Power Amplifier Module
8.0 – 11.0GHz, 28dB, 4W

AM08011036UM-3H
February 2014
Rev1

DESCRIPTION

AMCOM's AM08011036UM-3H is a broadband GaAs MMIC power amplifier. It has 28dB small signal gain, and 36dBm (4W) saturated output power over the 8.5 to 10.5GHz band. The amplifier module has 4 screw slots for mounting to a heat sink. This amplifier module is very small and light weight at 1.5" (L) x 1.2" (W) x 0.56" (H) and 1.6 oz (45g).

FEATURES

- Wide bandwidth from 8 to 11GHz
- 36dBm of saturated output pulsed power
- High gain, 28dB
- Input /Output matched to 50 Ohms

APPLICATIONS

- Commercial telecom transmission equipment
- Fixed microwave backhaul
- Commercial 2-way radio

TYPICAL PERFORMANCE * (V_{ds} = +5V , I_{dsq} = 2.0 A, V_{gg} = -2.6V**)

Parameters	Minimum	Typical **	Maximum
Frequency	8.5 – 10.5GHz	8 – 11GHz	
Small Signal Gain	22dB	28dB	32dB
Gain Ripple		± 3dB	± 5.0dB
P_{1dB}	30dBm	32dBm	
P_{sat}	34dBm	36dBm	
Efficiency @ P_{sat}		25%	
Noise Figure		-	10dB
IP3		TBD	
Input Return Loss		10dB	
Output Return Loss		6dB	
Thermal Resistance		2.3°C/W	

* Specifications subject to change without notice.
** Current may change from lot to lot. Adjust V_{gg} to reach total $I_{dsq1,2,3}$=2.0A.

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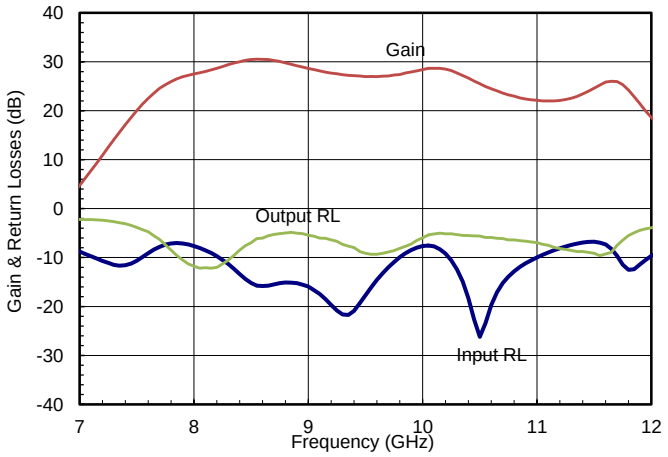
ABSOLUTE MAXIMUM RATING

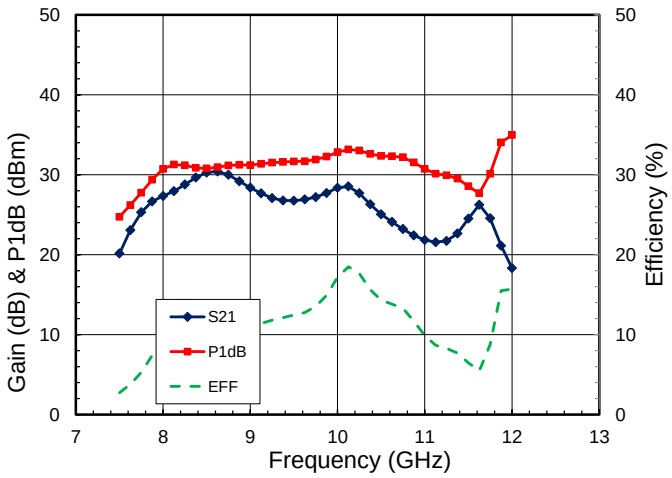
Parameters	Symbol	Rating
Drain source voltage	V_{ds1} , V_{ds2} , V_{ds3}	6V
Gate source voltage	V_{gg}	-3V
Drain source current	I_{dsq1}	0.2A
Drain source current	I_{dsq2}	0.9A
Drain source current	I_{dsq3}	2.0A
Continuous dissipation at 25ºC	P_t	20 W
Channel temperature	T_{ch}	175°C
Operating temperature	T_{op}	-40°C to +85°C
Storage temperature	T_{sto}	-55°C to +135°C

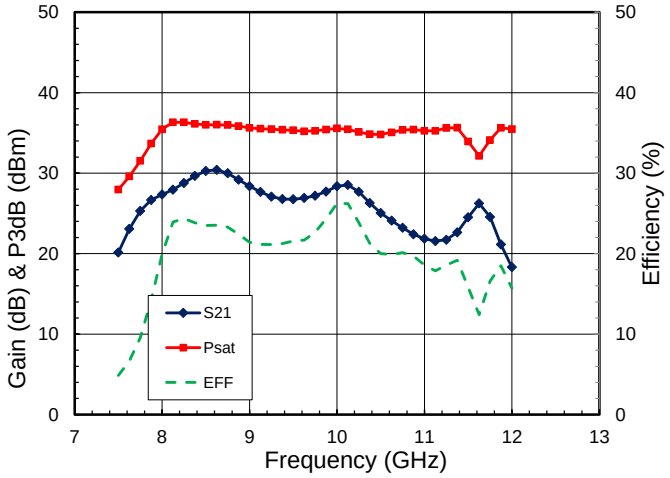
SMALL SIGNAL DATA*



*Bias is V_{ds} = +5V , I_{dsq} = 2.0 A, V_{gg} = -2.6V.

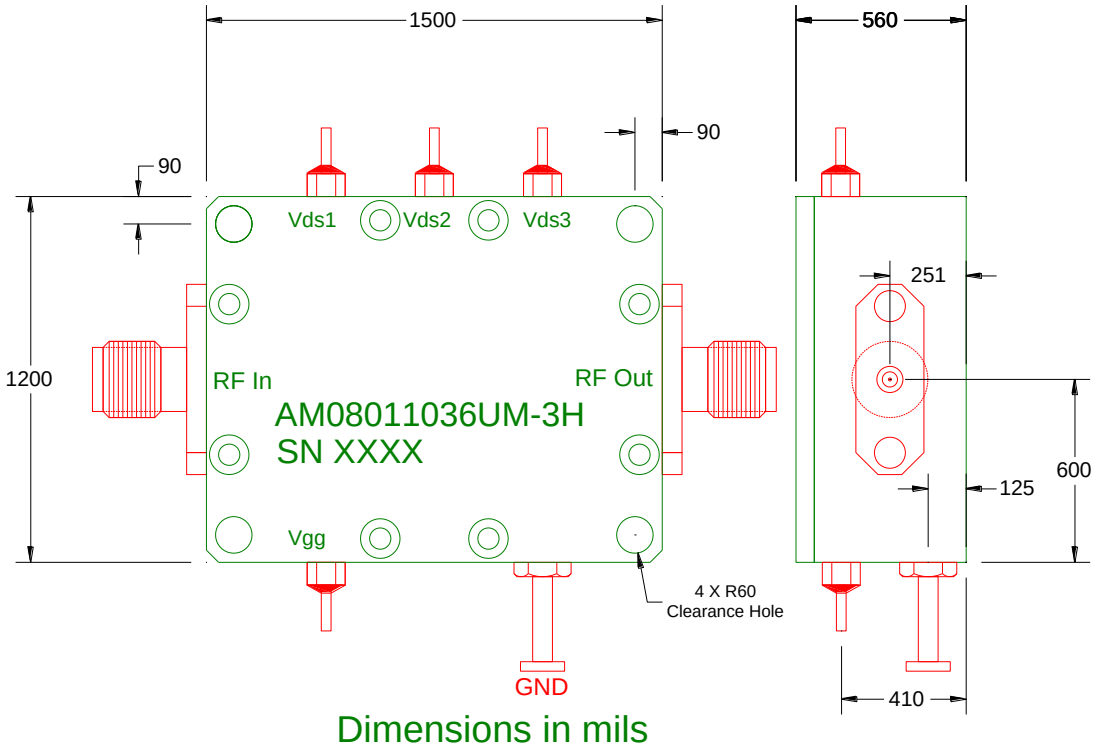
POWER DATA*





*Bias at: $V_{ds1,2,3}$ =+5V, V_{gg} = -2.6V, I_{dsq1}=0.14A, I_{dsq2}=0.56A, I_{dsq3}=1.3A.

PACKAGE OUTLINE



Dimensions in mils

Pin No.	Function	Bias
1	V_{gg}	-2.6V
2	NC	-
3	NC	-
4	V_{ds3}	+5V
5	V_{ds2}	+5V
6	V_{ds1}	+5V

Important Notes:

1- Recommended current bias is 2.0A for the first stage , second and third stage currents combined.

2- Gate V_{gg} bias of -2.6V is for reference only. V_{gg} could be adjusted to vary the currents going thru the module.

3- Do not apply V_{ds1} &, V_{ds2} & V_{ds3} without proper negative voltages.

4- The currents flowing out of the V_{gg} pin are around 300mA.