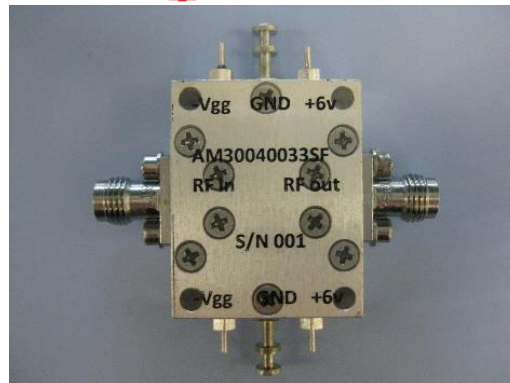


## DESCRIPTION

AMCOM's AM30040031SF-3H is a broadband GaAs power amplifier module. It has 17dB small signal gain, and 31dBm output power over the 30 – 40 GHz band at 6V bias. We strongly recommend to mount the module on a heat sink because of high power dissipation. This amplifier is very small and light weight at 1.5" (L) x 1.2" (W) x 0.30" (H) and 0.88 oz (25g) respectively.



## FEATURES

- Wide bandwidth from 30.0 to 40.0 GHz
- 31 dBm of saturated output power
- High gain, 17 dB
- Input /Output matched to 50 Ohms

## APPLICATIONS

- Satellite Communication
- Military Radar Systems
- Point to point radio

## TYPICAL PERFORMANCE \* ( $V_{ds} = +6V$ , $I_{ds} = 1.0A$ , $V_{gs} = -0.62V^{**}$ )

Parameters	Minimum	Typical **	Maximum
Frequency	30.0 – 38.0GHz	30.0 – 40.0GHz	
Small Signal Gain	14dB	17dB	20dB
Gain Ripple		± 2dB	± 3.0dB
$P_{1dB}$ ***	24dBm	27dBm	
$P_{5dB}$ ***	29dBm	31dBm	
Efficiency @ $P_{5dB}$		14%	
Noise Figure		-	
IP3 @ 30GHz		-	
Input Return Loss		10dB	
Output Return Loss		5dB	
Thermal Resistance		12°C/W	

\* Specifications subject to change without notice.

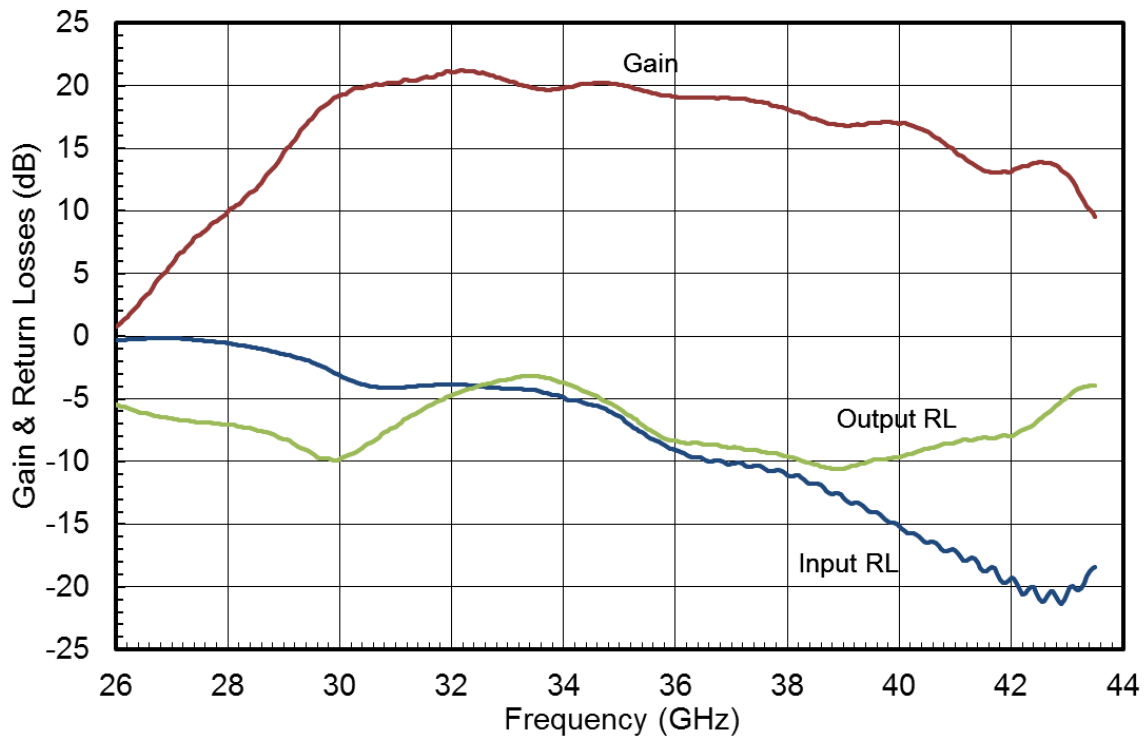
\*\* Current may change from lot to lot. Adjust  $V_{gs}$  to reach  $I_{dsq} = 1.0A$ .

**ABSOLUTE MAXIMUM RATING<sup>1</sup>**

Parameters	Symbol	Rating
Drain Source Voltage	$V_{ds}$	6.5V
Gate Source Voltage Range	$V_{gg}$	-5.0V to 0.0V
Drain Source Current	$I_{ds}$	3.0A
Gate Supply Current	$I_{gs}$	85mA
Power Dissipation	$P_t$	12.7W
Channel temperature	$T_{ch}$	200°C
Operating temperature	$T_{op}$	-40°C to +85°C
Storage temperature	$T_{sto}$	-55°C to +135°C

<sup>1</sup> Combinations of supply voltage, supply current, input power and output power should not exceed Power Dissipation  $P_t$  maximum rating.

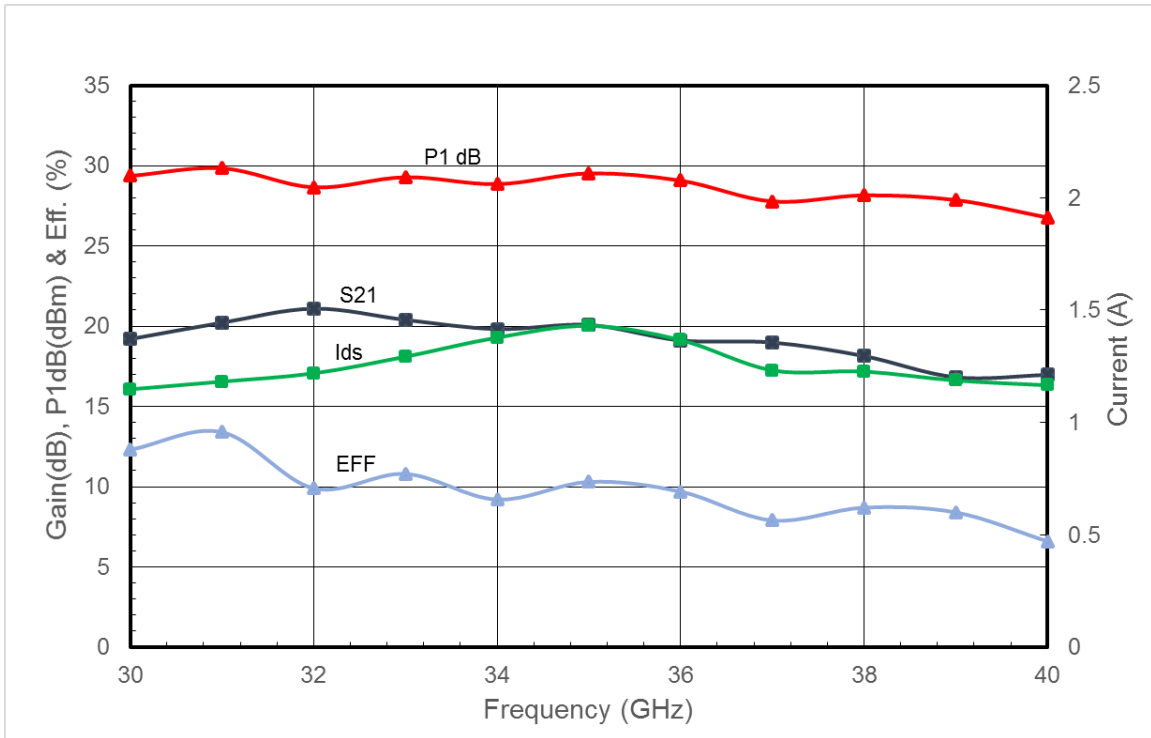
**SMALL SIGNAL DATA<sup>2</sup>**



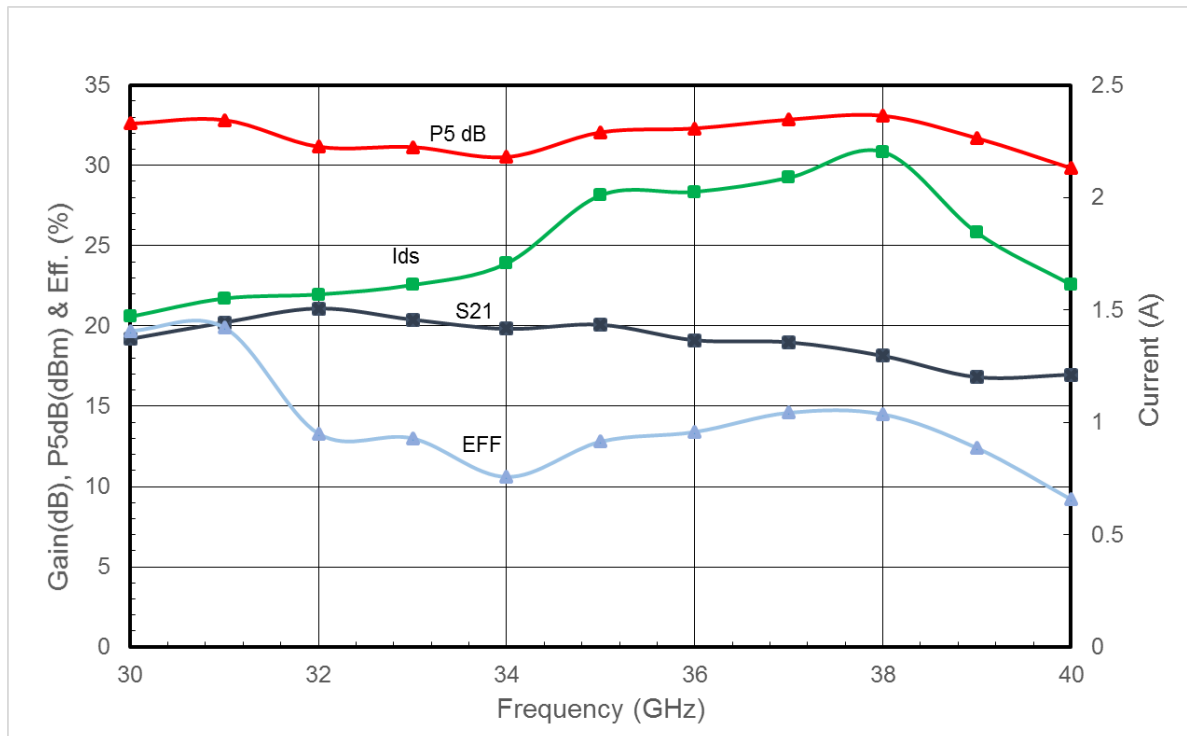
<sup>2</sup> Data shown is for +6V, 1.0 A.

**POWER DATA ( $V_{ds} = +6V, I_{ds} = 1.0A$ )**

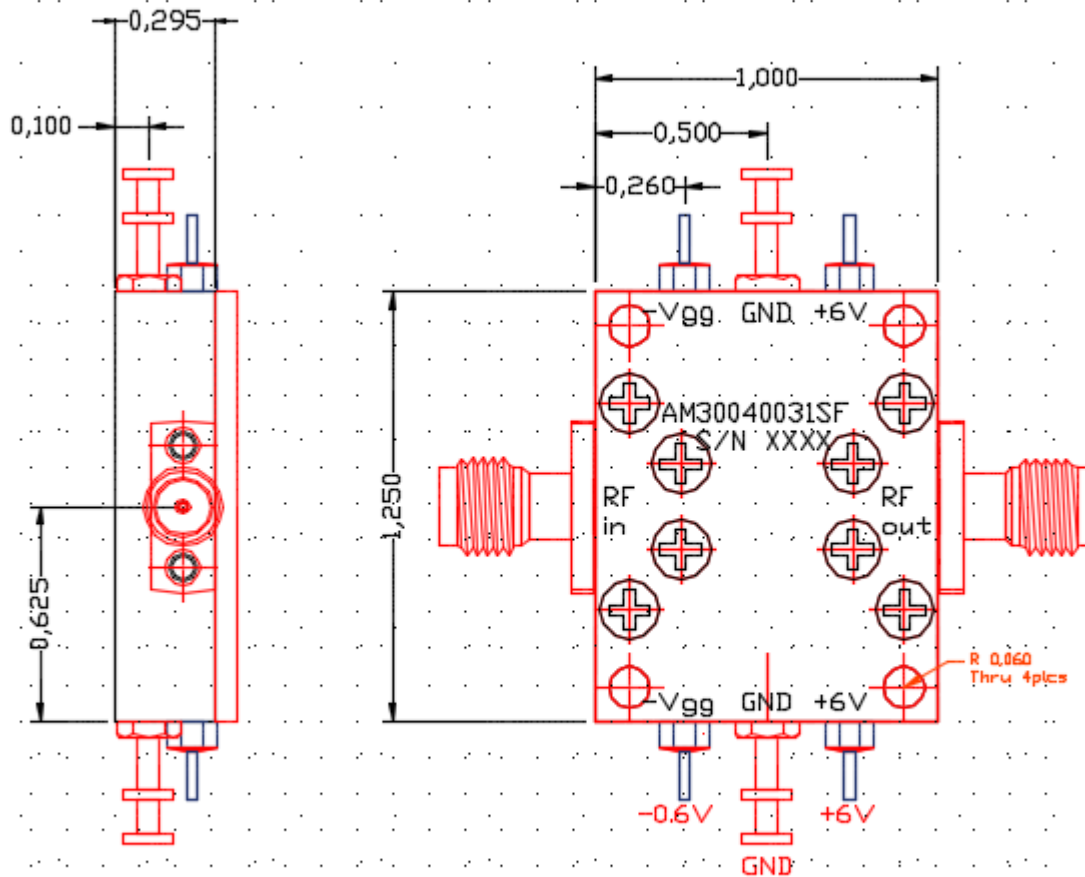
a) P1 dB



b) P5 dB



PACKAGE OUTLINE



Dimensions in inches

Important Notes:

- 1- Recommended current bias ( $I_{ds}$ ) is 1.0 A for the amplifier.
- 2- Do not apply  $V_{ds}$  without proper negative voltage (-Vgg).
- 3- Use heat sink under module to dissipate heat.