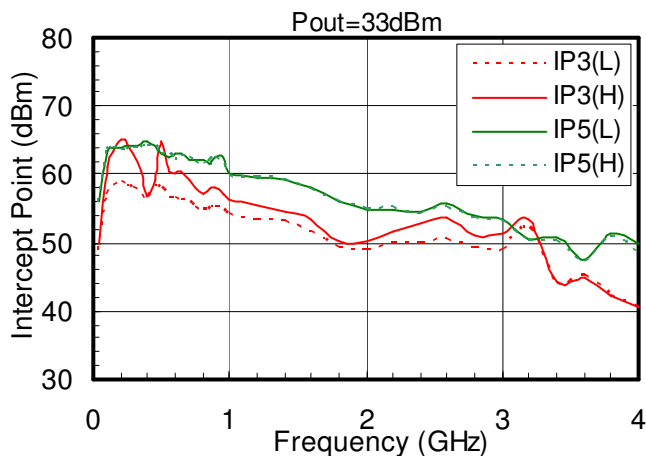


E) 3rd and 5th Intermodulation Distortion





F) 3rd and 5th Intercept Point at 2W Output Power



PACKAGE OUTLINE

